This report summarizes a survey of program organizational models used by 50 school districts in Kentucky to provide services to gifted and talented students. Models included: the pull-out model, self-contained classrooms, the cluster model, extra-school or after school programs, advanced placements, mentorships, and academic teams. Following a review of the literature, strengths and weaknesses of each model are listed, evaluations offered by teachers using each model, and teachers' assessments of students' reactions to the models discussed. Differences between districts and the role these differences may play in determining organizational models for use are also considered. Among findings was that the pull-out model, despite criticisms, was the most widely used model. The model survey is appended. Contains 21 references. (PB)
Gifted Education Model Programs
Research Project Report

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Project Funded by Kentucky Department of Education
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Abstract

There is very little literature which examines the program organizational models used by the public schools in delivering educational services to gifted and talented students.

This report summarizes a survey of school districts in the State of Kentucky. The survey identified the program organizational models used by those schools. The report lists the strengths and weaknesses of each model, the evaluation of the models by the teachers who teach in those models, and the teacher's assessment of students' reactions to the models.

An examination of the unique ways in which school districts differ is made. These differences can play an important role in determining the program organizational models which are initially chosen by the districts and how successfully the model can meet the districts' needs.
INTRODUCTION

The purpose of this research project was to 1) identify the variety of program models used to teach gifted and talented students in Kentucky, 2) to identify differences in school districts which could play a role in the program model chosen to be used, 3) to determine if there are systematic ways these district differences may influence the program model adopted by districts.

Over a period of 4 months the literature on gifted and talented program organizational models was reviewed, a state-wide survey was conducted, and interviews were done with a number of gifted and talented coordinators and teachers. The findings from these investigations are presented along with conclusions and implications in this document.

REVIEW OF THE LITERATURE

A review of the literature was undertaken to identify resources which dealt with organizational programs used in the delivery of services to gifted and talented students. The review was not intended to be exhaustive but was intended to be thorough.

A computer search of the ERIC database was conducted. Descriptors such as "program model", "organizational model", "organizational structure" and the names of individual models such as the pull-out model were used in the search. In addition the Educational Index was checked for the past ten years to identify
references. Finally, all books in the Murray State University library were examined for chapters or other material which dealt with organization models of GT programs.

It should be noted that the term "program model" is often used in an ambiguous way. It is often used to mean the organizational structure or pattern which is used for GT programs. However, it is also used to mean the curricular offerings or curricular philosophy of the GT program as in the Triad Enrichment Model of Renzulli or Bloom's Taxonomy Model. The literature does not seem to have developed explicitly agreed upon terms to make these distinctions.

The literature review found a rather small number of articles which specifically focused on what will be termed in this report organizational models. Some of the books on gifted education mention the existence of differing organizational arrangements used in gifted programs and some do list 3 or 4 of the most commonly used models. The organization of programs is typically dealt with so briefly that the message given to the reader is that a district's selection of an organizational model is of little importance. None of the books reviewed suggested there was any rational basis for making a decision regarding which organizational model to select for use in a school district.

Education of the Gifted and Talented by Davis and Rimm (1985) is an example of a book which gives more than the usual attention to organizational models. The authors devote a section in one chapter to several organizational models and even briefly give examples of some models. They discuss the pull-out model in more detail than any of
the others and suggest that it has some important limitations.

A few articles report efforts to compare the effectiveness of instruction using various organizational models. Ebmeir, Dyche, Taylor, and Hall (1985) compared a control group with a pull-out model where 3rd through 6th graders met twice each week for 8 weeks. The authors chose to test the pull-out model because they state "about 95% of all gifted programs employ this system at the upper elementary grade level". Those students in the pull-out program scored higher on the Ross Test of Higher Cognitive Processes on all subtests and at all grade levels.

Kramer (1987) compared full-time programs (self-contained classrooms) and part-time programs (pull-out) among students from grades 3 through 6. She reports the differences between the two appear to be affected most by whether the classroom environment is organized in a cooperative style or a competitive style. Those students in the cooperative classroom environment achieved at higher levels than those in the competitive classroom.

A self-contained classroom structure was compared with a control group in 3rd and 4th grade classrooms by Van Tassel-Baska, Willis, and Meyer (1989). They found those GT students in the self-contained classroom had greater gains in critical thinking and reported being more satisfied with their class and their teacher than the control group.

These studies are typical of several which find almost all gifted and talented programs, regardless of the organizational model used,
have benefits for the students over the absence of a specific gifted and talented program. However, there are almost no studies which actually compare two different organizational models with each other.

The vast majority of articles which deal with organizational models simply describe a model used in a particular school district and report the process of how it was established and an evaluation of how it functions. Examples of this literature include Aldrich and Mills (1989) who describe a program jointly sponsored by four school districts in a rural part of the country. The program was essentially a pull-out program which involved students from all four districts. Feldhusen and Sokol (1982) and Shuler and Slate (1985) describe a variety of extra-school programs for the gifted. These include after school, Saturday, and summer programs. Mentorship programs are described by Bryant and Wierick (1983), Mosley and Todd (1983), and Edlind and Haensly (1985).

Almost all of the gifted and talented program models reported in these types of articles claim that their model works well. Authors are not as likely to write about a program which didn't work well, and if they did, editors are probably not as likely to publish the article. This screening process may leave the impression that each of the program models are equally effective even though this may not be the case. Few of the articles give enough detail about the school district and the goals of the GT program to allow the reader to determine if the model would have a likelihood of being successful for other districts' needs.

In 1987 the Journal for the Education of the Gifted published two articles in the same issue which examined the positive and negative
characteristics of the pull-out program model. In the article which cites the positive characteristics of pull-out programs Renzulli (1987) claims "... there is no comprehensive study in existence that has compared various administrative patterns of organization under controlled conditions". He makes a clear distinction between what he terms theoretical and organizational models. The pull-out program is an organizational model and the curricular models are theoretical models.

