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Differentiating the curriculum for lower elementary talented and gifted students in the regular classroom

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Abstract

Gifted and talented students exist everywhere, in every community and in every classroom. The exact numbers are difficult to determine due to the many definitions of giftedness including a current trend ~o broaden those definitions to include multi-dimensional intelligences (Gardner, 1983). Such broad definitions mean that large numbers of students fall into the various categories. However, as Helmberger (1980) states, a teacher may have difficulty identifying the gifted and talented members of a class since they may not immediately stand out in the group.

DIFFERENTIATING THE CURRICULUM FOR LOWER ELEMENTARY TALENTED AND GIFTED STUDENTS IN THE REGULAR CLASSROOM

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Chapter 1
The Problem

Gifted and talented students exist everywhere, in every community and in every classroom. The exact numbers are difficult to determine due to the many definitions of giftedness including a current trend to broaden those definitions to include multi-dimensional intelligences (Gardner, 1983). Such broad definitions mean that large numbers of students fall into the various categories. However, as Helmberger (1980) states, a teacher may have difficulty identifying the gifted and talented members of a class since they may not immediately stand out in the group.

Contrary to a common stereotype, gifted children are not necessarily "brains", child prodigies, or eccentric geniuses. Renzulli, Reis, and Smith (1981) are inclusive, identifying 15 to 20 percent of the school population as students who can potentially benefit from special programs. However, special programs do not always exist in every school district, even though gifted and talented students are most

certainly to be found there. It is very important, therefore, that the classroom teacher be able to identify the needs of gifted children and to help them reach their potential. This is especially true when one considers the growing number of financially strapped school districts who are eliminating gifted pullout programs. In addition, some educational experts are highly recommending that the lower elementary level gifted and talented programs be based in the regular classroom (Cox, 1985).

Thus the classroom teacher becomes responsible for providing differentiated learning experiences for the gifted students in his or her classroom. There must be a direction for the classroom teacher to follow. Differentiated teaching and learning should not be left to chance or to non-directional, inconsistent programming. Classroom teachers must have specific guidelines to follow so that they can successfully meet the unique needs of the gifted and talented child.

Statement of Purpose

The purpose of this curriculum project was threefold. First, the special needs of lower elementary level children who have been identified as gifted and have been assigned to the regular classroom were assessed. Second, the different strategies which may be integrated into a model for providing differentiated teaching and learning strategies in the regular classroom were examined. Third, a three year implementation plan focusing on faculty/staff inservice and professional development was developed.

Assumptions of the Paper

In developing this differentiated model, the writer has made the following assumptions:

1) Lower elementary students have been identified by a systematic multi-dimensional criteria consistent with the system's philosophy and the state mandate.

2) The areas of reading and mathematics are the most appropriate areas in which to have identified students participate in such learning experiences.

3) The regular content of the curriculum cannot be changed.

4) Initial differentiated curriculum development will occur in grades one through three.

Definitions

For purposes of this project, it is necessary to define the following operational terms and phrases used in this paper:

Giftedness

For the purposes of this paper which focuses on programs for gifted children assigned to the regular classroom, giftedness designates those children demonstrating the potential to excel in the areas of general intelligence, specific academic aptitude, creative thinking, visual and performing arts and leadership.

Demonstrate

In the above definition of giftedness, demonstrate means to show through tests, products, or verbal means.

Potential

Potential is a more-than-one-time ability or occurrence of an academic strength, general intelligence, creative thinking, visual and performing arts aptitude, or leadership capability.

Excel

Also in the above definition of giftedness excel is defined as the ability to progress more quickly than the norm and/or to be able to attack problems using non-routine strategies.

Differentiated Curriculum

A differentiated curriculum consists of a high level of cognitive and affective concepts and processes beyond what is normally provided in the regular curriculum.

Teaching and Learning Strategies

Within this paper, teaching and learning strategies mean the methods used and the thinking processes students are expected to use to reach higher cognitive and affective levels.

By definition, gifted and talented students constitute a minority group. However, this minority group does not evoke the feelings of

pity or compassion which have been important influential factors in promoting special educational programs. Because of a feeling by some that the gifted child is well equipped to help him or herself, many times he or she will spend most of the time in the regular classroom.

Regardless of the specific definition of giftedness one chooses and regardless of the specific teaching assignment, every teacher probably has students in the classroom who could benefit from some type of differentiated programming because of the advanced abilities they possess. Whether the students have been officially identified, or whether a designated program for the gifted and talented exists in the school, it is the responsibility of educational professionals to make sure that these students are receiving a proper education commensurate with their abilities.

Chapter II

Special Needs of Gifted Students in the Regular Classroom

Introduction

During the past twenty years much has been said and written about the gifted child and his or her needs. The writings have ranged from the general statement that educators need to "do something" to more specific suggestions for programs and strategies which will better meet the needs of these children.

The current resurgence of interest in the education of the gifted and talented is forcing educators to re-examine the effectiveness and purpose of education. However, even with this renewed concern with the needs of the gifted, there is a reluctance to deal with it programmatically. Gallagher (1975) indicated that Americans are proud of their egalitarianism but are equally proud of the goal of individualization to fit the program to the child's needs. He explained that schools have moved far toward providing access to education for all but are less effective in meeting the

differing needs and abilities of the gifted. Many times the instruction of the gifted child is left solely in the hands of the classroom teacher. Consequently, the classroom teacher must be able to identify, to analyze, and to meet the needs of the gifted students that exist in all classrooms. Furthermore, the classroom teacher needs a guidebook of strategies for use with gifted students in the regular classroom setting.

Within the classroom there are opportunities for learning that are available to every child. This means that, insofar as the teacher can manage, every child has some opportunity to function within a psychologically and academically secure system and with materials and ideas suitable to his or her abilities.

