SUGGESTED OUTCOMES FOR INTELLECTUALLY GIFTED EDUCATION PROGRAMS GRADES 2-8 IN MISSISSIPPI

OFFICE OF GIFTED EDUCATION PROGRAMS

MISSISSIPPI STATE DEPARTMENT OF EDUCATION

1994

June 6, 1994

Dear GEP Contact Person:

It is our hope that the information contained in this document will be useful in planning services for identified intellectually gifted students in Mississippi. While the outcomes are suggested and not required, it is clear that written outcomes are a necessary component for program integrity. We encourage each of you to have written outcomes for your local GEP by the end of the 1994-95 school year. The Office of Gifted Education Programs will conduct regional workshops during August of 1994 on the suggested outcomes and how to integrate them into your local GEP.

We wish to thank the members of the panel for their input, guidance, and contributions during the meetings and numerous revisions of this document. This project would not have been possible without them.

We are grateful to Dr. Tom Burnham, State Superintendent of Education, and to Mr. R. D. Harris, Deputy State Superintendent of Education for their support of this project and for the resources provided.

Sincerely,

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SUGGESTED OUTCOMES
FOR INTELLECTUALLY GIFTED EDUCATION PROGRAMS
STATE OF MISSISSIPPI
GRADES 2-8

PREFACE

During the 1993-94 school year, a panel met to develop suggested outcomes for Mississippi students in grades 2-8 participating in an Intellectually Gifted Education Program. The panel was composed of practicing teachers of the gifted, university teachers of gifted education courses, supervisors of gifted programs, and two high school students who had participated in a program for the intellectually gifted while in the target grades. The suggested outcomes in this document represent the collaborative efforts of the members of the panel and personnel in the Office of Gifted Education Programs within the State Department of Education.

While many of the suggested outcomes sound desirable for all students, intellectually gifted students have the ability to demonstrate mastery/understanding, and the ability to use the process skills outlined in the outcomes, at a much younger age and in greater depth and breadth than other students, regardless of age or educational experiences. It is strongly suggested that educators in local districts work with teachers of the gifted, seeking suggestions for ways that some of the process skills discussed in this document could be integrated appropriately into the regular education program. This will allow all students to benefit from having the GEP in the district.

If intellectually gifted students in Mississippi are to be challenged to reach their full potential, there must be a well-defined set of outcomes for the GEP in each local school district and all learning experiences must be designed to help the students achieve those outcomes. Well-defined outcomes are roadmaps for planning. No longer are we just doing creative problem solving and critical thinking activities as stand-alone activities; there is a purpose for those activities and everyone clearly understands that purpose. Few of us would ever begin a journey across the country without a roadmap. We mark our route on the map, but seldom do we stick exactly to the route we marked; we make "sidetrips" because during the course of our journey we discover things we want to do that will enhance our trip and will not keep us from reaching our destination. The old adage "ready, shoot, aim," disappears from our vocabulary when we have that roadmap. And intellectually gifted students are no longer forced to underachieve because of an inappropriately challenging program. The door of opportunity is opened, and students discover new strengths, interests, and abilities. They build the capability to effectively use all their knowledge and experiences in any situation.

The national report on the status of education for gifted students, National Excellence: A Case for Developing America's Talent, refers to the education of America's top students as the "quiet crisis," (p. 5). "They often learn rapidly and are bored with repetition. They are often tenacious in pursuits that interest them. The way in which they learn sets them apart from most other children and challenges educators and parents," (p. 5). The document also reports that gifted students are underchallenged and, therefore, underachieve. This is referred to as forced underachievement; the educational experiences offered to the students are presented at a level lower than their abilities and, therefore, they are forced to underachieve. One student said, "I breezed through classes in 12 years, graduated from high school as valedictorian, and then almost flunked out of college because I never learned to work hard at learning. I feel angry, jealous, and cheated about the potential that was lost ...," (p. 22). It is clear that we must provide educational programs that challenge our gifted students

INTRODUCTION

"To think, it seems to me, is to hold an idea long enough to unlock and shape its power in the varied contexts of shared human knowledge."