Renzulli focuses on what he sees are the three primary strengths of the pull-out organizational model. These strengths are 1) it gives an opportunity for departure from the regular classroom curriculum and therefore has a great deal of flexibility, 2) it avoids the conceptualization that a student is either totally gifted or totally not gifted; it allows flexibility for students to move in and out of the pull-out program depending primarily on the conditions of the topic or content of the pull-out class material, 3) it allows great flexibility for a variety of topics to be examined and flexibility of individual interests, abilities, and learning styles.

In the article examining the negative aspects of the pull-out programs VanTassel-Baska (1987) argues that the greater the percentage of time gifted and talented students are grouped, the more of their unique educational needs are met. She states "Thus, full-time groupings of the gifted should be strongly considered by any school whose primary purpose is perceived to be the development of individual potential, and the pull-out alternative discarded for the short-term 'quick fix' it tends to be."
The negative points of the pull-out program according to VanTassel-Baska are 1) the curriculum is limited so that it will not "interfere" with the regular classroom curriculum, 2) its separateness creates problems for regular classroom teachers to understand it and how it relates to basic educational goals of the school, 3) the implication is that GT students need only a small percentage of enrichment and that the enrichment should not be integrated into the regular classroom curriculum, and 4) the curriculum is typically fragmented and results in neither vertical nor horizontal articulation.

Fetterman (1988) reports the findings of an evaluation of 433 gifted and talented programs in the state of California, discusses sample case studies of GT programs and discusses some of the trends in other nations of the world in GT education. Various organization models are discussed in some detail including the author's evaluation of the strengths and weaknesses of some of the models.

The models discussed by Fetterman include the special day classes, part-time groupings, cluster groupings, and independent study. Special day classes include groupings of GT students who meet together at least one complete day per week as opposed to regular classes (self-contained) which meet daily. The special day class would seem to be the same as a pull-out program which meets for one entire day each week. He believes the self-contained classroom model where GT students are grouped all days of the week is the best model. He notes that very large school districts tend to provide self-contained classrooms for GT students more frequently than smaller districts do.
Fetterman's term, part-time groupings, is used for what is usually termed the pull-out model. This is the most widely used model in the State of California. In this model students meet together less than one full day per week, he states that this only allows minimal time to explore content to a greater depth. He also finds that in the pull-out model regular classroom teachers tend to characterize it as "frustrating and highly disruptive". Itinerant GT teachers also report frustration working from only materials which can be stored in the trunk of their car.

Cluster grouping is the model most used to serve secondary students in the State of California and second only to the pull-out model in the elementary schools. In this model a cluster of GT students is mixed with regular students in the classroom but receives special instruction for the gifted by the regular classroom teacher when possible. Fetterman says this is an economical model since it requires the hiring of no additional teachers, and it eliminates the isolation of GT students. A wider range of teachers come in contact with the GT program, and more teachers are required to get special training in gifted education.

The last model which Fetterman discusses is independent study. He reports that it serves only a small percentage of students serving 6 percent at grade 11 and 7 percent at grade 12. He claims it is most useful when combined with other approaches, and one of the weaknesses is that students may not receive sufficient guidance or instruction.

By far the most comprehensive survey of GT programs and the most thorough discussion of them is found in a study funded by the Richardson Foundation (Cox, Daniel, and Boston, 1985). The project
surveyed approximately 16,000 public and parochial school districts nationwide and received responses from 4,000 districts. The authors explain the impetus for the project as follows: "The overriding reason was the lack of hard data about what is going on in programming for able learners, particularly noticeable on the national scale."(p.29) "There was an abundance of data on curriculum, teaching models, and learning styles. But there was very little data on what kinds of programming options were being provided."(p.30)

Table 1 shows the percentage of districts who reported using the various program models for their GT program in the Cox et al study.

<table>
<thead>
<tr>
<th>Program Model</th>
<th>Percent of Schools Using</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pull-out</td>
<td>72%</td>
</tr>
<tr>
<td>Enrichment</td>
<td>63%</td>
</tr>
<tr>
<td>Independent Study</td>
<td>52%</td>
</tr>
<tr>
<td>Resource Room</td>
<td>44%</td>
</tr>
<tr>
<td>Itinerant Teacher</td>
<td>37%</td>
</tr>
<tr>
<td>Full-Time Special Class</td>
<td>34%</td>
</tr>
<tr>
<td>Mentorships</td>
<td>33%</td>
</tr>
<tr>
<td>Continuous Progress</td>
<td>32%</td>
</tr>
<tr>
<td>Advanced Placement Classes</td>
<td>30%</td>
</tr>
<tr>
<td>Moderate Acceleration</td>
<td>28%</td>
</tr>
<tr>
<td>Dual Enrollment</td>
<td>28%</td>
</tr>
<tr>
<td>Early Entrance</td>
<td>28%</td>
</tr>
<tr>
<td>Radical Acceleration</td>
<td>11%</td>
</tr>
<tr>
<td>Fast-Paced Classes</td>
<td>7%</td>
</tr>
<tr>
<td>Special Schools</td>
<td>4%</td>
</tr>
<tr>
<td>Nongraded Schools</td>
<td>3%</td>
</tr>
</tbody>
</table>
Ninty percent of the districts reported using more than one model in combinations. The median number of program options being used in combination was 4. The pull-out and enrichment combination was the most common combination.

Two broad patterns were identified; 1) those districts that offered a GT program only at the elementary school level and 2) those districts that offered a GT program at all grade levels. It was very rare for a district to offer a GT program at the high school level and not at the elementary level. Self-contained classrooms were more common in school districts in communities having a population of more than 50,000. In only 35% of the districts is there a full-time gifted and talented coordinator.