Problems in Meeting the Needs of the Gifted Child in the Regular Classroom

Martinson (1968) suggests that the practice of individualization in the classroom becomes increasingly difficult to maintain with increasing class size. As a result, the

compromise practice of forming several groups within a single classroom, while providing materials appropriate for each group, has been adopted. Even after grouping, each classroom often contains one or two children who need special materials because of unusually high abilities. If the child is exceedingly bright, some state, the pressure on the teacher is lessened, because the student probably will learn even if special provisions are not made (Martinson 1968). Consequently, the greater challenge to the teacher lies in making sure that he or she is providing significant learning opportunities for the student who needs less direct and detailed instruction.

One of the problems often encountered is a sense or feeling by a classroom teacher that there are no gifted and/or talented students in his or her school. He or she may fail to realize that giftedness can be situationally specific and is often relative to the environment. If a student shows abilities that transcend the other students in the class, that student may need some type of accommodation to have an appropriate

education. The student does not have to score in the 90th percentile on a standardized achievement test to merit consideration. Parke (1989) indicates that the performance level of the student should be judged within the context of the environment and that that should lead to the decision of whether alternative programming is needed. Again, there is no absolute state of giftedness or talent. There are gifted behaviors and situations in which students need differential treatment due to their advanced abilities, talents, and interests.

The Teacher's Role in Meeting the Needs of Gifted and Talented Students in the Regular Classroom

The classroom teacher is one of the most influential persons in students' school lives. These influences can be both positive and negative. Therefore, it becomes very important for teachers to learn how to handle the wide range of abilities. The gifted and talented student needs guidance and direction as well as skill development.

A major role of the teacher in dealing effectively with the student who is highly capable of self-initiated and self-directed learning is that of guide and facilitator (Martinson 1968). The teacher contributes to added and deeper learning on the part of the student by assisting him or her and opening possibilities within topics and projects. As an aid to learning, the teacher asks searching questions, asks for evidence, helps the elementary child identify problems, helps clarify goals, refers him or her to sources for assistance, discusses progress and conclusions. The teacher provides time for independent search and study, even though the child may be very young.

The tactics employed by the teacher must be appropriate to the situation. Students do not need to employ techniques of discovery or inquiry or problem solving in every endeavor. In some situations, principally science and mathematics, such approaches are effective and are frequently employed. In others, such as the arts, appreciation may be the primary purpose; and

attempts to inject problem solving, inquiry, or analysis may spoil the effectiveness of the lesson. In still others, children may have the responsibility for direct study and learning, or even memorization. All learning does not have to be problem-centered to be legitimate (Martinson 1968).

Another role of the classroom teacher is to provide personal time to each student. Leyden (1985) firmly believes that all children need personal time with an adult. Proper relationships in adulthood are built on the early sharing of interests. Unless a child experiences this sharing with an adult, particularly the sharing of the excitement of new discoveries, he or she may learn to live inside him or herself and become incapable of communicating in any meaningful way. Without a proper sharing of ideas, a child cannot learn to evaluate his or her own thinking. He or she may also maintain incorrect and inappropriate attitudes and understandings. It seems there is never sufficient time for this role; however, all children have the right to this contact time and

the opportunity to share their interests with people. Gifted children need it just as much as others.

Assessing the Needs of Special Populations within the Regular Classroom

Certain environments, cultural influences, and handicapping conditions may result in characteristics in the gifted other than those listed above. When assessing a student's abilities, it is important to keep in mind that many factors affect the way a child acts and thinks.

Since different cultures have different values, a student from cultures outside of the mainstream may exhibit his or her abilities in different ways. This should lead to a more thorough assessment of abilities.

A handicapped student faces many barriers in having his or her abilities assessed and recognized. An emotionally handicapped child may have his or her abilities disguised by inappropriate behavior. Also, gifted learning disabled, hearing impaired, physically

handicapped, and visually impaired students often show their abilities through alternative means (Maker, 1982).

Quite possibly gifted girls may deviate from the ideal behavior patterns. Many times they choose not to show their abilities or to work at levels that are socially acceptable. Consequently, girls are handicapped by society's gender expectations (Fox, 1977).

The Use of a Student Assessment Guide within the Regular Classroom

Assessment is used to gather broad information about the strengths and weaknesses of students with the purpose of finding general indicators of ability. Potential is equally important as performance (Parke, 1989). The overall purpose of assessment, formal or informal, should be to determine student profiles of ability and/or talent that can be used to make decisions in the best interest of the student (Renzulli 1981). Students who show unusual ability in any area may become part of talent pool. This talent pool can then be drawn upon to

find candidates for specific programs, grouping, mentors, or compacting. Furthermore, the assessment should be an on going process for the students.

A student assessment guide used by the classroom teacher or the teacher of talented and gifted can vary with the program. It might consist of a parent nomination, peer nomination, observational checklist of creative behaviors (Williams 1972), and student profile chart.

Many times parents will be able to share their impressions or perceptions of their child with the regular classroom teacher. This also may become a vital source of information for the instructor. Students have definite perceptions and insight to their peers. Thus peer nomination may also benefit the teacher when formulating interest centers.

Individual assessment also is valuable as a part of curriculum development. For example, when designing learning activities, it is important to determine the characteristic thinking and feeling behaviors of each child, identifying his or her unique pattern of

strengths and weaknesses (see Appendices A, B, C, and D).

As previously stated, talented and gifted students in the regular classroom have unique needs. Classroom teachers must face and meet these needs by differentiating the curriculum. Meeting these needs includes providing a secure classroom environment, providing significant learning activities, providing guidance and direction as well as skill development. Finally, the teacher should become a facilitator.

