

ASSESSMENT OF MMSD TAG PROGRAM

Dr. Susanne Richert, Consultant
June, 1992

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- Rampant Problems and Promising Practices in the Identification of the Gifted,*
- Patterns of Underachievement Among the Gifted, Toward the Tao of Giftedness, Curriculum for Program for Gifted.*

REPORT TO: Ms. Elaine Lohr, Director, Curriculum and Staff Development, MMSD
Mr. Kenneth Dickson, TAG Coordinator
From: Dr. Susanne Richert, Consultant
Date: June 26, 1992

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I. QUALITATIVE CRITERION-REFERENCED ASSESSMENT

A. ASSESSMENT CRITERIA

I was requested to conduct an evaluation. However, very little quantitative data on student outcomes were available and, given the time-frame, none could be gathered. I, therefore prefer to call this a qualitative criterion-referenced assessment. However, more than sufficient quantitative formative (as opposed to summative) data and extensive qualitative data were gathered. This qualitative criterion-referenced assessment is based on criteria generated by the literature on the education of the gifted. These are included in the appended list of references; most especially, in this order of priority: Richert, Cox, Van Tassel-Baska, Renzulli, Roeper, Kaplan and Tannenbaum.

B. QUESTIONS TO BE ANSWERED

The proposal to the district offered to respond to these questions, which are usually the major concerns in gifted program evaluations:

- Do the identification procedures find all the students needing services to develop their gifted potential?
- What is the most cost-effective way to serve the largest number of students effectively, and consistently?
- How can existing resources be used most efficiently?
- What are the objectives and strategies that should be used to deliver a high quality curriculum that meets emotional as well as cognitive needs?
- Can the program for the gifted have a positive impact on the "regular curriculum?"
- How can elitism be avoided?
- Other concerns raised by administrators with whom I was to meet.

C. COMPREHENSIVE DATA SOURCES

After considering various possibilities and consulting with Mr. Dickson about what could be arranged, methods were selected that could be used to evaluate the program after the start of the academic year. These include the following data sources : site visits, meetings with administrators, teachers, students and parents; observations; informal discussions, analysis of program and district documents

1. SITE VISITS to gather data from primary stakeholders in buildings: students, teachers, principals.

The list of schools visited is available from the Program Coordinator. The sampling technique could not be random. The sample is therefore not representative. Building administrators had to agree to the meetings, therefore probably two categories of sites were seen: (1) the better programs in the district which are strongly supported by principals, (2) programs where principals were interested in program improvement or an another approach. It is unlikely that invitations were received from schools where the program is the weakest, or where there is little on-site support. Nevertheless, a significant cross-section of the buildings was visited. I was in 2 high schools, 2 middle schools and 6 elementary schools in

the district, for a total of 10 schools. I interviewed over 50 staff and students at these sites.

2 MEETINGS with other stakeholders

Based on my request, Mr. Dickson arranged meetings with various stakeholders involved in the program (in addition to the principals, teachers, and students I met with in the site visits).

a. Instructional Services Steering Committee (ISSC)

I had the opportunity to meet with all the major district administrators in the ISSC. They raised some significant issues of concern about this assessment and possible directions for program improvement. Their suggestions helped to shape this evaluation and my recommendations.

b. Program managers at the central office

I had extended meetings with Ms. Lohr, with Mr. Dickson and with his staff at the central office. They were able to give me a comprehensive picture of the how the program operates district-wide.

c. Parent meeting

For over two hours, I listened to 15 parents who represented 16 schools in the district. (The program coordinator has the list of the buildings these parents represented, and written notes about their comments.) In addition, some parents who could not attend sent written statements, or asked other parents to represent their views. This sample of parents is not random. It is probable that parents who had concerns about the program were most likely to attend this kind of meeting. Nevertheless, if parents are very strong supporters, they will make a point to attend such meetings since they want to express their positive views. Neutral parents are least likely to attend assessment meetings. However, since the parents represented a majority of schools in the district, they offered a fair balance to the site visit information.

3. DISCUSSION QUESTIONS

I asked questions, as appropriate, to the individuals I was talking with about identification, administrative design, curriculum, quality and length of time services are offered, affective needs of students, evaluation, staff development, and available resources (both human and material). I asked most individuals what they thought were the strengths of the program, and how they might change the program to improve it.

Most people I talked with wanted my immediate views and recommendations, which I stressed could not be the purpose of these meetings. However, when the request seemed insistent, and if there was time, I did offer some perspectives and options for consideration. My primary purpose was to be able to give district administration some indication of stakeholders' potential responses to possible recommendations that might be made.

4 MATERIALS

All public written documents about the program, as well as any related public materials or plans dealing with statistics or curriculum that may impact the program were requested. The materials dealing with the program, and the district programs that were examined include:

MMSD Talented and Gifted Program Plan, 1991,
MMSD Elementary Minority Student Achievement Committee Report, 1989,
MMSD Secondary Minority Student Achievement Committee Report, 1990,
MMSD Program Evaluation Plan K-12, 1989,
Leadership Plan for Multicultural Education in the MMSD, 1992,
TAG Newsletters,
TAG program materials
TAG report to DPI and DPI's response,
Various district brochures.

5. ADDITIONAL DATA requested from district coordinator

In addition to information I got from my observations, site visits, meetings, discussions and district documents, I asked the program coordinator to gather the following audit information (which turned out to be an onerous task):

1. Number of students served in one year, and % that represents of total district,
2. Number of hours students were served in one year,
3. Demographic breakout by % ethnic, SES, and sex,
4. Demographics of district by % ethnic, SES, and sex,
5. Demographics of teachers and staff of program,
6. Total number of staff (actual total people, also % of time hired),
7. Total number of staff trained and for how many hours,
8. Cost of central office staff conducting staff development,
9. Total cost of program (including central office and teacher salaries and staff development).

6. COMPREHENSIVENESS OF DATA

In addition to the documents and quantitative data requested, direct information was gathered from 75-80 staff, administrators, parents and students. The combination of the people interviewed on site or at the parent meeting represented over two-thirds of the schools in the district. Given the time constraints, it is difficult to imagine gathering more comprehensive information.

II. PROGRAM STRENGTHS

A. SPECIAL COMMENDATIONS TO MMSD

I felt that some situations or products were so distinctive that they deserved mention. [I could not visit all the buildings and had very brief time in most building and with most staff. This is therefore a very limited number of commendations. *The comments are not intended as a comparison to buildings not visited, or programs about which no information was gathered. Omissions from this list should not be construed as implicit criticism.*]

1. Administration

a. The Department of Curriculum and Instruction is in the vanguard of all the major national improvement efforts in American education. This certainly facilitated relating recommendations to existing district initiatives.

b. The professionalism, open-mindedness and the quality of the questions that were posed by staff highlights the exceptional quality and commitment of the central office administration. Evaluations can evoke stress and defensiveness. I found almost none of the latter. I appreciated that everyone I talked with was totally open about their views of the strengths and limitations of the program. The various administrators I spoke with had many carefully considered questions, which indicated their receptiveness to recommendations for improvements. They offered some of the most crucial information for this report. Through our very frank discussions, they expressed their awareness of some problems (which to some degree motivated the request for this evaluation).

c. The various written documents I was given indicate very high level planning and organization in the district. For example:

- The comprehensiveness and organization of the TAG program planning document is very impressive.
- The committee which worked on multicultural education has produced a report that is of a quality I have rarely found in any local district document.
- The newsletter that has been developed for the TAG program is outstanding.
- The district statistical report is not only very comprehensive, but highly readable (the latter is quite unusual).