Cox et al (1985) singled out the pull-out program to criticize. They point out that it is easy to install, only one or very few committed teachers need to be trained to teach in the program, it is a very flexible model from both an organizational and curricular standpoint, and is a highly visible GT program. However, they believe its weaknesses such as only being a part-time solution to educating GT students, being divorced from what is happening in the students' regular classroom, and being divisive and negatively evaluated by regular classroom teachers outweigh its positive qualities.

Cox et al (1985) examine a number of what they call "model" GT programs from all over the United States. They also make many
recommendations regarding various GT programs and suggest a process for starting a GT program in a school district. From all of their work on this national project they concluded there was no consensus or widespread pattern which appeared to be agreed upon for providing gifted and talented education in the United States at this time.

To summarize the literature on organizational models for gifted and talented education there seem to be relatively few patterns. First, this may be a function of the fact that there is very little literature which really focuses on the specific topic. There does seem to be agreement that it is desirable for GT students to have their needs met in some type of a full-time approach which is related to the curriculum in the regular classroom. This means that the pull-out program is not held in great esteem. However, the pull-out program must have at least some substantial advantages or the majority of the school districts would not continue to choose and widely use it. Apparently its flexibility is clearly one of its great advantages both in the number of students it can serve and its curricular offerings. There is almost nothing written on the organizational "pluses" and "minuses" which a district could use in making a decision about what model(s) to select. School districts differ in many ways as do the models, and they choose models for different reasons.

It is this general lack of information on gifted and talented program organizational models that prompted the current study. The intention was to identify the models being used by school districts in the state of Kentucky. We sought to identify the combinations and
variations in organization models and to identify some of the variables in the school districts which have played a role in districts choosing a particular organizational model or models.

Methods

A survey instrument composed of 33 questions was developed to be sent to a sample of school districts. The questions were generated from issues and questions raised in the literature surveyed, from talking with gifted and talented (GT) teachers and coordinators, and from the specific information which was needed to address the basic questions of the research project.

The survey which can be found in Appendix A asked for information regarding the program used by that specific district at the elementary, middle school, and secondary levels. It asked about the respondent's perception of the advantages and disadvantages of the program model and the students' reactions to it. General questions were also asked concerning how supportive the school district, regular classroom teachers, and parents, were of the gifted and talented program.

The sample of school districts to be surveyed were selected by a stratified random sampling method. It was the intention to have school districts which were county and independent, large and small, and from all geographic regions of the state represented in the sample. The Kentucky Department of Education Gifted Education Programs booklet was used to identify the school districts.
A total of 98 districts were selected to be included in the sample and were sent surveys. The surveys were mailed to the person listed as the gifted education coordinator for each district. Of the 98 surveys mailed out, 50 were returned for a return rate of 51%.

The sample of 50 school districts who responded to the survey was composed of 40% independent districts and 60% county districts. Twenty-six percent of the districts were geographically located east of the Lexington area, 36% of the districts were located in the central part of the state generally between Lexington and Louisville, and 38% of the districts were located west of the Louisville area.

The size of the responding districts was as follows:

- less than 1000—15
- 1-2000—8
- 2-3000—10
- 3-4000—6
- 4-5000—1
- 5-7000—4
- 7-9000—2
- over 9000—4
RESULTS

Table 2 summarizes all of the program models reported by the 50 school districts by school levels.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Program Model Frequency by School Levels</th>
</tr>
</thead>
</table>
| Elementary Schools | Pull-out—45  
Cluster—9  
Self-Contained—8  
After or Extra-School—7 |
| Middle Schools | Pull-out—31  
Cluster—6  
Self-Contained—17  
After or Extra-School—6  
Mentorships—1 |
| High Schools | Pull-out—3  
Cluster—4  
Self-Contained—4  
After or Extra-School—5  
Mentorships—1  
Advanced Placement—23 |
The numbers in the categories do not total to 50 which is the number of districts responding to the survey because some districts had two or more models being used in combination and some districts had programs at one level but not at other levels.

The Pull-Out Model

The pull-out organizational model for providing gifted education is the model most widely used nationwide. It has been written about the most and has been debated more than any other model. This somewhat controversial model seems, on the surface, to be rather innocuous and to be a model with which almost everyone who has attended school is familiar. In the pull-out model GT students are released from or "pulled out" of their regular class for a period of time so they can be grouped with other GT students and experience some special curricular materials which usually go beyond the regular classroom curriculum. In essence they receive their gifted education outside the regular classroom in a special part-time class.

Table 3 summarizes the advantages and disadvantages which the respondents to the survey see for the pull-out organizational model.
Table 3
Advantages and Disadvantages of the Pull-Out Model