Chapter III

Strategies for Differentiating the Curriculum for Lower Elementary Talented and Gifted Children in the Regular Classroom

Once the special needs of gifted children have been discerned by means of teacher--parent, and teacher assessment, a differentiated curriculum model should be established which is feasible for use in the regular lower elementary classroom. This chapter presents one approach which features the use of three teaching and learning strategies as the basis for curriculum building within the regular classroom.

Overview of Differentiating the Curriculum for Gifted Children in Lower Elementary

From the viewpoint of grouping, the model will use cluster grouping by ability. Such ability grouping can be beneficial for elementary students in the regular classroom (Maker 1982).

This practice of grouping gifted students together in homogeneous clusters of four to eight students provides a learning environment which

better meets the needs of these students. Within-class ability grouping can be accomplished in several ways and can use various educational methods. After considering programs in which students in a grade level were assigned to different groups within heterogeneous classrooms, Slavin and Karwith (1984) found that homogenous grouping clearly benefits students. Kulik and Kulik (1989) concluded that within-class grouping for academically talented students was found to have substantial positive academic effects.

The model will incorporate the use of three teaching and learning strategies to develop differentiated curriculum in the regular classroom. The first of these is Bloom's taxonomy of the cognitive domain as presented in Taxonomy of Educational Objectives Handbook I: Cognitive Domain. The purpose of this taxonomy is to provide a set of criteria that can be used to classify educational objectives according to the level of complexity of the thinking required. The criteria are generic in that they apply to any academic subject area and level of instruction.

This Taxonomy is one of the most frequently used models for the development of higher level thinking (Maker 1982). Its use is especially applicable to the study of reading and mathematics since it provides a structure for developing teaching-learning activities through a sequential process in the development of a concept. It also assumes that each higher level includes and depends on the behaviors below; consequently, students who have been led through the process should be able to think and act more effectively at higher levels (Maker, 1982).

Frank Williams' Thinking and Feeling Model is the second teaching/learning strategy which will be used (Williams 1972). This model is unique in its concurrent development of thinking and feeling processes. Williams's model assumes that for maximum learning to occur, there must be interaction between the three basic elements of pupil behavior, subject matter content, and teacher behaviors. Thus he developed a morphological model including three dimensions: (1) the subject content; (2) teaching strategies; and (3) student behaviors divided

into cognitive (intellectual) and affective (feeling) components. There is no hierarchy of strategies or behaviors.

The final teaching/learning strategy to be used is Treffinger's Self-Directed Learning Model (Treffinger 1975). An important priority of the gifted is a need to develop self-directedness or independent learning skills. It is important that gifted and talented students be able to continue their progress without constant supervision or assistance from an adult. Treffinger's model provides a teacher/student cooperative structure which develops in students the skills necessary to become more self-directed in their learning. Maker (1982) states that many gifted students probably do not possess the skills that will enable them to direct their own learning or conduct their own research, unless these students have had some practice in being self-directed. Treffinger (1975) seems to be in agreement when he assumes that self-directed learning is organized, structured, and appropriate for evaluation.

Cluster Grouping in Reading and Mathematics

As mentioned earlier, cluster grouping is a procedure in which a group of high-ability students is placed together in a self-contained classroom. A cluster group may number as few as four students and as many as ten. Students within the cluster are an integrated part of the class, but may have some different learning opportunities and materials with which to work. Parke (1989) believes teachers have more latitude to adjust the pace and depth of learning when they are dealing with more than one student at a time. Also, by grouping these students together, they also have the social/emotional advantage of being in contact with other students like themselves who have similar interests and abilities (McDonald, 1990).

The model envisioned by the writer uses this grouping method. The advantage of cluster grouping for reading and mathematics is two-fold. First, teachers have a defined group of students of similar ability for which to plan a program that is more likely to meet their needs. Second,

the students have others like themselves within the classroom (Parke, 1989). It is important for gifted students to have the opportunity to interact with their peers. This gives them a more accurate view of their own abilities. It also gives them an assurance that there are other people like themselves in the world. .

The Bloom Taxonomy of the Cognitive Domain

Within the reading and mathematics cluster groups, several key strategies must be identified as well as incorporated. In reading and mathematics, the taxonomy of the cognitive domain as identified by Bloom et al (1956) can be used to help differentiate the curriculum. Gall (1984) finds the art of questioning to be crucial in effective teaching, especially with bright children. According to her, many psychological as well as academic factors are involved in the teacher's use of questions. The skill the teacher uses in questioning and the understanding the teacher possesses concerning the implications of the questions can affect directly the extent of learning by the student. Martinson (1968)

suggests the use of the Bloom's taxonomy for those who are interested in enhancing their questioning skills.

The taxonomy as presented by Bloom and his colleagues is composed of six levels of cognitive behaviors: knowledge, comprehension, application, analysis, synthesis, and evaluation. The knowledge level deals with the students' abilities to remember, or memory. Comprehension is the ability to recall information and use it as presented. It does not involve using the information in new or different circumstances. Translation, interpretation, and extrapolation are considered comprehension skills. At level three, application, students should be able to use information in a new way or under new circumstances. Analysis involves the ability to separate items into their components in order to see the relationship of the parts and how they correspond. Putting together parts in order to make a new whole is called synthesis. Evaluation involves the ability to make judgments for decision making based on identified criteria.