2. Parents

I have not been in a district where I have heard such articulate and perceptive parents who have made so many specific positive contributions to schools as in Madison. The district is very fortunate to have such effective and positive parental resources.

3. Building Sites

a. Building administrators and teachers

The administrators I met with are exceptional in their openness to considering modifications or improvement that will best meet the needs of their students. I wish to commend the

district for having a highly professional administrative and teaching staff who are very open to improvement. Staff were frank about expressing problems and explicitly asked for suggestions for improvement, even though that could not be the formal purpose of any discussion I was having. [Possibly one the most difficult parts of data gathering was maintaining the objective role of data-gatherer, rather than consultant being asked for advice.] It was very refreshing to meet educators so receptive to change.

b. Elementary

The regrouping of students in some subject areas in some of the elementary buildings is commendable. It indicates the willingness of some administrators to do the additional work required to organize such scheduling, and their receptiveness to some of the recommendations that may be made.

c. Marquette Middle School

The instructional team organizing interdisciplinary studies and enrichment is outstanding.

d. East High School

- The building art museum is truly an inspiration and affirmation for students.
- The identification procedure and course of studies in the English department is very carefully thought out and seems to incorporate many of the elements necessary for differentiating curriculum for the gifted, since it includes quite a bit of choice for students.

e. East and Memorial HS principals

The principals of both these high schools were very gracious in taking time to be interviewed and were very cooperative in arranging interviews with students as well as teachers.

B. PROGRAM SUPPORT

- There is a great deal of support for gifted education in the district. That this assessment is being conducted is a clear indication that the district administration is committed to support the needs of its students with gifted potential.
- The program coordinator is highly qualified and intensely committed to serving gifted children.
- Central office and building administrators I spoke with are strongly supportive of the teachers and of the program.
- Each principal I spoke with emphasized his or her commitment to the education of the gifted.
- TAG teachers interviewed are very enthusiastic.
- Parents are highly involved as resource persons in buildings.

C. PROGRAM PLANNING AND DESIGN

- Central office program staff have developed an excellent district-wide plan (to which I would make only a few modifications indicated below) to make the services offered more equitable, comprehensive and systematic.

The TAG Plan is to be commended for the following strengths:

- philosophy based on the principles of comprehensiveness, equity and pluralism;
- organization and comprehensiveness of planning;
- specific procedures for providing equity in identification and service;
- multiple program options suggested at each level;
- intention of providing systematic and continuous programming;
- structure for acceleration (INSTEP);
- organizational clarity, readability and visual appeal of the report which fosters communication of the plan.

• The *Educational Equity Accommodation Plan* (p. 9), which involves designating certain sections of required subject areas as TAG options, and the INSTEP procedures are the most crucial improvements planned.

• The concept of having multiple program options (particularly INSTEP) is a very sound programming approach, especially to allow for some differences in implementation in various buildings.

• The concept of building-wide enrichment in the elementary and middle school buildings is an option that benefits all students.

• Significant efforts have been made by program staff to train teachers assigned to the program.

• In some buildings, the enrichment steering committees seem to be functioning very effectively.

D. IDENTIFICATION AND PLACEMENT

• District staff have worked extremely hard to gather identification data.

• Most of the data gathered have a place in the identification of gifted potential.

• The new procedures as written for INSTEP are excellent.

E. CURRICULUM

1. The regular curriculum for all students

• Most district students are achieving well in comparison to state and national norms.

• The administration is to be highly commended for its plans to improve curriculum for all students. The following district initiatives I was informed about will help to serve *some* of the needs of some of the students with gifted potential:

- developmentally appropriate curriculum on the primary level,
- a whole language and literature based approach to reading and language arts,
- use of some cooperative learning strategies,
- computer literacy,
- sex equity,
- multicultural education,
- authentic assessment,
- offering "Type I" and "Type II" activities, in the regular class is very good, since the goal is to upgrade the curriculum for all students.

2. Specific options presently available for gifted students

- In a couple of the elementary buildings there is regrouping for reading or math, which is an excellent approach that goes beyond the district plan. [But changes in how the "top" group is to be selected in order to emphasize ability, potential and equity rather than just achievement in order to avoid the problems of "tracking" are strongly recommended (Richert 1991b)].
- The high schools with honors and extensive AP classes are to be highly commended.
- The variety of extracurricular activities offered by the district is exceptional.
- The goal of "compacting" is commendable.

F. BUDGET

The proposed budget in the 1991 district program plan (p.32) is adequate (if some of the changes in delivery of services recommended below are implemented).

G. CONCLUSIONS ABOUT PROGRAM RESOURCES

To conclude, MMSD has most of the latent resources available to deliver a comprehensive and equitable program for students with gifted potential. There are significant high quality resources in each of the following areas that can be used to develop an effective gifted program that meets the needs of Madison's students:

- Administration,
- Program Plan,
- District Curriculum Initiatives,
- Parents,
- Budget.

Effective use most of these resources is implicit in the existing district plan, and will be detailed further in the RECOMMENDATIONS SECTION below.

III. IMPROVEMENT NEEDS

A. PHILOSOPHY/INTENTIONS

The district's intentions, as detailed in the 1991 plan, are very good. However, the K-12 program for the gifted, as it is being presently implemented, does not have a clear philosophy or purpose. There are the following problems in present program approach that are related to these questions.

1. LACK OF CLARITY IN SOME AREAS

- There is confusion about the nature and nurture of gifted potential, so the population to be served is not well defined. Primarily, conforming teacher pleasers are served in the K-12 options.
- The concept of "creating environments" where giftedness can occur is wonderful. It fits in with the concept of a "developmental curriculum" that evokes gifted potential and should be encouraged (Richert, 1982, 1991b). But the heterogeneous regular classroom does not qualify, even for Renzulli (1992), as a gifted program option or a curriculum for the gifted.
- The program name is problematic since it implies a false distinction and implicit hierarchy between "gifted" and "talented."
- The distinction between "Types I and II and III" is:
 - (1) false since all three levels should incorporate intrinsic motivation,
 - (2) elitist since all students should have access to all three types of enrichment (Maker, 1985; Richert, 1989; Tannenbaum, 1985; Treffinger, 1991).