(John-Steiner 1985, Notebooks of the Mind)

Einstein frequently said that the ability to think was far more important to a human than the mere ability to recall facts. "Imagination is more important than knowledge, for knowledge is limited, while imagination encompasses the universe."

Today we live in a constantly changing society, one where the relationships among the influences upon it are dynamic and complex, making futuristic predictions much more difficult. Technology, the knowledge explosion, and artificial intelligence, just to name a few, have forced changes in the work place and work force that could not have been reasonably projected twenty years ago. No longer can individuals feel that their jobs will be secure until they reach retirement age. Many who did have been forced into early retirement or unemployment. Projections of specific skills that will be needed by the work force in ten to twenty years are becoming increasingly difficult to make. Therefore, curricula without in-depth attention to thinking skills, problem solving skills, and other process skills are of questionable value. Because of this, suggested outcomes for the intellectually gifted program are based on process skills rather than trying to define a set curriculum. These outcomes should provide direction and flexibility, a roadmap that does not restrict making "side trips" for investigations of newly discovered interests.

The primary outcome for Intellectually Gifted Education Programs in grades 2-8 in Mississippi is METACOGNITION, a process skill requiring mastery of and use of many other process skills. In the literature, metacognition is defined in several ways, with one of the common ones being that it is the awareness of or understanding of one's own thinking processess and the ability to gain control of or to have skill in using the processes more effectively. For the purpose of this document, metacognition has been more broadly defined. It is the ability to understand one's own thinking processes combined with the ability to bring together one's total learning experiences (cognitive and affective) to bear on a new situation, enabling one to appropriately apply that understanding to and empower the new endeavor, acting responsibly to enjoy the self-motivated discovery of new ideas and/or solutions. For the intellectually gifted student, it is like the Starship Enterprise boldly going where no person has gone before. It is the euphoria that comes from discovery, looking at what others have looked at, and seeing what they have not seen. It is exploring new frontiers of thought, developing new hypotheses, testing the waters of new areas of thought, critically analyzing the old to create the new, and finding solutions for problems that had previously defied solution. In short, it is challenging students to do what others think cannot be done by students that age.

Learning is becoming a continuous and lifelong process. Love of learning greatly enhances one's learning process. Therefore, while love of learning is not one of the process skills listed in this document, it is clearly a desired outcome of the program for intellectually gifted students. Many gifted students are not motivated to learn by mere grades. They seek the pure enjoyment derived from the learning experience. Thus teachers, as they help students reach for the global goal of metacognition, must take great care to design learning experiences that instill in each student an intense love of learning that makes him/her a lifelong learner. Success in accomplishing this critical outcome will mean that intellectually gifted students use their almost limitless ability to learn to the fullest and their learning experience is a joyous, satisfying one which they approach with that same excitement as when they were kindergartners. Learning will be pure enjoyment with a purpose.

If metacognition is to occur, most intellectually gifted students will need regular interaction with their intellectual peers and/or superiors. Just as a coach knows that it is difficult to develop a

championship team without competing against teams of equal or greater abilities, it is difficult for intellectually gifted students to fully develop their skills without interaction with their intellectual peers or superiors. Without the "intellectual push" or challenge from other intellectually gifted students, most of these students will not have challenging learning experiences that cause them to really stretch their minds and reach beyond what they perceive to be their limitations. Thus they will not know their capabilities nor their limitations and the world may miss another Einstein.

The process skills, which together with the global goals of metacognition and love of learning, make up the suggested outcomes for an intellectually gifted program for students in grades 2-8, are listed on the following pages. While these are not mandated outcomes, the Panel and SDE believe that having outcomes in place will help develop, improve, and/or maintain program integrity. They will provide the galactic map to the stars for intellectually gifted students.