In the proposed program, Bloom's Taxonomy will be reviewed by presenting each level of questioning along with a brief summary. The knowledge level is the beginning and it has its basis in recall and remembering previously learned material. Activities will center around cue words such as observe, define, sort or match. Comprehension is basically grasping the meaning of material--generally translating other works to a student's level. Cue words used in schools are express, explain, or summarize. Application is the next level; it is the ability to generalize and to use learned material in new and concrete situations. Cue words for application are: select, illustrate, imagine, and solve. Analysis is the next higher level of thinking which breaks down material into its component parts so that it may be more easily understood. Examine, classify, interpret, analyze, and defend are cue words. Synthesis is an even higher level in the taxonomy and is basically that of composing. Here material is put together to form a new whole. Significant words at this level are plan, compose, construct, and create. Evaluation, the

upper level of the taxonomy, is similar with judging. This includes judging or evaluating material for a given purpose. At this level words such as decide, rate, assess, and predict will be used (see Appendix E).

Within the suggested cluster grouping for reading and mathematics, there would be an increase in acceleration of content as compared with other groups. During such cluster grouping, an emphasis would be placed on higher level questioning of the talented and gifted students. The questioning would follow the taxonomy as much as possible. For example, after reading information on transportation, the teacher would have students create a new way to travel in the year 2000 AD. This new way of travel would save fuel, have comfort and style. This type of activity would incorporate the use of synthesis. Classroom teachers would monitor their questions to include all levels of the Taxonomy.

The Williams Model as a Strategy

The acceleration of content in reading would consist of moving beyond the basic contents of the basal series. A gifted and talented reading

student should be introduced to good books. Through reading challenging literature and participating in learning activities specifically designed to accompany such literature, a gifted and talented child would be required to read and process the stories at much more critical and creative levels than are necessary for reading stories and completing activities with a basal program.

Such activities which extend beyond the basic contents of the basal series would be designed by using an adaptation of Williams model for developing thinking and feeling. They especially would incorporate Williams' 18 strategies or modes of teaching.

According to Williams (1972), learning requires three things: "a purpose or goal, a subject to think and feel about, and a guided plan to which the learner responds in his or her own individual way." He suggests that the major goal of education should be to help each child realize his or her full potential. To accomplish this goal, teaching practices must be related to and built on what is known about the individual

learning modes and abilities of children. Teaching practices and school experiences also must make sense to children and fit into their personal lives. The most effective way for a teacher to develop a variety of thinking and feeling processes is by using multiple teaching strategies (Maker 1982).

Williams lists several teaching strategies to be used as a part of his model. (Williams, 1972). The first of these is the paradox. A paradox is a real or true situation opposed to common sense, a statement or observation that contradicts itself. The strategy develops a sensitivity to the differences between popular ideas and facts.

A second strategy identified by Williams is attributes, the characteristics of things. Students will look for inherent properties, symbols, or qualities of items.

The third strategy is analogy. Analogies stress similarities between things that may seem unlike. They make comparisons between these things or between the things and the situation surrounding them.

Discrepancy is the fourth strategy identified by Williams. Discrepancies are identified as gaps in knowledge, information that is unknown, or missing parts of knowledge. Students examine much more closely what they would like to know and they investigate many ways to locate that information.

The fifth strategy Williams identifies is provocative questions. Such questions are intended to get children enthused about inquiry, to explore, and to discover new information. Students should state their question after studying the situation.

Williams' sixth strategy is that of examples of change. Such a strategy demonstrates to children how dynamic the world is or can be. Instructors should provide situations where students may make substitutions or modifications and examine the effect of each.

The seventh strategy identified by Williams is that of examples of habit. According to Williams, examples of habit develop a sensitivity to avoiding stringent or habit-bound thinking through discussing or showing the effects of

thinking by habits. Discussion of new patterns of thought and its benefits should follow.

Organized random search is the eighth strategy that Williams identifies. This strategy develops a structure which leads to other searches and structures. Ground rules should be set and students should be allowed to explore within the boundaries.

The ninth strategy identified by Williams is skills of search. Skills of search teaches several different ways of searching for information. This would include historical search, trial and error, and experimental search. This would be followed by reporting of the results.

As a tenth strategy Williams identifies building a tolerance of ambiguity. Building such tolerance provides situations that are challenging and interesting to the students. Open-ended situations should be used where closure is not necessary.

Intuitive expression is the eleventh strategy that Williams identifies. This strategy encourages the skills of expressing emotions,

educated guesses, and noticing things through all senses.

The twelfth strategy that Williams identifies is teaching not for adjustment but for development. This strategy examines how failures or accidents still may be positive, how to learn from mistakes, and how to develop or change rather than simply adjusting to the way things seem to be.

The thirteenth strategy Williams identifies is student study of creative people. This creative process leads the students to look at people who have been recognized for their creativity and examines the processes they used that led to their creativity.

Evaluating situations is the next strategy that Williams identifies. He feels that students need to evaluate situations in order to gain experience in considering consequences and implications and predicting from the results of ideas and actions.

The fifteenth strategy Williams identifies is creative reading, which focuses on the students' ability to generate ideas through

reading and to go beyond the written text. Williams states that one should let the reading take the students as far as their imagination lets them.

Creative listening is the sixteenth strategy to be identified. This strategy emphasizes idea generation through listening. Students are encouraged to listen for information that may lead them from one thing to another.

One of the final strategies to be identified by Williams is creative writing. This strategy teaches students to write their ideas and thoughts clearly and to express their feelings and emotions through writing.

The final strategy that Williams identifies is visualization, students practice this in describing objects or situation from unusual or unique perspectives or viewpoints. Three dimensional form is encouraged.