2. APPROACH SERIOUSLY DISTORTS Renzulli's Intentions

Renzulli, in a 1992 article, specifically criticizes some of the distortions of his Schoolwide Enrichment model that the district is engaged in:

- elimination of a talent pool,
- lack of some kind of regrouping of students,
- no documentation of progress of identified students,
- specialized personnel unavailable for teaching advanced academic courses (at least grades K-8),
- relying on regular classroom teachers to be the main vehicle for delivery of differentiated instruction,
- trying to meet most of the needs of the gifted in full-time heterogeneously grouped classes.

2. FRAGMENTATION OF SERVICES

- The rationale for eliminating the talent pool is insupportable. Elimination of an identified talent pool of students who qualify for services and whose progresses are monitored, as special education students are monitored, makes accountability impossible. The desire not to "label" students only makes sense if the label has negative connotations, as in special education.
- Continuous programming, as required by the state, intended by the district and recommended by vast majority of experts in the field [this is one of the very few areas in which there is consensus] is impossible without some designation as to which students

qualify for services and which do not.

3. LIMITATIONS OF RENZULLI MODEL

Many of the program's shortcomings are integral to the approach chosen by the district. There are major gaps in the design (enrichment pull-out model, "Revolving Door" for services) which has been severely criticized by many experts in the field (Cox, 1985; Delisle, 1992; Van Tassel-Baska, 1987, among others).

- Furthermore, this approach does not address the needs of poor, culturally diverse, or underachieving gifted students, not to mention the needs of the highly advanced students needing acceleration (Kulik and Kulik, 1991; Richert, 1985 and 1989; Van Tassel-Baska, 1987).
- Choice of the school wide enrichment model, even with a talent pool as the primary vehicle for delivery of services, is still limiting. The goals of school-wide enrichment and "compacting," as part of a program for the gifted are noble. But even if attained (which is rarely), they ignore some of the most intense needs of the gifted: acceleration, modification of required subject areas, having a group of ability peers and social and emotional development.

4. OMISSION IN DISTRICT INTENTIONS

The district plan is excellent, but omits a major need: regrouping for some required subject areas K-5 and 6-12 (Cox et al, 1985; Kulik and Kulik, 1991; Renzulli, 1992; Richert, 1989; Van Tassel-Baska, 1987).

B. IDENTIFICATION PROBLEMS

1. INEQUITY

a. INEQUITY IN SERVICES

a.1. Cultural inequity

Major inequity in who is served is a serious problem that is in conflict with the district "minority" student achievement initiatives. The national standard that I apply is from the U.S. Office of Civil Rights, which was upheld in several court cases that requires representation in special education and other programs, including extracurricular activities reflect the percent found building or district-wide (Richert, 1991b; Hilliard, 1991). The specific significant under or over representation that I found is:

	MMSD	US
Native Americans underrepresented by	-178%	30-70%
Hispanics underrepresented by	-123%	30-70%
African-Americans underrepresented by	-213%	30-70%
Asian-Americans overrepresented by	+110	0
Whites are overrepresented by	+109%	0

These percentages are shocking because the disproportionate representation severely exceeds the national figures most typical in pull-out or other models serving less than 20-25% of the students (Richert, 1991b). (See *Chart of Demographic Representation* in Appendix.)

Data which are unavailable, but are certain to be significant, are the percentage of underrepresentation of students on free or reduced lunch. In other districts where these data have been collected, from 100-600% underrepresentation has been found (Richert, 1992, in draft). MMSD would be expected to fall within that range. The underrepresentation of the

poor is probably in the upper range because of the over-reliance on parent initiative and self-nomination. The latter two procedures elicit fewer responses from the poor who have had negative experiences in schools.

[The district is urged to disaggregate all student outcome data, not just by ethnic group, but by SES, ie., free and reduced lunch since the variable of economic class is the most significant indicator of various levels of achievement. For example, based on home family income SAT scores can be predicted within 30 points (Nairn, 1980; Fallows, 1990; Richert, 1991b).]

b. HINDERING OF "MINORITY" STUDENT ACHIEVEMENT GOALS

The identification and placement procedures have specifically impeded the major student outcome goals of the district's Elementary and Secondary Minority Student Achievement Reports (1989, 1990) to:

- increase participation in the gifted program;
- increase the number scoring in the top quartile of scores;
- decrease the number in the lowest quartile;
- decrease the drop-out rate.

Actually, the Data Profile reveals a rather rapid expansion (which is part of a national trend) of the very problems cited in the 1989 & 1990 Reports. The Profile also indicates major gaps between the grade point averages of white and minority students. Excluding students who need services, and for whom the program is designed, is a serious problem. This aggravates the underachievement of various groups, in particular minority and poor students.

a. 2. SEX INEQUITY

On the elementary level, the identification procedures which rely on self nomination with teachers (who tend to be biased for conforming teacher-pleasers) being the primary gatekeepers to services is discriminating against boys: they account for only 39% of students served, while girls represent 61% of the students served.

2. PROBLEMATIC DATA SOURCES

a. Outdated definition of giftedness.

The use of the data is based on an outmoded definition of giftedness that does not clarify the distinction between gifted potential and academic achievement. This outdated approach is based on teacher pleasing and conforming behavior (Gardner, 1983; Sternberg, 1985; Taylor, 1985; Richert 1991). The three traits of giftedness specified by Renzulli do not develop concurrently (Richert, 1982).

b. Over-reliance on teacher data

- There is not enough emphasis on intrinsic motivation, or persistence and perseverance in an interest area, as the hallmark of gifted potential. Relying on teachers, who are aware primarily of extrinsic motivation, to recognize such interests in the context of the classroom ignores the research that suggests that extra-curricular activities are the best indicators of intrinsic motivation (Taylor, 1982; Richert, 1991b).
- Teachers being the primary gate-keepers to what are being called Type III services ignores research that indicates that teachers are among the most unreliable sources for identification (Baldwin, 1962; Cornish, et al, 1968; Gear, 1976; Jacobs, 1971; Holland, 1959).

c. Over-reliance on self-nomination generates bias.

Relying on students to self-nominate excludes many students who may most need a program. Among those who may be eliminated by the necessity for self-nomination are students who:

- are underachieving,
 - are culturally different,
 - may have poor self-concepts,
 - are unassertive (which may be a cultural factor),
 - may have teachers not perceptive of their abilities or needs (highly creative students, among others, may fall in this category),
 - are ethnically different from their regular or the building TAG teacher.
- The highly limited ethnicity of TAG teachers is a major obstacle to equity in self-nomination. There is only one Hispanic teacher, no African-American teachers and only one African-American administrator among full and part-time program staff. [The under-representation therefore exceeds 500%.]
- Even without the ethnicity problems, the self-nomination procedure as used in district, makes teachers the inappropriate primary gate-keepers to services.

d. Under-utilization of parent data

- Parent data do not have enough emphasis. Research indicates that on the elementary level they are among the most reliable sources of data, particularly about extracurricular activities which are indicators of intrinsic motivation (Ciha, 1974; Cornish, et al, 1968; Jacobs, 1971; Richert, 1982).
- Parents consistently complained about the difficulty of getting their views about their children's needs acknowledged. Information from the majority of the schools in the district reveals that often inordinate efforts on the part of parents is required to have identification data collected and placement implemented, either for acceleration or enrichment options. Many parents are exhausted from the energy required on their part annually to get students into Type III services within a program ostensibly designed to meet their children's needs.