OUTCOME CATEGORIES

These outcomes are suggested for all Intellectually Gifted Education Programs, grades 2-8, within the State of Mississippi. Because of the interrelatedness of metacognition and other critical process skills, categories were developed for communication and management purposes. No single outcome can be taught effectively as a stand-alone topic. It is clear that one cannot develop an appropriate activity for one of the outcomes without dealing with one or more of the other outcomes. Because of this, the outcomes suggested are not mutually exclusive. Thus, the categories are simply provided as a way to help organize the thoughts/ideas that are encompassed by and contribute to the development of a working understanding of the metacognitive process.

There are six major outcome categories: Thinking Skills, Creativity, Group Dynamics, Communication, Research, and Self-Directed Learning. Each category is accompanied by a major outcome statement. Each major outcome is broken down into sub-categories, which are mostly process skills which the student must be able to use appropriately in order to demonstrate accomplishment of the outcome. When all the major outcomes have been accomplished, the student should be able to demonstrate metacognition as defined earlier. Local districts are encouraged to develop outcomes for each of the sub-categories and plan their program activities to accomplish those outcomes. It is important to point out that the process skills listed under each major outcome are repeated under several major outcomes. None of the outcome categories are mutually exclusive in the components that accompany them.

THINKING SKILLS: In our society of accelerated change and ever increasing complexity, it is critical that students become proficient in using thinking skills. It is no longer prudent to teach students what to think; rather, it is increasingly necessary to teach them how to think. We must give them the skills necessary to live in the future. What we considered good science fiction not too many years ago is, in many cases, reality today. Based upon the mega changes brought about during the past twenty years due to technology, it is becoming more difficult to project ten years into the future. We cannot even imagine the complexity nor the rapidity of changes that students today will be forced to confront over the next ten to twenty years. Nor can we possibly think that we can give them all the factual knowledge that they might need. What we realistically can do is teach them how to find and evaluate information. Our goal should be to give them the necessary training to enable them to appropriately utilize thinking skills.

MAJOR OUTCOME: (THINKING SKILLS) Given a topic/situation, the learner will define and classify the problem(s), make connections and draw distinctions, analyze information objectively and critically, reflectively developing a relationship between facts and values, and differentiate beliefs and what is true from his/her understanding of what is logically and realistically possible.

THINKING SKILLS SUB-CATEGORIES: The student will:
* demonstrate the ability to use higher order thinking skills
* demonstrate the ability to use critical thinking skills
* demonstrate the ability to use analogical thinking skills
* demonstrate the ability to use creative thinking skills
* demonstrate the ability to use creative problem solving skills
* demonstrate the ability to use inductive reasoning
* demonstrate the ability to use deductive reasoning
* demonstrate the ability to use intuitive reasoning
* demonstrate the ability to use figural reasoning
* participate in ethical awareness exercises
* participate in risk-taking exercises
* participate in making interdisciplinary connections
* demonstrate the ability to use decision-making skills
* demonstrate the ability to use research skills
* participate in drawing global implications to situations
* practice question formulation
* participate in probability and prediction activities
* demonstrate the ability to use self-directed learning skills
* participate in spontaneous thinking activities

CREATIVITY: Without creativity there would be no innovative thinking, and we would all probably still be living in caves. Torrance believes that people prefer to learn in creative ways which include exploring, manipulating, experimenting, risking, questioning, and modifying ideas. Teaching for creative growth involves increasing creative attitudes and creative consciousness. This is critical for gifted students if we hope to facilitate the fullest development of their abilities and potential. Being able to think creatively is essential to utilization of thinking skills to identify and solve real world problems. Everyone can learn to make better use of his/her creative abilities. A key point to remember here is that students cannot use their creative abilities unless the teacher provides a psychologically safe environment.