Using these strategies in the regular classroom can help to differentiate the curriculum for the gifted students and, perhaps, provide enrichment for all children. For example, when McIntosh (1989) presents an example

of the use of discrepancy, the classroom teacher would have the cluster group read Harriet the Spy. As the students read the book, they would be asked to think about the objectivity and/or subjectivity of Harriet's written accounts/reflections as well as to note any discrepancies between what happened and what Harriet wrote about what happened. After students have read the entire book, the teacher would organize several people to observe the same event and to record their observations. Then the observations would be compared and discrepancies noted. Finally, the students would be asked to hypothesize reasons for the discrepancies (McIntosh, 1989). McIntosh also differentiates the curriculum with Williams' creative reading skill by using the story, Harriet the Spy, as a stimulus for the creation of an idea or product. Since the character Harriet kept a notebook, the cluster group would be asked to keep a similar notebook in order to learn from their own experiences.

Interest Groups

While this paper has thus far discussed the formation of cluster groups for reading and mathematics, groups also may be established on the basis of interests (Maker 1982). The purpose is to allow students who have similar interests to explore them together. Interest groups may be used in conjunction with cluster groups. They can serve an important function in the regular classroom. They provide a forum in which students group themselves according to interests rather than abilities. They give the opportunity to students to integrate themselves into the mainstream of the class, since all the students have a chance to work and meet together (Parke, 1989). Yet within the interest groups, the classroom teacher can facilitate self-directed learning by the student.

Treffinger's Self-directed Learning Model

Another aspect of cluster grouping in differentiating the curriculum is adapting the Treffinger's (1975) self-directed learning

approach. Treffinger's model provides a structure to develop gradually in students the skills necessary to become self-directed learners. Maker (1982) presents Treffinger's self-directed learning as a model for moving both teacher and student toward a setting in which self-directed learning can occur. Its main goal is the sequential development of skills in managing individual learning which builds on the strengths of gifted children, enhances their involvement in their own learning, and increases their motivation by allowing them to study in areas of interest to them.

Treffinger's model involves four basic factors that can be used to analyze instructional events or sequences: (1) identification of goals and objectives; (2) assessment of entering behavior; (3) identification and implementation of instructional procedures; and (4) assessment of performance. All of these factors are under the direction and control of the teacher. The teacher decides what will be learned by the class as a whole and what will be learned by individual children. He or she then assesses the present

level of competence, presents the content, arranges practice, provides exercises and activities, and, finally, evaluates performance and assigns grades. To aid self-directed learning, the teacher provides systematic experiences that involve varying degrees of self-direction in each of these four areas.

Self-directed learning is fostered in students by engaging them in each of these phases to some degree. Treffinger proposes steps that can be taken in each of these areas in order to move toward self-directed learning.

Within each of the four identified instructional areas, Treffinger identifies four levels. These levels are examples of the movement from teacher direction to self-direction and involve essentially two intermediate steps. In the first step toward self-direction, the teacher creates options from which the students choose. Here Treffinger makes two assumptions about learning (Maker 1982). First, children will learn better if they are involved in their own learning. Second, they will be more motivated to learn if they are directing their

learning in areas of their own choice. When children are active rather than passive participants in the learning process, they learn more, remember it longer, and develop more self-confidence in their ability to figure things out on their own. This contributes to greater motivation for learning rather than doing what they are told by an adult.

In the second step, the students are involved in creating the choices. Here the teacher and learner use diagnostic conferences. The teacher provides resources and options, uses student contracts which involve the learner in scope, sequence, and pace decision. Also peer-partners and teacher-student conferences are used to provide feedback and evaluation (see Appendix F).

Pulling these steps together into a contract form would help differentiate the curriculum for the identified gifted students in the interest group. This contract would include: (a) making decisions about the types of activities, (b) sequencing, (c) pacing, (d) deciding where the

learning will take place, (e) and the finalizing the result or product of learning.

The major modifications made by Treffinger's model are in process (Maker 1982); however, it provides for content variety since students are allowed to make choices at higher levels about the content to be studied. The model also helps develop methods of inquiry by providing the structure for students to develop methods and plans for conducting their own learning activities. Students not only learn how to use the methods of scholars in a particular field, but they also learn how to develop these methods and carry them out on their own (Maker, 1982).

Effects of the Use of Strategies on the Curriculum

When using grouping and the teaching/learning strategies, there would be very little change in the basic curriculum. For example, Treffinger's model would be used only with the cluster interest groups. In the lower levels, students would be encouraged to choose from options and add to the options. At the

highest level, they would be encouraged to choose their own content areas.

The taxonomy of the cognitive domain as developed by Bloom and his colleagues also would not change the basic curriculum except in regard to depth of understanding required. Similar content would exist for the cluster groups of reading and mathematics; however, higher cognitive questions would be included for the talented and gifted students. The higher cognitive questions would require students to engage in more independent thinking.

Williams Model for Thinking and Feeling also would not change the basic curriculum except in regard to process. William's approach incorporates more open-endedness, discovery, and more freedom of choice for the gifted students.

Conclusion

Talented and gifted students need experiences that are qualitatively different from the basic program that is provided for all children. Qualitative differences do not mean twice the amount of homework, extra reports, or

more mathematics. The phrase qualitatively different infers that the program would be designed to enhance what is special about these children (Maker, 1982). It also implies that it would be a program that enhances the special learning styles, cognitive styles, motivational characteristics of the talented and gifted.

Through cluster grouping and the use of the three teaching/learning strategies as discussed, a qualitative difference can be developed for lower elementary gifted children in the regular classroom. Feldhusen and Saylor (1990) conclude that the practice of grouping gifted students together in homogeneous clusters of 4-8 students provides a beneficial learning environment. These students will be guided through higher level thinking in reading and mathematics through the application of the Bloom taxonomy. Gifted students will be introduced and expected to read fine works of literature. Through reading this literature and completing corresponding activities specifically designed to accompany such literature, students will have to read and process the stories at much more critical and

creative levels than are necessary for reading stories and workbook pages associated with a basal program (McIntosh, 1989). Finally, through Treffinger's self-directed learning activities, lower elementary gifted students in the regular classroom will have a means of following their interests and in becoming life, long-learners.