3. USE OF DATA AGGRAVATE INEQUITY

- Considering the budget of the program, far too few students are identified and served, especially, K-8.
- Since the data are not renormed, the culturally different are significantly underrepresented up to over 170%.
- The way the data are combined is not research-based and excludes many students who may be poor, culturally different or underachieving, either academically or emotionally. Such combining also ignores the recent work on pluralistic definitions of intelligence or cognition, that specify several discrete different kinds of intelligences that cannot be measured using the same instruments (Gardner, 1983; Sternberg, 1985; Richert, 1986).
- Self-nomination, while one excellent means of identification, screens out students with poor self-concepts and is inadequate for identifying some of the students with greatest needs: students who may be underachieving, culturally different, or who do not feel supported by the teacher, or who may be of a different culture.
- The revolving door concept is not being implemented as intended. Even when this approach is implemented correctly, it does not foster equity.

C. PROGRAM DESIGN, ADMINISTRATIVE AND PLACEMENT PROBLEMS

There are two major categories of problems in program implementation:

- First, lack of accountability and fragmentation of services makes it impossible for any district-wide minimums to be guaranteed.
- Second, there is a major gap between what is intended and designed, especially in the excellent 1991 plan, and what is actually delivered.

1. TOO FEW STUDENTS SERVED

Too few students are scheduled at one time and served for too brief lengths of time (15-45 min. a week). The limited number of students being served at one time is not just an equity or cost issue. It does not allow the emotional and social needs to be met even for those students who are served. The present program could lead to even more isolation for students who conduct independent study. Most students could do the work they are doing alone at home.

2. FRAGMENTATION OF SERVICES

a. Program options are viewed and treated as "extracurricular" activities rather than a systematic curriculum. Among the indicators of the "extracurricular," rather than academic nature of what is presently offered, are these:

- the TAG program has been listed in the district brochure under "extracurricular" activities which indicates how the program may have been conceived and is perceived.
- Teachers may be hired regardless of training or amount of time they will teach "gifted."
- One half hour per week is considered an adequate minimum (even art, music and PE require more time), and is most often the maximum for only over a couple of months (even art, music and PE require more time). (Most projects seem to last from 1-3 months.)
- Students are not offered services all year, just sporadically and unpredictably.

Actually, most extra or co-curricular activities are more regularly scheduled and for longer amounts of time and many require extra training.

b. As the DPI report justifiably pointed out, and parents consistently reported, services are fragmented even for those who are identified:

- Placement procedures are erratically implemented.
- Students are not offered services all year, just sporadically and unpredictably.
- Articulation, in terms of program design, goals, and objectives among the various enrichment options K-12, is presently lacking.
- The enrichment components on all levels meet for far too little time per week, and for too fragmented lengths of time, to have a major impact. Sometimes more time seems to be spent on identifying than on serving students.
- Students are waiting too long for services once they have signaled their intent to do an independent study. Parents repeatedly spoke of children, even after formal identification, who waited months for services, by which time the initial interest (signaled by a "light bulb") had probably extinguished. Some students are annually waiting months for formal identification, and more months to get referred for a Type III activity, which even if it occurs,

serves students merely 15 to 45 minutes a week.

3. LACK OF ACCOUNTABILITY

At all levels these serious accountability problems exist:

- The district cannot guarantee any minimums across buildings.
- There is inequity in identification that cannot be dealt with adequately because there are no equity standards in the procedures.
- There is inequity in services because of the sporadic delivery of services across buildings.
- There is no accountability for either "compacting" or INSTEP.
- There is no way of assessing whether students who need services are getting them.
- No consistent data are kept on the quantity of services offered even when students are identified. It is almost impossible to find out, even after formal identification, how many hours of services are actually provided each year for each child.
- There is no K-12 record-keeping on individual student progress or problems so there is no accountability for quality of delivery or means of addressing problems.

These are not situations that would be tolerated for special education students.

4. SCHOOLWIDE ENRICHMENT PROBLEMS

School-wide enrichment model (SEM) problems include the following:

- SEM is not being implemented as intended.
- Students do not have choices in enrichment activities in regular classes, which does not provide high level enrichment for any students.
- The SEM intention of offering higher level activities for all children does not meet the requirements for a gifted program option. Without some kind of accountability (record-keeping, formal inclusion in teacher observation, or evaluation forms), merely stating that "all" children are being offered "something," means that the minimums cannot be guaranteed for "any" children, including the gifted. In some cases, as suggested by many of the parents, such an approach may be merely cosmetic. Renzulli himself states (1992):

The old cliché, "Something that is the responsibility of everyone ends up being the responsibility of no one, has never been more applicable than when it comes to teachers of the gifted.

Furthermore, the classic criterion (Cox, 1985; Kaplan, 1982; Tannenbaum, 1985; Van Tassel-Baska, 1982, 1987; Richert, 1989, and many others) for a gifted program is "differentiated" instruction. If it is offered equally to everyone, it cannot qualify as a gifted program option.

- The district's intention of identifying program options rather than students and eliminating even a talent pool is a major factor in the fragmentation, inconsistency and lack of accountability for services offered to students. The lack of an identified Talent Pool, and some homogeneous grouping, is a serious gap even within the Renzulli model (Renzulli, 1992).
- The enrichment/pull out as the sole model for gifted programs has been severely attacked for ineffectiveness by Cox, 1985; Richert, 1985; Van Tassel-Baska, 1987; among others. Delisle, the president of TAG (The Association for the Gifted, a division of CEC), has called for the elimination of resource rooms for the gifted (1992) and others. These writers insist that modification of required subject areas and systematic flexible pacing are necessary for effective programming for the gifted. The district is already trying to overcome one serious omission

of the enrichment model by guaranteeing access to acceleration for middle and secondary students through INSTEP, which is unfortunately far from being implemented in any continuous systematic fashion, which is the district's stated intention and a very valid state standard.

- INSTEP, or subject area options, has not been considered for the elementary program. This is a serious omission.

- The concept that students are "not gifted" all day, just when their "light bulbs" go on, is hardly research-based and ignores the student as an integrated, complete individual with social and emotional needs that are unrelated to "light bulbs" or sporadic activities for one half hour a week. Students are not "light bulbs." Their needs do not switch off or on based on what is scheduled for them.