MAJOR OUTCOME: (CREATIVITY) Given a real life situation, the student will be able to select from divergent thinking, analogical thinking, visualization, attribute listing, morphological analysis, synectics, intuitive thinking, spontaneous thinking, creative problem solving, and/or the creative process in an appropriate manner to develop a workable solution(s).

CREATIVITY SUB-CATEGORIES: The student will:
* demonstrate the ability to use divergent thinking
* demonstrate the ability to use intuitive reasoning
* demonstrate the ability to use fluency, flexibility, originality and elaboration
* demonstrate the ability to use spontaneous thinking
* demonstrate the ability to use preparation, incubation, illumination and verification
* participate in ethical awareness exercises
* demonstrate the ability to use analogical thinking
* participate in visualization exercises
* demonstrate the ability to use critical analysis
* demonstrate the ability to use attribute listing
* practice using morphological analysis
* practice using synectics
* demonstrate the ability to use creative problem solving skills
* participate in concentration/focus exercises
* demonstrate the ability to take risks
* participate in decision-making activities
* develop an appreciation for the visual and performing arts
* participate in spontaneous group dynamics activities

GROUP DYNAMICS: The best idea in the world will never become known if the thinker lacks the ability to communicate and to gain acceptance of it. Many great ideas throughout history required years before they were accepted because the originator lacked either the ability to communicate effectively the idea and/or the ability to gain acceptance of the idea. It is far more effective to be able to communicate an idea to a small group, and try to gain the acceptance of the group, than to try to gain acceptance of an idea by yourself. Members of the group can then assist in obtaining wider acceptance for the idea. If we anticipate our intellectually gifted students being our future leaders, problem solvers, and researchers, then they must also be proficient in group dynamics. It is important for them to have an understanding of leadership styles and a knowledge of when to use each style effectively. They need to be able to function as a member of a group and know how to work toward group goals and objectives. It is important for them to be able to recognize the social and emotional needs of other members of a group. Skills necessary to be an effective member of a group are skills that can be taught through practice.

MAJOR OUTCOME: (GROUP DYNAMICS) Given a real problem, the student will:

A) as group leader, select an appropriate leadership style and effectively work with group members identifying group goals and objectives, generating ideas for possible solutions, developing strategies for obtaining acceptance for the solution(s), keeping the group on task, identifying ethical implications of the process and decision(s) of the group, using effective communication skills and appropriate interpersonal skills, and/or

B) as a member of a group (other than the leader), participate in selecting group goals and objectives, generating ideas for the solution(s), using interpersonal skills and effective communication skills to try to gain acceptance for the idea(s) the students consider to be the best, taking a stand for personal convictions, recognizing and pointing out to others in the group the ethical implications of the idea(s) being considered, and effectively working toward the agreed upon goals and objectives of the group.

GROUP DYNAMICS SUB-CATEGORIES: The student will:
* practice using leadership styles in small group activities
* demonstrate the ability to communicate effectively in small group activities
* demonstrate effective interpersonal relationship skills
* demonstrate self-discipline during small group activities
* demonstrate the ability to work effectively as a member of a group in establishing group goals and objectives
* demonstrate the ability to take risks as a member of a group
* demonstrate respect for viewpoints of other group members
* demonstrate the ability to recognize the social and emotional needs of other group members
* demonstrate the ability to recognize leadership styles exhibited by other members of a group
* demonstrate effective speaking skills
* participate in ethical awareness activities relating to group discussions/decisions
* demonstrate an understanding of learning styles as relating to group participation of other members
* demonstrate the ability to use creative problem solving skills as a member of a group
* demonstrate the ability to help keep the group on task
* demonstrate the ability to take a stand for personal convictions and the ability to compromise for the good of the group
* demonstrate the ability to use effective writing skills
* demonstrate the ability to use technology to communicate group decisions/products effectively

COMMUNICATION: The ability to communicate effectively is a critical skill in the world today. Ideas and/or solutions are only as good as the ability to communicate them to others. Communication skills go far beyond the traditional ones of speaking and writing, although both of these are still extremely important. It is imperative today, and will be more so in future years, for students to be able to utilize available technology for transmission and retrieval of information.