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>- It allows time to be with other gifted students</td>
<td>21</td>
</tr>
<tr>
<td>- A GT program can operate with a smaller number of trained staff and less cost</td>
<td>13</td>
</tr>
<tr>
<td>- The smaller class of GT students allows for more teacher attention and stimulation</td>
<td>12</td>
</tr>
<tr>
<td>- An entire block of time is available for more depth of study and higher quality work</td>
<td>11</td>
</tr>
<tr>
<td>- There is much more flexibility in the curriculum taught than is the case in the regular classroom</td>
<td>10</td>
</tr>
<tr>
<td>- It is easier for GT teachers to meet the special needs of GT students than in cluster model</td>
<td>10</td>
</tr>
<tr>
<td>- The pull-out model is easily implemented</td>
<td>6</td>
</tr>
<tr>
<td>- Students and teacher have all good materials located in a central, convenient location</td>
<td>6</td>
</tr>
<tr>
<td>- There is less disruption for classes</td>
<td>3</td>
</tr>
<tr>
<td>- It makes the transition from elementary to high school and being with different students easier</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disadvantages</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Time allotted is not sufficient for depth of study</td>
<td>30</td>
</tr>
<tr>
<td>- Teachers often require that all work missed in the regular classroom be made up by GT students</td>
<td>24</td>
</tr>
<tr>
<td>- Students must be transported to another location</td>
<td>14</td>
</tr>
<tr>
<td>- The curriculum lacks continuity from meeting to meeting</td>
<td>10</td>
</tr>
<tr>
<td>- GT students miss instruction while they are out of the regular classroom</td>
<td>8</td>
</tr>
<tr>
<td>- The regular teachers' attitude toward the pull-out is negative</td>
<td>6</td>
</tr>
<tr>
<td>- There is no relationship between the curriculum in the regular classroom and the pull-out program</td>
<td>6</td>
</tr>
<tr>
<td>- Scheduling is a problem</td>
<td>5</td>
</tr>
<tr>
<td>- The room or space assigned to the pull-out class is inadequate</td>
<td>4</td>
</tr>
<tr>
<td>- Pulling the GT students out of the classroom calls attention to them and makes them appear privileged</td>
<td>3</td>
</tr>
<tr>
<td>- GT itinerant teachers cannot be involved in the total school program where they teach</td>
<td>2</td>
</tr>
</tbody>
</table>

( )= number of respondents making this response
The teachers and GT coordinators who responded to the survey were asked whether they would recommend each of the models to other school districts. The pull-out organizational model received the strongest recommendation of all the models examined. The respondents mean recommendation for the pull-out model was 4.29 on a 5-point scale with 1 being the lowest and 5 being the highest recommendation. The actual responses are shown below:

- definitely yes-30
- yes, with reservations-31
- uncertain-0
- probably not-3
- definitely not-2

The respondents were asked to share their assessment of the students' reactions to the organizational model which was used in their district. The possible responses ranged from 1, "very negative", to 5, "very positive" on a 5 point Likert scale. The mean response for students' reactions to the pull-out model was 4.42 which is very positive.

There are definitely more variations of the pull-out model than of any of the other models. Students can be pulled out of their regular classroom for any combination of hours and days from one hour to the entire day and from one day each week to every day of the week.
Some pull-out programs meet even less frequently such as once each month. The class can meet in the same school building or be transported to another building for their meeting. The pull-out class can be composed on a single grade level or can be composed of more than one grade level. They can have the same teacher every time they meet or may have different teachers at different times. It is also possible that the same students are not pulled out everytime depending on the material being taught that day and the individual interests of the students. The students are sometimes pulled out of the same class everytime, and sometimes pulled out of different classes on a systematic rotating basis.

Self-Contained Classrooms

The self-contained classroom model is the second most widely used model by the districts in the sample. Twenty-nine of the 50 districts use this model either by itself or in combination with other models. This model typically is a homogeneous group of GT students that in the elementary school remain together all day for all subjects. In the middle school the grouping tends to be by grade levels and in individual subjects. The self-contained class model differs from the pull-out in that the GT students are together in their regular classes
rather than being pulled out and grouped only temporarily. At the high school level the classes tend to be called honors classes or in some cases where the appropriate arrangements have been made are called advanced placement classes.

Table 4

Advantages and Disadvantages of the Self-Contained Classroom Model

<table>
<thead>
<tr>
<th>Advantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>-the GT students meet at a scheduled time during the regular school day (8)</td>
</tr>
<tr>
<td>-this model better prepares students for advanced classes in high school and college (7)</td>
</tr>
<tr>
<td>-students do not have to miss their regular class to attend the GT class (6)</td>
</tr>
<tr>
<td>-the teacher is with them all of the time to help (5)</td>
</tr>
<tr>
<td>-it is convenient to have the GT students together each day during the regular school day (2)</td>
</tr>
<tr>
<td>-most class sizes are small (2)</td>
</tr>
<tr>
<td>-the GT class is a &quot;real&quot; class for which students receive a grade (1)</td>
</tr>
<tr>
<td>-there is more than one GT teacher in a building (1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>-other classrooms are left without GT students to enrich the classes (2)</td>
</tr>
<tr>
<td>-it takes more funding (1)</td>
</tr>
<tr>
<td>-if the GT class is located in a different school, some parents resist having their child bused (1)</td>
</tr>
</tbody>
</table>

( )= number of respondents making this response

The GT coordinators and teachers who completed the survey evaluated their inclination to recommend the self-contained organizational model to districts as 4.16 on a 5-point scale. This is
the second highest recommended model second only to the pull-out model. Their responses are shown below:

- definitely yes - 13
- yes, with reservations - 8
- uncertain - 0
- probably not - 2
- definitely not - 1

The respondents assessment of the reactions of the GT students to the self-contained model averaged 4.42 on a five point scale. This was virtually the same assessment they made of the pull-out model.

There were no variations in the model reported at the elementary level although it is clear that in some schools GT students are combined with regular students for music or physical education or other subjects. At the middle school and high school levels several variations were noted. Students may meet together in any number of classes each day from one class to all of their classes. The GT grouping may be in any subject area. The class may last for the entire year or for a shorter period of time such as a 9 week grading period.

Cluster Model

The cluster model assigns GT students to a regular classroom but places several GT students in the classroom together in a "cluster". The students are identified for the teacher, and the teacher provides
additional enrichment and challenges for the GT students. Since there are several GT students in the class, they will stimulate each other and may work together on special assignments or projects. Usually it is the regular classroom teacher who provides this "special curriculum" for the GT students, but some instruction can be provided by a resource teacher on occasions.