5. INEFFECTIVE STAFF UTILIZATION

- The part-time K-8 teacher allocations aggravate the fragmentation of services.
- Fragmentation of contracts does not allow any systematic scheduling, accountability or preparation of teachers involved in the program.
- The part-time allocations are not cost-effective and are an expensive way of providing services.
- Selection procedures for teachers for the program is erratic and generates many problems that would never be tolerated in special education, which is designed to meet the needs of students who are no more exceptional than the gifted.
- Teachers may be, and are often, hired without any regard for their background or training in gifted education.
- Expert central office staff are not typically involved in qualifying staff for hiring, even though they could be of significant assistance.
- Once TAG teachers are trained, they often move on to full time positions which take them out of the program and central office staff must scramble every year to train teachers who only serve part time and may not be there the next year.
- Even the limited teacher time that is available is not used as productively as it could be. On independent study projects, students are working alone most of the time on tasks that do not require teacher supervision and could just as well be done at home. Too much teacher time seems to be spent on identification and on observing students, rather than instruction.

6. CENTRAL OFFICE STAFF ROLE IS DIFFUSE

Present role of central office program staff is too diffuse to be effective.

- Central office staff cannot even guarantee district-wide minimums.
- Expert central office staff are not typically involved in qualifying staff for hiring, even though they could be of significant assistance.

7. UNPRODUCTIVE STAFF DEVELOPMENT

- The staff development offered is neither required nor systematic, and is seriously diluted by the personnel placement problems and rapid rate of turnover. It is therefore very unproductive.
- There are no minimums required by the district for teaching various gifted program options, which would be unthinkable for special education.

8. EXPENSIVE DELIVERY COSTS

- The cost of the K-8 enrichment pullout program hardly merits the 30-45 minutes a week that students may be served on the elementary level. (See estimated cost figures in below in E.)
- Services offered by teachers are also very expensive on the elementary and middle schools levels since they are serving so few students (1-3 or 4 maximum) at a time and for such short periods of time. Most teachers observed were serving one student at a time.
- The part-time teacher allocations are not cost-effective and offer disorganized services.

9. UNREPRESENTATIVE STAFF

- The self-nomination and inequity problems may be caused or aggravated by the lack of culturally different TAG teachers.
- Multicultural education is being impeded by the homogeneity of program staff.

10. PARENTAL DISSATISFACTION

There is significant and justifiable parental dissatisfaction with the program. While exclusion of the poor and minorities is serious (100-170% underrepresentation), it is significant that almost all of the the parents who attended the meeting were "majority" and at least middle class. Parental data indicate that even many of the district's more advantaged students are not being identified and served adequately, particularly on the elementary and middle school levels.

D. CURRICULUM DESIGN AND DELIVERY PROBLEMS

1. FRAGMENTED K-8 CURRICULUM

- On the elementary and middle school levels, the district does not meet its intention of continuous and systematic programing. The fragmentation of services offered and the lack of differentiation and/or grouping in at least some required subject areas are the most serious problems.
- What is occurring for elementary and middle school students is a very expensive series of disjointed, but good extra or co-curricular activities, that could benefit all students. Such activities, however, do not constitute either a curriculum or a program for the gifted. A curriculum requires a scope and sequence, ongoing assessment of student progress and needs and differentiation of some required subject areas.
- A program requires—as the DPI requires, the district states in its intention, and parents are pleading for—a continuous and systematic schedule that guarantees a minimum of time that students will be served as an identified group, plus accountability for services on an ongoing basis. The existing district K-8 program options do not meet the prevalent criteria used in the field (Cox, 1985; Delisle, 1992; Richert, 1985; Van Tassel-Baska, 1987; among others).

2. INADEQUATE RESPONSE TO SOCIAL AND EMOTIONAL NEEDS. K-12

- Social and emotional needs, which most experts in the field strongly argue are the most important rationales for a gifted program, are not being directly addressed in any existing program option (Maker, 1982b; Passow, 1988; Richert, 1991a; Roeper, 1991, Silverman, 1981;

Whitmore, 1980; among many others). This is a serious omission, given the well known emotional and social developmental needs of students with gifted potential. The most able students, once again, are most penalized since they will be unprepared for the extreme competition in college and may be at risk for suicide (Miller, 1981; Richert, 1991a).

- The exclusively individualized application of the independent study (Type III activities) denies students an essential purpose of a gifted program: time with their ability peers for personal and interpersonal development. The solitary independent study projects (Type III) scheduled for students do not foster meet their emotional and social needs. The lack of a peer ability group denies gifted children opportunities to meet some essential socialization needs. Richert (1991a) and Kohut (1971), for example, state that having peers with similar needs and abilities is a necessary for the development of healthy self-esteem.

3. SERIOUS LACK OF SYSTEMATIC ACCELERATION OR DIFFERENTIATION IN REQUIRED SUBJECT AREAS

a. Plan for subject area classes not implemented

Unfortunately, the single most effective program option for acceleration and differentiation in the district plan, subject area classes, has not been implemented (Cox, 1985; Kulik and Kulik, 1991; Richert, 1989; Van Tassel-Baska, 1988).

b. Underutilization of INSTEP

INSTEP and concurrent enrollment procedures for various forms of acceleration, while soundly designed, are not being applied often enough nor with any consistency. Parents who represented most of the district schools indicated that:

- information on the new procedures is not being communicated effectively (INSTEP),
- procedures are being implemented erratically from building to building,
- procedures have been deliberately discouraged by staff in many buildings,
- concurrent enrollment is strongly discouraged in most buildings,
- the tuition option is greatly underutilized,
- there are many obstacles on the building level to the implementation of these procedures.

Unless at least 5-10% of the students in a district like Madison are benefiting from procedures such as INSTEP, subject area options and concurrent enrollment, then the most academically able students are underachieving. Even Slavin, a major national leader in the move toward more heterogeneous grouping, argues for acceleration for students performing above grade level (1985).

c. Acceleration and subject area classes are not planned on the elementary level.

Not intending INSTEP, nor subject area options for the elementary program, is an unfortunate omission in the otherwise excellent district plan (Cox, 1985; Delisle, 1992; Richert, 1985; Slavin, 1985; Van Tassel-Baska, 1987).

d. "Compacting" problems

- "Compacting," which is only one of several curriculum modifications that should be made, is rarely used and requires much aggressive action on parents' parts to be utilized at all.
- "Compacting," even when it is implemented systematically (which is certainly not the case, presently), does not meet the needs for acceleration in at least basic skills of 8-15% of the students in a district with the demographics and test scores of Madison.
- In a district with the number of high achievers that Madison has, it is important to individualize progress in reading and math, probably for all students, but especially for students with gifted potential (Slavin, 1985; Van Tassel-Baska, 1987).