Planning differentiated programs for gifted students in regular classrooms requires many decisions to be made. These decisions are based on the needs, abilities, and interests of the students, as well as institutional requirements. This requires familiarity with the students involved and a commitment to their needs. Cluster grouping, as well as the three teaching/learning strategies, will accommodate the pace and depth at which the gifted students would learn, as well as an encouragement in the development of their individual interests. When the gifted and talented are in the regular classroom, they need to feel that they are a part of the class. However, their unique learning needs necessitate differentiated programming as provided in this proposed plan by cluster

grouping, Bloom taxonomy of the Cognitive Domain, Williams' Model of Thinking and Feeling, and Treffinger's Self Directed Learning Model.

Chapter IV

Implementation of a Differentiated Model for Lower Elementary Talented and Gifted Students in the Regular Classroom

Introduction

Even though the use of the differentiated teaching and learning strategies can be accomplished with little change in the basic curriculum, its implementation is not so simple. Indeed, it cannot be completed in a one year period.

In this particular model, for example, it spans a three year period. Since the envisioned approach involves a number of strategies which must be integrated but may not be familiar to all classroom teachers, it would not be practical to implement all phases of the plan during a one year period. In order to have a successful program, the staff must necessarily be trained in the strategies. This chapter presents a suggested approach for a three-year implementation of this model. It is built upon

the premise that the major inservice components would be delivered during the summer interims.

First Year

A committee of four to six people should be chosen to develop a philosophy for the school district. The committee should consist of one administrator, two to three lower elementary classroom teachers, and one to two parents. The following concepts as suggested by Parke (1989) may be used to develop a working philosophy for the program:

1. Accept all students as individuals with differing abilities.

2. Plan models of instruction that allow individual differences to be accommodated.

3. Remember that the gifted child is not "better;" he or she is just "different" in his or her abilities, needs, and interests. A gifted student's needs may be different, but are no less urgent than those of students with lesser abilities.

Once the philosophy has been determined, it is necessary to identify the target audience--the gifted child in the regular classroom. Thus, all lower elementary classroom teachers should receive inservice on the recognition of cognitive, affective, and creative characteristics of gifted students in the regular classroom during the first summer as well as during the impending school year (Parke, 1989).

In addition, all lower elementary regular classroom teachers should during this first summer, establish general goals for the gifted and talented students who would be attending the regular classroom. Possible guidelines for establishing general goals for the gifted and talented follow:

1. Develop the ability to think critically.
2. Develop the ability to solve problems by using various sources and methods.
3. Develop the ability to learn independently.
4. Develop the basic skills needed to study at advanced levels.

5. Develop any special talents and skills.

All lower elementary regular classroom teachers should be provided inservice on the Bloom taxonomy of the cognitive domain during the summer and throughout the following school year. As a result of the inservice, all elementary classroom teachers would gain a working knowledge of six levels of questioning: knowledge, comprehension, application, analysis, synthesis, and evaluation. This inservice would be delivered by Area Education Agency consultants working in the district. Whenever possible, the school's administrators need to send representatives to relevant seminars and workshops.

Another task for the lower elementary classroom reading teachers during the first year would be that of writing objectives for the reading cluster group. Lower elementary reading teachers would be requested to choose eight to twelve critical reading objectives for each reading cluster. Lower elementary reading

teachers would list the level of thinking, the student's role, activity, teacher's role, and expected outcome and/or evaluation for each of the eight to twelve critical reading objectives. With the help of Area Education Agency consultants, this project would be completed during the first summer.

The next step would be to assign identified students to their specific cluster groups for reading. The lower elementary teaching staff and the administration would meet to place students in appropriate reading group clusters. Ability, interest, and commitment would be considered. The school administration would inform parents regarding this procedure and its purpose. This also would be completed during the summer.

Another large part of the summer work would be to inservice lower elementary teachers on the Williams Model. Again, Area Education Agency personnel would be used as consultants to provide training for the lower elementary classroom teachers. The training would include study and the application of the 18 teaching strategies with emphasis on attributes, analogies,

provocative questions, organized random search, skills of search, the study of creative people, the evaluation of situations, creative reading, creative listening, and creative writing. These strategies would seem to be more appropriate for this level of instruction. Whenever possible, the school administration would send representatives to relevant seminars and workshops.

The writing of reading objectives and activities which move beyond the reading basal would be one of the final steps taken during the first summer. Each objective would follow the Williams Model. Each trained staff member would first select three "classic" works of literature for his or her group. For each work of literature the staff member would choose six to eight strategies and develop corresponding activities. Staff members would list book, strategy, teacher's role, student's role, and expected outcome and/or evaluation. It is suggested that the parts be placed on separate worksheets or activity cards which the students

will be able to select dependent upon the book and activity chosen to read and complete.

Formative evaluation of first year of implementation would be a vital step which should begin as soon as possible after implementation. Lower elementary staff and administration would meet to develop evaluation forms. The evaluation would involve two types of assessment: (1) assessment of student progress and (2) the overall success of and effectiveness of the program.

Student growth in all areas--content, process, product and learning environment--would be evaluated. This could be accomplished by using both formal and informal procedures. Formal procedures would include pretests and posttests on standardized instruments. Informal procedures would include observation, questionnaires, peer evaluation, self-evaluation, and several rating scales.

Evaluation of the program effectiveness and different constituencies' perceptions of the program's effectiveness would be vital. Some data should be collected throughout the year to

make immediate changes if necessary. Data collected at the end of the year could include a summary of the continuing evaluation. Evaluation forms would be completed by administrators, staff, parents, and students at the completion of the school year. These assessment forms would evaluate indicators of success and whether program goals were fully met. Staff meetings would occur to list positive aspects of the program, new possibilities for the program, and areas of improvement of the program (see Appendices G, H, I, and J, for possible assessment forms).