Table 5
Advantages and Disadvantages of the Cluster Model

Advantages

-meets the needs of GT students without removing them from the regular classroom (5)
-the teacher can include regular students in the special lesson when it is appropriate (3)
-scheduling is very easy (3)
-it is least disruptive to the school day (2)
-it is the best use of the teacher (2)
-students do not have to be bussed (2)
there is the "security" and continuity of the regular classroom setting (1)

Disadvantages

-the time to implement maximum quality activities is not always available (1)
-the classroom teacher is not always compatible to the gifted education needs (1)
-teachers are sometimes confused about their roles (1)
the small number of GT students in the class makes scheduling difficult (1)
-large number of teachers involved in teaching GT (1)
some teachers don't agree with grouping (1)
-teacher training is spotty (1)
-supervision of the program is more difficult (1)
-evaluation of the program is more difficult (1)

( )= number of respondents making this response
The evaluation the respondents made regarding whether they would recommend the cluster model to others who might be considering adopting it averaged a 3.6 on a five point scale. This was the lowest evaluated model of all those studied. The actual responses are shown below:

- definitely yes-3
- yes, with reservations-10
- uncertain-0
- probably not-3
- definitely not-1

The students reaction to the cluster model according to those responding to the survey averaged 4.11 on the 5 point scale with 5 being the most positive reaction.

There were few variations mentioned for the cluster model. Students can be clustered throughout all or some of their classes, and the regular classroom teacher or a resource teacher can work with the GT students.

Extra-School or After School Programs

Extra-school organizational programs for gifted and talented students are those in which all activities occur beyond the regular school hours. This can be immediately after the final bell, on weekends, or during the summer months. This approach is not as common as many of the other organizational models, but those who employ it are reasonably positive about it.
Table 6 shows the advantages and disadvantages of extra-school model reported by the 18 respondents whose districts use the model. The primary advantage seems to be the fact that the routines and activities of the regular school day are not disrupted. This seems to allow more freedom particularly in responding to the interests of students and in the curriculum in general. The predictable disadvantage is that it may be difficult for some students to arrange transportation for these special times and some students are already committed to other jobs and activities which prohibit their participation in the GT program.

Table 6
Advantages and Disadvantages of the Extra-School Model

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>-there is no loss of time from regular classes</td>
<td>8</td>
</tr>
<tr>
<td>-it is very convenient and easy to administer</td>
<td>7</td>
</tr>
<tr>
<td>-students can receive more individual attention</td>
<td>3</td>
</tr>
<tr>
<td>-doesn't interfere with the regular schoolday</td>
<td>2</td>
</tr>
<tr>
<td>-students have more voice in the activities</td>
<td>2</td>
</tr>
<tr>
<td>Disadvantages</td>
<td></td>
</tr>
<tr>
<td>-many students may chose not to participate</td>
<td></td>
</tr>
<tr>
<td>because of transportation problems or conflicts with other activities</td>
<td>9</td>
</tr>
<tr>
<td>-it is difficult to establish continuity</td>
<td>5</td>
</tr>
<tr>
<td>-it allows only a very limited scope of content</td>
<td>3</td>
</tr>
</tbody>
</table>

( ) = number of respondents making this response
The 18 respondents rated whether they would recommend the extra-school model to others. The average of the ratings was 4.0 on a 5-point scale with 5 being definitely to recommend. The following are the numbers who said they would or would not recommend this extra-school model be used by other districts:

- definitely yes - 6
- yes, but with reservations - 9
- uncertain - 0
- probably not - 3
- definitely not - 0

The mean response of 4.12 was the perceived reaction of students to the extra-school model. While respondents felt there was a problem for some students to attend a program which met outside of the regular school hours, they seem to feel that those who do participate in the program have good feelings about it.

There are a number of variations of the extra-school organizational model which either are used or could be used. They are after school, before school, summer, and Saturday programs. Each of these could be varied in the number of hours or the number of days the students could meet. The days may or may not be consecutive. The location of the meetings could be at the school, other locations, or might involve field trips.
Advanced Placement

Advanced placement classes, which are often referred to as honors classes, are offered by many school districts. In the sample of 50 school districts in the current study 23 districts indicated they offered advance placement classes. Obviously, advanced placement classes are offered at the high school level, and some of the independent districts responding to the survey do not have a high school in their district.

Advanced placement classes are typically taught by a very competent teacher who teaches the content at an advanced level which prepares students for a test offered at the end of the school year. By scoring well on the test students may receive college credit through the College Level Equivalence Program.

Table 7 identifies the advantages and disadvantages which the respondents identified for the advanced placement organizational model.
Table 7

Advantages and Disadvantages of the Advanced Placement Model

Advantages

- ease of scheduling (2)
- students are together daily (2)
- small class size (1)
- excellent course content prepares students well for college if they chose to go (1)

Disadvantages

- teachers knowledgeable in the content may not be sensitive to special needs of GT students (2)
- isolates GT students in some cases which may not be fully accepted by staff (2)
- some districts cannot financially afford the small classes in all content areas needed (1)

( ) = number of respondents making this response

The mean of the respondents to the question asking whether the respondents would recommend the advanced placement model was 3.8 on the 5 point scale with 5 being definitely to recommend the model. The actual responses are shown below:

definitely yes-2
yes, but with reservations-5
uncertain-2
probably not-1
definitely not-0

The respondents assessed the students' reactions to the advanced placement model as averaging 4.0 on a 5 point scale with 1 being very negative and 5 being very positive.
There were almost no variations of the advanced placement model noted. The advanced class may be in various content areas and in some cases may be taught by a college faculty member either at the high school or at the college. A course taught by a college faculty member is usually referred to as a dual enrollment class rather than an advanced placement class.

Mentorships

Mentorships involve students going out into the community to "shadow" or work with a career person in their job. This gives students "real life" experiences where they can use knowledge they have acquired in school and develop new knowledge and skills. Only one of the 50 districts currently uses mentorships. That district reported using mentorships in both the middle school and the high school.