4. HIGH SCHOOL PROBLEMS

a. No guaranteed minimums

The most serious problem on the secondary level is that a district-wide minimum of services cannot be guaranteed. Site-base management is commendable since it should generate multiple options and variety in maximums offered. Building autonomy should not be used as an excuse, however, for the district not specifying minimums. For example, it is shocking that at least one high school is even considering the elimination of honors courses in a misguided effort to overcome elitism. [Equitable identification, as recommended above, should take care of elitism. Actually, elitism is often fostered by students having only the experience of being the "best" in their classes; it is reduced by providing more ability peers.] Students from that high school will be severely penalized in college applications.

b. Concurrent enrollment policies too restrictive

The district policies for concurrent enrollment and tuition reimbursement are far too rigid and restrictive. The prerequisite sequence of courses listed by the various high schools for concurrent enrollment is in major conflict with the national trend away from high school requirements based on *time* spent in specific classes (ie. Carnegie units) toward a more flexible paced, outcomes-based curriculum and assessment. The rigid sequence also does not allow for the flexible pacing long recommended by many experts in the field including Cox (1985), Renzulli (1992), Richert (1989), Tannenbaum (1985), Van Tassel-Baska (1987) and the copious research generated by the Johns Hopkins program. Ironically, the district's most advanced students are the most penalized by the present secondary INSTEP procedures. The present concurrent enrollment policies do not serve students. They serve faculty, departments and administrators who are so reluctant to offer new courses that they are willing to hold students back or to waste their time.

c. Limited AP offerings

AP courses are unavailable or too limited in some buildings. A district with the population, test scores and resources of Madison should certainly be offering AP courses in all major subject areas in every high school. Such an approach would certainly enhance students' competitiveness in college applications and save parents vast amounts of money, at little cost to the district. It is ironic that the most able students are suffering the most without these services. A continuation of this kind of trend could lead to flight of some of the best students to private schools. More than one parent talked of taking their child out the public school because of their dissatisfaction. No urban district in the U.S. can afford such a loss.

d. Honor courses are not necessarily differentiated.

Differentiation in honors courses is not clearly articulated and does not explicitly include crucial affective goals.

e. Required curriculum does not foster emotional or ethical maximums (defined by Richert, 1991a).

The required curriculum is apparently typical. It seems far too teacher centered, with few choices for students. The impact may be that students' inherent intrinsic motivation is not being evoked, their decision-making skills are not being developed and some of their emotional needs are not being met.

5. STUDENT EVALUATION PROBLEMS

- The district is typical in not differentiating evaluation criteria or techniques for gifted students by using authentic evaluation in the K-12 program options. There is little evidence of enough student self-evaluation, or qualitative criterion-referenced evaluation being used in even the independent study or secondary options (Richert, 1990).
- Lack of disaggregation of student data by SES makes it difficult to assess the locus of the major underachievement problems.

6. UNDERACHIEVEMENT ISSUES

Unless these curriculum delivery problems are overcome, MMSD students with gifted potential will not achieve their intellectual and emotional maximums. High achievement scores on grade level basic skills tests cannot measure underachievement among the gifted, especially in a group with the demographics of Madison. The real question is how well could students in Madison be achieving, not only academically, but emotionally and socially. Unless the curriculum improvement goal, part time equitable homogeneous grouping K-12 and flexible pacing options (INSTEP) are fully implemented and supported through systematic and intensive staff development, we cannot know the answer.

7. THE REGULAR K-8 CURRICULUM

These district wide curricular improvement goals are outstanding: developmentally appropriate curriculum on the primary level, a whole language and literature based approach to reading and language arts on the elementary level, cooperative learning strategies, multicultural education, development of middle schools that meet the social as well as intellectual needs of adolescents. Although the district offers optional staff development, I unfortunately did not find evidence of systematic implementation, intensive staff development plan, or a system of accountability that requires all staff to support these goals or to use these methods.

E. COST INEFFECTIVENESS/BUDGET PROBLEMS

1. Projected Budget ineffectively allocated

- The present part-time allocations for enrichment teachers in elementary and middle school

buildings buys too few and highly fragmented services for an extremely small and elite group of students.

- Using 1991 figures, the per pupil cost for enrichment activities annually is (very) approximately \$27, per pupil [calculated as the the approximate K-8 program budget (\$400,000) divided by the number of K-8 TAG students (1500)].

- Since students tend to receive no more than 1/2 hour of instruction a week for perhaps 2-3 months, (we can't be sure: some are identified and not served for months), the cost may well be \$75-100 per hour.

This seems expensive for such brief, unarticulated and unevaluated services that are not even adequately serving the elite students who have been identified.

- The staff development funds allocated to each building are not being used effectively to upgrade the quality of curriculum delivery.

2. Budget needed to adequately fund a "Renzulli" pull-out program

If the present K-8 program design, pull-out, were to be implemented adequately on the elementary-middle school level, it would take an allocation of at least one full time staff per building, or up to about an additional 15-20 staff, at 4-5 times the cost of the present K-8 program, or over \$1,500,000

IV. RECOMMENDATIONS

A. RELATIONSHIP TO MAJOR DISTRICT INITIATIVES

These recommendations, particularly the staff development components, are intended to provide affirmation, support and opportunities for piloting several outstanding district-wide improvement goals that are presently in various stages of implementation.

1. TAG program plan

Most of these recommendations are implicit, if not explicit, in the excellent district plan for the TAG program. The plan should be supported for implementation, with the minor modifications, clarifications or additions specified below.

2. Strategic Planning

Planning for improvement of the TAG program will dovetail with the procedures established through the district strategic planning effort. However, they should not be postponed until other decisions are made, since the issues dealing with minimums that should be required district-wide are critical.

3. Site-based management/building autonomy

- The district strategic planning approach, which includes stakeholders such as parents, should be used for building level decisions. [In strategic planning, however, care must be used to avoid the “tyranny of the majority that worried the framers of our constitution including Jefferson and Madison. A “majority” of parents should not be the primary determiners of how the needs of a “minority” with special needs, such as the gifted, are going to be served: needs of the most immediate stakeholders, the “minority” group of parents of the gifted, should have priority.]
- The multiple option program model that is part of the district plan also offers a variety of choices for autonomous decision-making by each building to determine maximums. [See V. below for more suggestions for decision-making.]

4. Curriculum/Instructional Improvement

a. Developmentally appropriate instruction

The goals of developmentally appropriate curriculum on the elementary and middle school levels will be advanced in those buildings that choose to begin implementation of the subject-based program options recommended. In particular, the methodologies recommended as part of strategies for Maximizing Potential, (see *Richert Teacher Self-Evaluation Log Form*) are supportive of developmentally appropriate curriculum on all levels.

b. Whole language/ literature based reading

In language arts, the methodology for Maximizing Potential (Richert) supports whole language and literature-based reading programs.

c. Interdisciplinary curriculum

The methodology and staff development recommended will support interdisciplinary initiatives.

d. Staff development

The process suggested for staff development may well be a very useful model for purposes other than the TAG program.

e. Cultural Equity

The goals of the district's elementary and secondary minority student achievement reports (1989 and 1990) will be significantly advanced by adopting the recommendations for (1) identification, (2) expansion of program options, and (3) infusion of social, emotional and ethical goals for various TAG program options. Among the goals supported are to:

- increase "minority" participation in the TAG program,
- increase "minority" participation in advanced courses on the secondary level;
- increase percentage of "minority" students performing in the upper quartile of test scores (and reduce percentage in the lower quartile);
- increase "minority" students' aspirations;
- reduce the drop-out rate of "minority" students; and
- decrease behavioral problems and suspensions among "minority" students.