Second Year

The staff inservice on the Bloom taxonomy would continue during the second summer. This would enable more staff members to be trained. Previously trained staff members could serve as leaders for additional inservice sessions. If this were not possible, Area Education Agency consultants again would be provided.

Cluster grouping for reading would be continued from the previous year with a reevaluation of student and teacher recommendations. Critical reading objectives would be examined and or expanded to meet the needs of the new students. This would be completed during the summer with the lower elementary reading teachers.

Writing of objectives for the mathematics cluster group would take place during the second summer. This cluster grouping would begin the succeeding fall. Lower elementary mathematics teachers would write six to eight critical problem solving objectives. These would be chosen for each lower elementary grade level. For each of the twelve critical reading objectives, teachers would list the level of thinking, the student's role, activities, teacher's role, and expected outcome and/or evaluation. This would be accomplished with the assistance of Area Education Agency personnel.

Also during the second summer lower elementary teachers and school administrators

would meet to place students in appropriate mathematics group clusters. Ability, interest, and commitment would be considered. The school administrators would inform parents regarding this procedure and its purpose.

Inservice training for the Williams model would continue. It would be provided by the Area Education Agency or by previously trained staff. The inservice would include the continuation and expansion of previous strategies along with an ongoing evaluation and improvement plan: this would be conducted during the second summer.

Evaluation during the second year is also important to gauge the continuing effectiveness of the program. The format of the first-year evaluation would be followed throughout the second year. Included in the second-year evaluation would be work with the Williams Model and any areas that had been expanded.

Third year

During the third summer lower elementary classroom teachers would receive inservice on

Treffinger's model for self-directed learning. The implementation of this particular model has been placed during the third year because of the increased emphasis on reading and mathematics at many local districts. Teachers would first assess their own performance with respect to how much self-direction they have been encouraging in their classrooms. During this time consultants from the Area Education Agency would be available to explain and develop an understanding of the first two levels of Treffinger's model.

After self assessment, teachers would need to examine each of their students to determine individual levels of self-direction in each area. The teacher would employ a variety of methods ranging from informal observation to using a more formal assessment such as the Self-Directed Learning Readiness Scale (Maker 1982).

The writing of objectives for a weekly one-hour interest group would be developed during the third summer. Interest surveys would be distributed to the group of students. Four to six subgroups would be formed according to interests. Objectives would be written for the interest

groups following the form presented in Appendix F.

During the third year, all phases of the curriculum development project would be in operation. An ongoing evaluation of the program would take place. This evaluation would include a plan for the next three years.

Evaluation of the Program

As previously stated, evaluation should be a continuous action which is not limited to one individual. A wide variety of instruments should be used to gather data for program evaluation. However, those instruments do need to evaluate individual interests or concerns. Program evaluation is an integral part of troubleshooting in programs for the gifted and talented (Parke, 1989). When done on an ongoing basis, evaluation can detect problems before they get out of hand as well as provide a data base upon which decisions about the program can be made.

Evaluation of the program should be performed by the following participants:

administration, teachers, parents, and students (see Appendices G, H, I, and J).

Besides completing evaluation forms, the staff should be encouraged to recognize the need to be kept informed. Each staff member should have a willingness to change those parts of the guide which are not working or to add and/or replace outdated techniques. Each member should receive publications concerned with gifted education for the purposes of continued professional development. Discussion with peers would be encouraged on a regular basis.

Anticipated Results of Implementation of This Program

Devising and implementing a program for gifted and talented students is similar to assembling a jigsaw puzzle. Each piece of the program is vital to the completed product. This puzzle would include the following pieces: grouping according to ability and the three teaching/learning strategies previously discussed. The final product would be one of a qualitatively differentiated education for lower

elementary talented and gifted students in the regular classroom. This differentiated education would be built upon the characteristics unique to gifted students, greater complexity, higher levels of questioning, and strategies for assisting students to become independent, life-long learners.

Meeting the needs of gifted and talented students is a challenging and dynamic process. Just as meeting the needs of gifted children is ever changing and ongoing, this program would be flexible during and following the three-year implementation period. When examining this program after the three year implementation, the idea of future additions should be addressed. Such additions might include a parent support group, interest centers, mentorships, guest lecture series, and fine and performing arts experiences.

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Appendix A

Parent Nomination of Gifted Students

Student's Name _____ Grade _____ Date _____.

(Please circle 1 for sometimes: 2 for usually and 3 for always.)

---

1. Has a large and accurate vocabulary.

   1 2 3

2. Asks many penetrating questions.

   1 2 3

3. Has a wide variety of interests.

   1 2 3

4. Arrives at a number of solutions when facing decisions and problems.

   1 2 3

5. Expresses himself/herself well when speaking.

   1 2 3

6. Is anxious to do things.

   1 2 3

7. Enjoys challenging activities.

1 2 3

8. Stays with an activity until it is completed.

1 2 3

9. Is impatient with routine procedures.

1 2 3

10. Has an unusually good memory.

1 2 3

11. Seeks the companionship of older children and adults.

1 2 3

12. Investigates independently in areas of interests.

1 2 3

13. Is curious.

1 2 3

14. What games and activities does your child enjoy? Be specific.

15. What are some unusual achievements of your child?

Parent's name _____

Appendix B

Peer Nomination for Gifted Students

(Copy and distribute photos of students to be placed by appropriate numbers.)