The advantages they cited for the mentorship program were students receiving more individual attention, having more involvement, being challenged to go beyond the normal requirements, and requiring little funding. The one disadvantage they listed was that the students tend to work too independently from the school. Student reactions to the mentorship program are judged to be 4.0 for high school and 3.0 for middle school on the 5 point scale with 5 being very positive. The person responding to the survey indicated that they would not recommend this organizational model to others.
Academic Teams

Academic teams which meet after school were listed by several districts as an organizational model for their GT program. Academic teams are not typically considered a separate model in the GT literature and would be included in the extra school model discussed earlier in this report.

Table 8 below summarizes the reported reactions of students to the organizational models by school level. The number of responses do not always equal the number of districts using the model which was reported earlier because some of the respondents did not answer this specific question.
### Table 8

Assessed Student Reaction to Organizational Models by School Level

<table>
<thead>
<tr>
<th>School Level</th>
<th>Pull-out</th>
<th>Self-Contained</th>
<th>Cluster</th>
<th>Extra-School</th>
<th>Mentor</th>
<th>Advanced Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>4.56</td>
<td>4.75</td>
<td>2.66</td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(39)</td>
<td>(4)</td>
<td>(3)</td>
<td>(2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle School</td>
<td>4.43</td>
<td>4.40</td>
<td>(3.75)</td>
<td>4.0</td>
<td>3.0</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>(23)</td>
<td>(10)</td>
<td>(4)</td>
<td>(2)</td>
<td>(1)</td>
<td>(16)</td>
</tr>
<tr>
<td>High School</td>
<td>2.66</td>
<td>4.20</td>
<td>3.0</td>
<td>3.75</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3)</td>
<td>(4)</td>
<td>(2)</td>
<td>(4)</td>
<td>(1)</td>
<td></td>
</tr>
</tbody>
</table>

( ) = number of responses
DISTRICT PROGRAMS AND SCHOOL LEVELS

The most common pattern to be found in the sample of 50 school districts was that of offering gifted and talented programs offered at all school levels. Thirty-five districts offered GT programs at the elementary, middle school, and high school levels. In two or three instances the only program being offered at the high school level was listed as the academic team which is normally not thought of at a GT organizational model.

For districts that did not offer GT programs at all levels, the most common pattern was to offer programs at the elementary and middle school levels but not at the high school level. Nine districts followed this pattern. Three districts reported offering a GT program at the elementary level but not at the middle school or the high school level. Two districts reported offering a GT program only at the high school level. In both of these instances AP classes were offered.

SCHOOL VARIABLES

It is obvious that school districts and schools differ in many ways. Upon closer examination of different schools it is quite surprising to find how many ways there are in which schools can and do actually differ. Each of these differences may have an effect on the school's gifted and talented program. The difference may have
influenced which of the GT organizational models was selected when the GT program was begun, or the differences may have influenced the evolution of the organizational models as they developed into hybrid models that fit the unique needs and structures of those particular schools or districts. The school variable results are derived from a synthesis of responses to the survey and interview data. The literature on program organizational models very rarely cites school variables as a factor influencing the choice of a model.

Table 9 shows the variety of school variables which can influence a school district's choice of an organizational model for their gifted and talented program. The variables are classified illustrating the broad categories of the variables.
Table 9

School Variables Which Can Influence the Choice of an a Gifted and Talented Organizational Model

<table>
<thead>
<tr>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>distance between the different schools</td>
</tr>
<tr>
<td>the number of schools in the district</td>
</tr>
<tr>
<td>ease of travel between the schools, eg. narrow, mountainous roads</td>
</tr>
<tr>
<td>the routes the busses take</td>
</tr>
<tr>
<td>the bus schedules and the nature of the interaction of the bus routes, eg. whether students must change busses</td>
</tr>
<tr>
<td>how full the busses are at different points in their routes</td>
</tr>
<tr>
<td>where the GT teacher(s) are located</td>
</tr>
<tr>
<td>whether there is a college nearby</td>
</tr>
<tr>
<td>whether the schools are located near a town or populated area</td>
</tr>
<tr>
<td>in which of the school facilities there is space available for the GT program</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>the number of teachers interested in and certified in gifted education at specific grade levels</td>
</tr>
<tr>
<td>willingness of teachers to commit time outside of the regular school day for extra-school activities</td>
</tr>
<tr>
<td>the general competency level of the staff for advanced placement classes</td>
</tr>
<tr>
<td>whether staff have the time to develop a program in addition to their regular work load</td>
</tr>
<tr>
<td>the attitudes and support of the principal and the superintendent</td>
</tr>
<tr>
<td>the attitudes of the regular classroom teachers regarding a GT program</td>
</tr>
<tr>
<td>the existence of a truly dedicated individual teacher or a small group of teachers who are committed to the existence and success of a GT program</td>
</tr>
</tbody>
</table>

(Continued on following page)
Students
- the number of students in general
- the number of GT students in each grade level and in each different location
- the location of GT students on the bus routes
- the grade level of students on the busses and in each school

Attitudes
- the attitudes and support of the parents
- the attitudes of the students, eg. whether or not it is socially acceptable to be in the GT program
- the attitudes and support of the administrators, eg. board of education, principals, etc.
- the attitudes of the community at large, eg. the funding level supported, the sensitivity of the "elitism" issue, willingness to serve as mentors

Other
- the goals and philosophy of the GT program
- whether the GT program is just starting or has been operating for several years
- the level of satisfaction with the program model currently in operation
- the school schedule, eg. whether students change classes, whether there is an exploratory period, the length of the school day, the time of day when the required subjects are offered,
- whether the school district received a grant to develop an initial program which had an impact on the development of the GT program
- how visible the GT program needs to be