f. Sex Equity

- The identification procedures recommended include disaggregating the data for sex, if necessary, so they will foster sex equity in the various program options.
- The curriculum strategies which emphasize healthy self-esteem will impact on achievement of sex equity (Kohut, 1971; Miller, 1981; Richert, 1991a; Roeper, 1991).
- The sources for the curriculum methodology include issues dealing with sex equity, especially women's issues (Bruch and Morse, 1972; Fox, 1979, 1981, 1982; Gilligan, 1982; Horner, 1969, 1972; Miller, 1981; Lavach and Lanier, 1975; Richert, 1992; Rodenstein, Pflieger and Colangelo, 1977).

g. Multicultural education

- The concept of maximum potential has been specifically developed to be pluralistic and multicultural (Richert, 1991a).
- The curriculum methodologies recommended can be used to support levels 2, 3 and 4 of a multicultural curriculum.
- The goals so articulately expressed by the multicultural committee report are supported by these recommendations:
 - School climate
Representative participation of students from various cultures will help to provide a much more multicultural experience for students in the TAG program.
 - Equity pedagogy

The district may choose to have the staff development focus on infusion of multicultural

issues into the content areas that will be included in the academic options of the TAG program.

h. Computer literacy

Integration of computer literacy into the language arts/reading/English curriculum is essential if Madison students are to be prepared for the 21st Century. The instructional strategies recommended foster the integration of various media, including computers, into the curriculum (Richert, 1990).

5. Authentic Assessment

The district is endeavoring to include various forms of authentic assessment procedures to complement its norm-referenced data. Training and curriculum strategies recommended for the subject area options will offer pilot sites for use of varieties of authentic assessment which may be expanded in some form to all students district-wide. Methods include: qualitative criterion-referenced assessment, self and peer evaluation, process evaluation, and involving students in determining evaluation criteria, etc. (See *Richert Teacher Self Evaluation Log*, and *Language Arts Handbook*, attached)

6. MMSD Program Evaluation Plan

The format of this report is designed to conform as much as possible to the district's Program Evaluation Plan (1989). This report fits into an "expert opinion" audit (Phase II, Step 6, p. 11), since it addresses a comprehensive district plan (1991) that has already been developed as part of an internal audit by the district program staff. Furthermore, the improvement plan to augment the district's plan is prioritized, as required, (p. 11).

7. Meeting State Standard "t"

All of the recommendations will meet or exceed state standards. Furthermore, the recommendations address meeting the specific standards with which the district was found in non-compliance. There is one variation in identification recommended that exceeds the state standard as stated. [Compliance is not the extrinsic motivation for the recommendations, but rather, a pragmatic side effect of the intrinsic motivation: meeting the needs of the district's students who have gifted potential.]

B. RECOMMENDATIONS FOR PROGRAM PHILOSOPHY

- Develop a program philosophy K-12 that emphasizes development of exceptional intellectual, emotional and social potential incorporating the latest multicultural research on gifted potential (Richert, 1986, 1991a).
- If there is concern about fostering elitism, or labeling of students, a different name for the program might be developed, such as: "developing exceptional potential, or maximizing potential. The label "gifted" or "talented" is not necessary.
- Acknowledge the research that regrouping for some academic subject areas at all grade levels is essential for equitable services not just for various "minorities" or disadvantaged groups, but to meet the needs of all students with gifted potential (Cox 1985; Gallagher, et al, 1982; Kulik and Kulik, 1991; Renzulli, 1982; Richert, 1989; Silverman, 1991; Slavin, 1985).
- Establish minimums that all buildings must offer, and offer some effective additional options.
- Clarify the difference between equitable, demographically representative regrouping for certain subject areas based on students' needs (which is being recommended), and "tracking" or inequitable homogeneous grouping (which is **not** being recommended). It is based on achievement measures that have been proven to be biased (Hilliard, 1991; Oakes, 1985; Richert, 1991b).

C. RECOMMENDATIONS FOR IDENTIFICATION

1. EQUITY AND DEFENSIBILITY IN IDENTIFICATION

- In order to achieve equity, it is most urgent that the identification procedures follow the recommendations of a national panel of experts convened for a *National Report on Identification* by the U. S. Dept. of Education (Richert et al, 1982). These findings are the primary source for the *N.J. Handbook for Identification for Gifted Programs* and are summarized in an attached chapter (Richert, 1991b).
- Grades have no research base as a selection criterion for entry into program options for students with gifted potential (Taylor, 1985). They should be eliminated as a criterion at all grade levels, including secondary.
- Data that is being gathered should not be combined, but used separately, and renormed (or disaggregated) for ethnic group, economic class and sex, as recommended by the *National Report on Identification* (Richert, 1991b).
- Identification data, in addition to the existing data that should be collected, include:
 - K-3, parent nominations,
 - K-12 teacher nominations that are research-based,
- Teachers need training in characteristics of the gifted before their recommendations can be considered valid (Gear, 1976, 1978; Holland, 1959).

2. COMPREHENSIVENESS AND ASSESSMENT OF PLACEMENT

- At least 20-25% of the student population should be served in various ways through multiple program options to be developed, as specified in the district TAG plan (1991) for equity accommodations.
- Students should be identified for only one year, and reassessed annually based on progress within the specific program option for which they qualify, or for which they have been selected (not on test scores or grades).

- There need to be procedures to *prevent* students from failing or exiting from subject area options. (See attached, *Richert Procedures for Prevention of Exit*).
- Appropriate exit procedures should be developed for all academic options (none are needed for the enrichment options, since self-nomination ought to be one of the major ways students get out as well as in).

D. RECOMMENDATIONS: PROGRAM DESIGN AND CURRICULUM

Specific recommendation for curriculum are detailed in *Curriculum Guidelines for Programs for Gifted Students*, (Richert, 1990) and *Richert Teacher Self Evaluation Log Form*, which are appended. [Page numbers refer to text in the former.]

1. ADMINISTRATIVE REQUIREMENTS for continuous and systematic programming

a. Policies

(1) Administration and accountability issues

- Establish policies stating K-12 minimums for:
 - equitable identification,
 - numbers or percentages of students to be served in each building,
 - program options required in each building elementary, middle and secondary,
 - accountability,
 - record keeping,
 - evaluation,
 - involving program coordinator in selection of faculty,
 - specify role of central office staff.
- Establish priorities for budget expenditures (See V, IMPROVEMENT SEQUENCE, below).

(2) Curriculum implementation policies

(a) flexible pacing, acceleration

- establish INSTEP, K-12,
- revise secondary concurrent enrollment and tuition option to make it much more flexible,
- approve establishment of elementary and middle school basic skills options (reading/language arts and math),
- elementary students should not be required to make up any work that they miss while in their enrichment class,
- foster individualization, K-8, through approving a developmentally appropriate, continuous progress approach in basic skills for all students K-12, that requires:
 - regular preassessment and excusing students from practice on skills mastered,
 - elimination of homework for students that requires practice in skills already mastered (demonstrated through a pretest, for example).