1. This person has many ideas to share with our class.

2. This person answers first in class.

3. This person can solve your problem.

4. This person would make a good leader for our class.

5. This person asks many questions.

Appendix C

Observational Checklist of Creative Behaviors

Date _____ Teacher _____

Name	Flu	Or	El	The	Cu	Rt	Co	Im	Fl	TC

(Fl = fluency Flx = flexibility Or = Originality El = elaboration

The = total thinking Cu = Curiosity Rt = Risk Taking

Co = Complexity Im = Imagination Fl = Total Feeling TC = creativity)

(From Maker, 1982, Teaching Models in Education of Gifted)

Appendix D

Student Profile for Gifted Students

Name _____ Grade _____

Date _____ Teacher _____

Grade Level Equivalency Test

Curricular Area:

Reading

(see attached skill chart)

Mathematics

(see attached skill chart)

Spelling

(Book level completed or skill chart)

Writing Proficiency

Handwriting Proficiency

Special Interests:

Special Talents:

Awards:

Projects:

Extracurricular activities:

Misc.:

(From Parke, 1989, Gifted Students In Regular Classroom).

Appendix E

Bloom's Taxonomy of Cognitive Objectives

Level	Skills	Samples
Knowledge	Recall	What is the chemical symbol for water?
	Memorize	How many keys are on a piano?
Comprehension	Translate	Convert zero degrees F to Celsius.
	Relate	Retell Goldilocks in your own words.
	Interpret	
Application	Apply	If John has 6 apples and Judy has 2,
	Demonstrate	how many do they have together?
	Use known in	
	new situation	
Analysis	Dissect	Chart the weather for April.
	Categorize	What items from this list go together?
	Classify	
Synthesis	Assemble	Write a new ending to this story.
	Generate	Design a class logo.
	Create new	
	from known	

Evaluation	Judge	How could we improve the class
	Decide	newspaper?
	Recommend	What did you do well in class today?

(From Maker, 1982, Teaching Models in Education of the Gifted).

Appendix F

Treffinger's Model for Self-Directed Learning

Levels of Self-Direction

Decisions To Be Made	Teacher Directed	Self-directed - 1
Goals and objectives	Teacher prescribes for class or pupils	Teacher provides choices or options for pupils
Assessing Entering Behavior	Teacher tests and specific prescription	Teacher diagnoses, provides several options
Instructional Procedures	Teacher presents content, provides exercises and activities, arranges and supervises practice	Teacher provides options for learners to employ independently, with learner's pace
Assess Performance	Teacher implements evaluation and gives grades	Teacher relates evaluation to objectives, gives student opportunity to react or respond

Treffinger's Model for Self-Directed Learning

Levels of Self-Direction (continued)

Decisions To Be Made	Self - Directed 2	Self-directed - 3
Goals and Objectives	Teacher involves pupil in creating options	Learner controls choices, teacher provides resources and materials
Assess Entering Behavior	Teacher and learner use diagnostic conference, tests employed individually if needed	Learner controls diagnosis, consults teacher for assistance when unclear about needs
Instructional Procedures	Teacher provides resources and options uses student contracts which involve learner in scope, sequence, and pace decision	Learner defines projects, activities, etc.
Assess	Peer-partners used	Student self-evaluation

Treffinger's Model for Self-Directed Learning

Levels of Self-Direction (continued)

Performance	in providing feedback
	teacher-student
	conferences for evaluation

(From Maker, 1982, Teaching Models in Education of the Gifted).

Appendix G

Student Evaluation

Name _____ Grade ___

Date _____

(Circle 1 for sometimes, 2 for usually, and 3 for always.)

1. _____ is not easily distracted and has the ability to follow through on assigned tasks.

1 2 3

2. _____ is not easily distracted and has the ability to follow through on self-directed projects.

1 2 3

3. _____ responds to adult suggestions and questions.

1 2 3

4. _____ is easily motivated.

1 2 3

5. _____ expresses intellectual curiosity and generates questions of his/her own.

1 2 3

6. _____ seems to enjoy the challenge of difficult assignments and materials.

1 2 3

7. _____ is perceptive and observant of details.

1 2 3

8. _____ reveals independence in thought and organization.

1 2 3

9. _____ is receptive to ideas of others and is willing to facilitate the expansion of those ideas.

1 2 3

Comments:

Appendix H

Program Evaluation by Parents

1. Have you been provided with enough information about how your child was selected for the program?

2. Have you been provided with enough information about the activities and interests your child pursues?

3. Have you been offered sufficient opportunity to discuss your child's progress with his/her teacher?

4. Has your child encountered any problems with his/her friends as a result of being involved in the program?

5. Which of the following comments best expresses your child's general attitude about the program?

_____ enthusiastic

_____ positive

_____ indifferent

_____ negative

6. Do you have any specific concerns or suggestions for changes in the operation of the program?

Appendix I

Program Evaluation by Students

1. The work my teacher gives me is:
   - too hard
   - too easy
   - just right

2. The work I do in my class makes me feel:
   - sad
   - happy
   - don't care

3. I have too much work or I have too little work to do during school.

4. My favorite activity has been:

5. I didn't like to do:

6. I wish I could:

Appendix J

Program Evaluation by Teachers

(Please circle 1 for sometimes, 2 for usually, and 3 for always.)

1. I followed the objectives for the reading cluster groups.

1 2 3

2. The reading cluster objectives kept pace with the students' needs.

1 2 3

3. I followed the objectives for the math cluster groups.

1 2 3

4. The math cluster objectives kept pace with the students' needs.

1 2 3

5. I followed the objectives for the weekly interest groups.

1 2 3

6. The interest groups provided a challenge for the students.

1 2 3

7. What concerns do you have about the program. Be specific.

8. What changes do you recommend? Be specific.

9. What went well with the cluster grouping?

10. What was a success with the interest grouping?