Many of these communication areas are ignored in traditional educational programs. It is still possible to obtain a college degree, even a graduate degree, in many areas of study without having sufficient preparation in modern communication techniques. The main problem this creates for gifted students is that it impacts their ability to conduct in-depth research. It does, in effect, force them to underachieve. We cannot reasonably expect the regular education program to provide everything necessary for gifted students to develop basic skills in every area necessary for them to be able to develop their abilities to the fullest. It is not suggested that GEP can, or even should, conduct in-depth training in technology. But we need to provide gifted students with enough training to enable them to use technology appropriately.

MAJOR OUTCOME: (COMMUNICATION) Given the need to retrieve and/or disseminate information, the students will select and utilize the most appropriate media based upon available resources, technology, audience, and time available, for the most effective communication of information.

COMMUNICATION SUB-CATEGORIES: The student will:
* demonstrate good listening skills
* demonstrate the ability to identify propaganda techniques
* demonstrate the ability to identify the point of view of a speaker/presenter
* demonstrate the ability to identify personal bias and/or the hidden agenda of a speaker/presenter
* demonstrate the ability to distinguish fact from opinion
* demonstrate the ability to argue both sides of an issue
* demonstrate the ability to respond spontaneously to a question about an area of interest or recent investigation
* demonstrate the ability to speak effectively
* participate in small group discussions
* participate in small group creative problems solving activities
* demonstrate the ability to develop and present a persuasive presentation
* demonstrate the ability to utilize technology to retrieve available information
* participate in creative writing activities
* demonstrate the ability to write effectively
* demonstrate the ability to critically analyze what is presented regardless of the medium

RESEARCH: Research has been defined as a studious inquiry or examination, investigation, or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws. The ability to design and conduct meaningful research has long been thought of as an ability reserved for the very learned. Gifted students, by virtue of their unique ability to learn things at a younger age, at a faster pace, and in greater depth, need to develop good research skills early in their educational experience. They can appropriately manage in-depth investigations into areas of special interests. They need to learn how an expert, in an area of interest to the student, would conduct an investigation. What specific resources would be specific to that area, what techniques would be specific to studies in that area, and what media would be specific to reporting results in that area, are a few of the questions to which they need answers in order to conduct a study. They are not just interested in learning how to do the traditional research paper. They are interested in learning how to identify and conduct an investigation into a problem. Bright, young minds frequently discover solutions to real problems that older, more experienced minds do not see because of tradition or other limitations learned through working in the real world.

MAJOR OUTCOME: (RESEARCH) Given a real situation, the student will identify and define the problem, design a research plan appropriate to the problem, conduct the investigation, decide on the most appropriate media for dissemination of the findings/solution(s), and present the results before an authentic audience.
NOTE: This may also be accomplished as a member of a small group.

RESEARCH SUB-CATEGORIES: The student will:
* demonstrate the ability to identify related topics/problems
* demonstrate the ability to formulate a hypothesis/problem
* demonstrate the ability to use data collection skills appropriate to the problem
* demonstrate the ability to conduct a feasibility study
* utilize creative problem solving skills
* utilize intuitive thinking skills
* utilize critical thinking skills
* utilize inductive/deductive reasoning skills
* demonstrate ethical awareness
* utilize the ability to make interdisciplinary connections
* demonstrate effective question formulation
* utilize technology appropriately to facilitate the search for information, data analysis, and product presentation
* demonstrate the ability to cross-reference information
* demonstrate the ability to take risks
* demonstrate the ability to select appropriate research methodology for problem selected
* utilize creative abilities
* utilize effective writing skills
* utilize effective speaking skills
* demonstrate the ability to defend the research design
* demonstrate the ability to defend the research findings
* demonstrate the ability to evaluate the research project
* demonstrate the ability to read and evaluate published research