Each of the variables cited in Table 9 could influence either the initial decision concerning which organizational model to select or could play a role in the general evolution of the model or the adjustments to the model over the years as it operates. Each variable may have its influence as a singular force, but more likely multiple variables work in complex and interactive processes to influence the organizational model.
For example, if the schools within a district are far apart and transportation is more difficult, a self-contained classroom or a cluster model may be selected depending on the number of GT students in the school and the number of teachers who are interested in the GT program and willing to teach in it. If there is a sensitivity to the charge of elitism, the district may decide to implement the cluster program rather than the self-contained model. If there are no teachers in a school who are certified to teach the GT students, an itinerant teacher may come to the school at designated times each week for a pull-out program. If the number of GT students is small in the schools, the GT program may use a pull-out model with multiple grade levels or use a pull-out program which busses students to a centralized location. Bussing students depends on such things as the availability of busses and the and the schedule of the program matching the schedule of the busses.

The philosophy of the GT program which is influenced by the attitudes of the board of education, administrators, and parents can vary substantially. Some districts may view the special needs of the gifted and talented students as needing to be met throughout the entire school day, and some may see the needs of GT students as needing some additional opportunities for exploration and challenge but not for the entire day. These philosophical differences can interact with the availability and interest of teachers, the number of GT students, and the location of those students to determine the organizational model selected or revisions to the existing model.
The availability of external resources such as having a college nearby to provide extra-school program opportunities and interested community members to serve as mentors is also an important factor. The competency of high school teachers and their willingness to meet the demands of an AP class are additional factors affecting the possibility of offering AP classes.

Finally, it appears that momentum is an important force in the choice of organizational models for GT programs as it is in many other realms. If a district begins using a particular program, the district will probably continue to use it.

CONCLUSIONS

As this project began it was quickly clear that there was very little literature which focused on the organizational models used to deliver gifted and talented educational services to students. Cox et al (1985) stated "There was an abundance of data on curriculum, teaching models, and learning styles. But there was very little data on what kinds of programming options were being provided."(p.30) Virtually no literature was located which dealt with the variations of the organizational models or the variables in school districts which might affect the choice and success of a particular organizational model.
Another problem or limitation of the literature and communication among GT staff is the lack of clarity and specificity of the models. For example, a self-contained classroom is usually thought to be the model where the students are in the classroom only with other GT students throughout the day. In some instances this term appears to be used in the middle school for a special GT grouping in one specific content class such as math. In other cases that same math class may be called a cluster grouping since the GT students are grouped homogeneously only in the math class. The lack of agreed upon terms makes it more difficult to clearly understand what the use of these terms means.

Regarding the survey conducted for this research project, it is important to note briefly that only 98 of the districts in the state were sampled, and only approximately 50% of those sampled responded. It appears that the sample is fairly representative of the state, but each reader will have to judge this issue for him/herself.

The pull-out model is written about more than any other model. This is probably caused partly by the fact that it is the model which is more widely used than any other model.

Several of the writers are critical of the pull-out model claiming that it is a fragmented model which really does not meet the needs of students. They claim that GT students are gifted all of the time and need a full-time GT program not just a once per week pull-out program.
While these writers and some GT teachers and coordinators point out the weaknesses of the pull-out model, it was the model most highly recommended by the practitioners in the field who use the model. The practitioners also reported that the reactions of students to the pull-out model is as high or higher than any other model. The trend is for the pull-out model to be rated higher in the elementary and middle schools than in the high schools.

The flexibility of the pull-out model seems clearly to be one of its greatest strengths. One of the criticisms of the model is that the regular classroom teachers do not like the model. There are many ways that GT teachers reported by which they were able to reduce or eliminate these negative attitudes. Another criticism of the pull-out model is that it does not relate to the curriculum of the regular classroom. This may be true but would not necessarily have to be true. The GT teacher could plan activities related to the content being covered in the students regular classroom. While this may be more challenging due to the difficulty of having students from several different classes, it could be done to some extent in at least some cases.

One of the conclusions from the literature, surveys, and interviews is the ambivalent feelings which seem to exist about gifted and talented programs. While this is undoubtedly not new, it seems clear that the public, school boards, and even teachers have really mixed feelings about how to educate gifted and talented students. On the one hand they seem to want to meet the special needs of GT students, but at the same time they do not want to create an elite
group which seems to get special treatment that other students are not able to get. They want all students' needs to be met and for all students to feel "special" about themselves and their abilities. This issue seems unresolved. It seems to ebb and flow. But most importantly it seems to prevent many districts from truly resolving the issue. It gives the impression that the GT program is often a compromise which will offend the fewest people while meeting some of the gifted and talented students needs. This may either be a reality which must be accepted, or it may be an issue which needs to be approached directly for a resolution.

No one would disagree with the statement that schools differ. In fact they differ in ways more numerous than is first apparent. The question of whether these differences result in a legitimate need for different organizational models to be used by different schools is questioned by some but generally thought to be a valid need. Gifted and talented teachers and coordinators from Kentucky and other states who were interviewed for this study unanimously agreed with the importance of permitting each school district to select the organizational model which best fit the uniquenesses of their district and best met their needs.

After examining many schools and districts it appears that no single model would be able to meet the needs of all districts. Each needs to be ensured the latitude to take into consideration such variables as location, numbers of students, funding levels, and a wide array of other variables in selecting and adjusting a model to meet
their specific needs. It might be easier administratively to have all school using exactly the same model, but the resulting loss of the districts' ability to tailor the delivery of the services to their GT students would be fairly substantial. Fetterman (1988) states it this way, "There are, however, some gifted educators who have not recognized that the search for a single, all-encompassing gifted program is comparable to the search for the Holy Grail. The idea of a single program belies the fundamental tenet of gifted education — to serve the individual needs of the student." (p.29)

The survey responses and interview data indicate that few of the GT teachers and coordinators seemed to know how and why their particular model was selected by their school district. Several said that they chose what seemed to be popular or widely used by other district. Only a single district reported a well thought out process which involved many different people from the district staff and the community. That district said they examined the organizational models and then systematically chose a model and adjusted it to meet the needs of their district. This seemed like an excellent process, and they recommend it highly.

It would seem that all school districts might benefit from such a process even if they already have a model in place. They might look carefully at the current model and other options. By including regular classroom teachers and parents in this process they might help
to improve any negative attitudes which exist toward the GT program. From the process they might decide to modify the current model or change models. Even if they decided to keep the current organizational model, they would feel more confident in it since it would have clearly been confirmed by a conscious decision.

The data gathered in the survey and reported in this research report are from Kentucky. However, numerous GT teachers and coordinators from other states were interviewed during their attendance at the National Association of Gifted Children annual conference in Cincinnati, Ohio. It is important to note the general trends found in Kentucky were very similar to those reported by GT educators from all over the United States. For example, the pull-out program is by far the most widely used model, many if not most districts experience the ambivalent feelings about gifted education discussed earlier, and all strongly support the need for flexibility in the school districts' choice of an organizational model for the GT program.

Hopefully, this study has answered some questions. But as is the case with most research, it helps us to see additional questions which need to be answered. There are many questions remaining. Are different organizational models more appropriate at differing grade levels? What are the differences in school districts which necessitate the use of differing organizational models? What process would help a district to evaluate their needs and then to identify the model which could best meet their needs? Are there assumptions that
educators are making about the scheduling of classes, structure of the school day, or curriculum which are limiting their thinking about GT models? Are there unique combinations of models which lead to a more effective program?

Finally, many good things are happening in gifted education in the state of Kentucky, and the staff who work with the programs seem to be very committed to what they do. As they continue to work within their districts and work together to share information, curriculum materials, and their experiences with each other, gifted education in the state will continue to improve. It seems at the core of gifted education and the education of all students that we need to help all students to recognize, to appreciate and to develop their uniquenesses and abilities and to truly feel "special".
References


APPENDIX A

GIFTED PROGRAM MODEL SURVEY

1. School district ____________________________

2. Your name __________________________ Phone Number __________

*The following section pertains only to your elementary schools (K-4).

3. Approximate number of gifted students served. ______

4. How many different schools serve these students? ______

5. Number of teachers who teach in the gifted program and the percent of time of each, eg. half-time, etc. ____________

6. Program model your district uses (pull out, cluster, mentorships, after school/Saturday programs, self-contained classrooms, etc.) If pull-out or after school, how many times per week do the students meet and for how long?

7. Why do you think your district chose this model?

8. What are the advantages of this model?

9. What are the disadvantages of this model?
10. Would you recommend this model to other school districts?
- definitely yes
- yes, but with some reservations
- uncertain
- probably not
- definitely not

11. What is your assessment of the students' reactions to this gifted/talented program model?
- very negative
- 1
- 2
- 3
- 4
- 5
- very positive

The following section pertains only to your middle schools (5-8).

12. Approximate number of gifted students served.

13. How many different schools serve these students?

14. Number of teachers who teach in the gifted program and the percent of time of each, eg. half-time, etc.

15. Program model your district uses (pull out, cluster, mentorships, after school/Saturday programs, self-contained classrooms, etc.)
   If pull-out or after school, how many times per week do the students meet and for how long?

16. Why do you think your district chose this model?

17. What are the advantages of this model?
18. What are the disadvantages of this model?

19. Would you recommend this model to other school districts?
   definitely yes_____ yes, but with some reservations____
   uncertain_____ probably not_____ definitely not____

20. What is your assessment of the students' reactions to this
gifted/talented program model?
   very negative 1 2 3 4 5 very positive

*The following section pertains only to your high school(s) (9-12).

21. Approximate number of gifted students served. _______

22. How many different schools serve these students? _______

23. Number of teachers who teach in the gifted program and the
   percent of time of each, eg. half-time, etc. ___________

24. Program model your district uses (pull out, cluster, mentorships,
   after school/Saturday programs, self-contained classrooms, etc.)
   If pull-out or after school, how many times per week do the
   students meet and for how long?

25. Why do you think your district chose this model?
26. What are the advantages of this model?

27. What are the disadvantages of this model?

28. Would you recommend this model to other school districts?
   definitely yes____  yes, but with some reservations_____ uncertain_____ probably not______ definitely not______

29. What is your assessment of the students' reactions to this gifted/talented program model?
   very negative 1  2  3  4  5 very positive

30. How supportive are the parents for your GT program?
   not at all 1  2  3  4  5 very supportive

31. In your opinion what is the level of priority placed on the GT program in your district?
   very low 1  2  3  4  5 very high priority

32. In your opinion what is the level of financial commitment made by your district to the GT program?
   very low 1  2  3  4  5 very high

33. How supportive do you find the regular classroom teachers to be of the GT program?
   not at all 1  2  3  4  5 very supportive

Thank you very much for your assistance with this research project on the gifted and talented program models in Kentucky!
Dear Gifted/Talented Coordinator:

I am researching the gifted and talented program models used by school districts in the state of Kentucky. This project is funded by the Advisory Council for Gifted and Talented Education.

You have been selected as part of a sample of gifted and talented coordinators to be asked to describe and evaluate the model used in your district. We are requesting that you complete and return the enclosed survey. Your experiences and evaluations of your program model will be very important in helping us to better understand the strengths and weaknesses of the models.

We would like to ask that you try to complete and return the enclosed survey by October 26, 1989, if at all possible.

We appreciate your assistance with this project.

Sincerely,

Chuck Hulick
Project Director

Enclosure