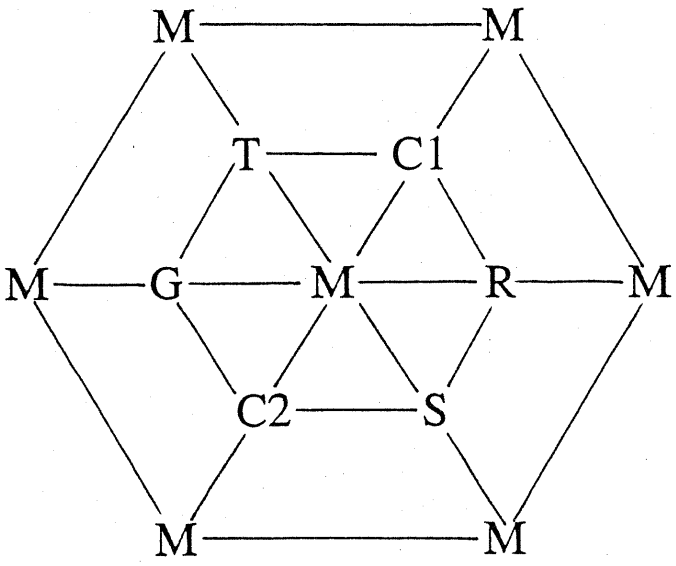
SELF-DIRECTED LEARNING: Eminent people, regardless of their area of endeavor, do not rely on others to tell them what needs to be done in their field. They constantly search for new problems to be studied. It is an intense love of learning that drives them to identify and investigate those problems. In short, they are self-directed learners. Teachers of the gifted should facilitate the development of an intense love of learning in the gifted students with whom they work. The natural side-effect for accomplishing this is the need for the students to become self-directed learners. There should be no need for them to rely on others to direct the total of their learning experiences. Intellectually gifted students do not necessarily enter a GEP with the process skills in place to be self-directed learners. In fact, many of them may have poorly developed learning skills because performance levels required in the regular program may have been extremely easy for them to achieve. It is important for them to learn the skills of being a self-directed learner, thus enabling them to develop an in-depth knowledge in areas of particular interest to them. Mastering the skills of self-directed learning also gives them the skills necessary to be highly successful in advanced studies at the college level.

MAJOR OUTCOME: (SELF-DIRECTED LEARNING) Given an area of intense interest, the student will develop an in-depth investigation, producing a product appropriate to the design and area studied and will evaluate the product, determining how the investigation could be improved.

SELF-DIRECTED LEARNING SUB-CATEGORIES: The student will:

* demonstrate the ability to select topics/problems to investigate based upon interest instead of a requirement
* demonstrate an intense love of learning in areas of interest
* demonstrate the ability to establish realistic goals
* demonstrate task commitment
* utilize research skills
* utilize creative problem solving skills
* demonstrate the ability to evaluate efforts/products
* demonstrate the ability to formulate plans for further investigation
* demonstrate the ability to identify ethical implications arising from their investigation
* utilize technology to create the most effective presentation of the finished product
* demonstrate the ability to identify ways the investigation and/or product could be improved
* utilize risk taking abilities
* utilize decision-making skills

OUTCOMES MODEL



KEY FOR OUTCOMES MODEL

M=METACOGNITION

C1=CREATIVITY *R=RESEARCH*

C2=COMMUNICATION *S=SELF-DIRECTED LEARNING*

G=GROUP DYNAMICS *T=THINKING*

The Outcomes Model clearly displays the total interrelatedness of the outcome categories, process skills, and metacognition. Student mastery of the suggested outcomes will lead to the global outcomes of metacognition and an intense love of learning.

Who Has Seen the Wind

Nobody can see the wind,
neither you nor I,
But when the trees bow down their heads,
the wind is passing by.

--Christina Rossetti