(b) articulation

- Pre-K -12 scope and sequence of higher level cognitive and affective process objectives,
- approve the various program options in the district plan as choices for

- buildings to select among,
- required training (at least 45 hours) for teachers in the various academic program options.

b. Role of central office staff

Central office staff role should be supported and defined as:

- guarantors of equity and minimums for identification and programing,
- establishers of district-wide record-keeping procedures,
- qualifiers of faculty that teach various program options,
- providers of procedures for building accountability for minimums.

2. ELEMENTARY ACADEMIC PROGRAM OPTIONS FOR IDENTIFIED STUDENTS

a. First priority

- The first priority should be to encourage implementation of subject area classes in reading/language arts K-8, adding math after about grade 3.
 - This may be done through regrouping within or across grade levels to create "cluster classes," or a modified "Joplin plan." Reading or reading/language arts should be started in K-3, and math added in grade 4 .
- [Presently, when students are being regrouped, it is on the basis of achievement rather than potential or ability. Please note the changes in identification strongly recommended above. They use criteria that go beyond achievement in order to avoid the problems of "tracking," to create demographic heterogeneity, and to serve all the students with gifted potential.]

b. Primary level

On the primary level, move more rapidly toward "developmentally appropriate instruction" that stresses individual intellectual and emotional needs rather than group progress for all the district's students, especially those with gifted potential. Various kinds of cross-age grouping should be planned to allow for individual acceleration in one or more subject areas. Furthermore, "developmentally appropriate instruction" should incorporate creative as well as critical thinking and higher level emotional and social goals.

c. Upper elementary level

Students should be regrouped in reading/language arts and math using the identification criteria specified above, not solely achievement measures or teacher recommendations.

d. Role of enrichment teachers in academic options

Enrichment teachers may serve as either:

- additional "reading/language arts or math" teachers in order to reduce class size in those subjects, thereby benefiting all students and even other teachers, which is a much more productive use of their time,
- or teachers for *groups* of 5-12 students to be served in pull-out enrichment classes.

It should be stressed that most of the elementary principals interviewed seemed very receptive to the idea of establishing regrouping in some subject areas. This is particularly commendable since elementary principals often prefer to avoid the efforts required for that kind of scheduling. Therefore several of the principals are ready for the changes being strongly urged.

3. MIDDLE SCHOOL ACADEMIC PROGRAM OPTIONS FOR IDENTIFIED STUDENTS

- It is strongly recommend that the district intent for subject area classes be implemented. There should be equitable homogeneous grouping in *only* reading/language arts and math, (not all subjects) to provide gifted students with their needs for both homogeneous and heterogeneous grouping.
- Placement should be based on the principles of identifying gifted potential and ability rather than just academic achievement. This will avoid the well known social and emotional problems of "tracking". (See Richert, 1991a, for detailed equitable identification procedures.)
- A more productive use of teacher time is to schedule them as additional reading or math teachers on any grade level.

4. ELEMENTARY ENRICHMENT OPTIONS FOR IDENTIFIED STUDENTS

- Expanding the number of students served in the pull-out option is crucial in buildings in which subject area classes will not be implemented.
- Increase equity and total numbers identified.
- Increase total numbers served at one time (5-15 students depending on space available).
- Offer continuous, scheduled weekly programming (not in and out depending on wattage of "light bulbs").
- Offer small group investigations and interdisciplinary units, instead of just isolating independent study.

5. MIDDLE SCHOOL ENRICHMENT OPTIONS FOR IDENTIFIED STUDENTS

Because of the developmental needs of middle school students, if there is to be an enrichment option,*instead of, rather than in addition to* a subject area option, it should emphasize emotional and social development for these children in groups, instead of individually. These students do not need any additional academic work. They do need help in dealing with the stresses of adolescence, which are heightened by giftedness. They need a safe non-judgmental place to discuss these stresses as part, perhaps, of an "advisor/advisee" option. Topics may include: self-concept, male/female roles, decision-making, dealing with peer pressures, social relationships (friends, dating), family pressures, being different ("giftedness" is a social problem), and academic/career planning, etc. Teaching strategies should be small group discussions, role play, journals, setting personal priorities and goals, and cooperative learning strategies, etc. Students must be involved in selection of topics, or their needs cannot be met. [I'd be pleased to recommend material resources for this option.]

6. HIGH SCHOOL

- On the secondary level, continue honors courses in at least English and math. Introduce them, if they are not already in place, but use an more equitable identification system.
- AP courses should be developed in most subject areas based on student interest.

- Parents of the gifted and their children in each high school should be surveyed to determine their priorities for subjects for honors and AP courses.
- Concurrent enrollment and tuition options should become more flexible and expanded.

7. K-12 ARTICULATION

- Establishing minimums for time, numbers served and number of options for buildings through district policy will foster K-12 articulation. This is particularly important because of the high mobility of many of the district's students.
- Specify differentiated K-12 scope and sequence for curriculum objectives for modifying cognitive and affective goals in required subject areas. Start with reading/language arts, if not also math (starting about grade 3), on the elementary level for students with gifted potential.

8. ACCELERATION AND FLEXIBLE PACING

- Implement INSTEP as designed, but expand to K-12, systematically in each building.
- Implement new policies recommended for flexible pacing.

9. K-12 REQUIRED CURRICULUM FOR ALL STUDENTS

- Maximize the potential of *all students* by adopting the curriculum approaches recommended for the gifted in all subject areas, particularly because of the demographics of the population [p.11-30]. [This does not violate the requirement for differentiated curriculum for the gifted since the amounts of time that can be spent on these strategies will vary greatly for different ability levels.]
- Implement policies for flexible pacing and developmentally appropriate curriculum [p. 5-6].
- Integrate computer literacy (not programming) in either or both language arts and math.
- Various forms of successful authentic assessment should be institutionalized for evaluation of all students [p.30-32]. Implementation of policies and modifications of evaluation for required subjects will support curriculum strategies for maximizing potential for all students. [The staff development recommended includes training in various forms of successful authentic assessment.]
- Plans for developing middle schools which stress meeting individual intellectual, social and emotional needs should be reinforced by the staff development proposed.

10. ENRICHMENT/EXTRACURRICULAR ACTIVITIES FOR ALL STUDENTS

- The district should continue to support its various effective extracurricular activities.
- If there is to be school-wide enrichment (SEM) for all students, which is an appropriate district goal, then *all* students must have at least some choices of topics and activities in order to evoke their intrinsic motivation, not just the "gifted."
- Students should be involved in selection of building-wide enrichment topics, activities electives, and enrichment or extra-curricular activities. There should be student representation on building steering committees.
- As part of strategic planing efforts, parents and students should be surveyed to find out what extracurricular and enrichment activities they would like. In this way the district can better use its existing resources to meet students' developmental needs and individual interests.
- Type III student initiated activities should occur for all students—as part of a developmentally appropriate curriculum—in order to foster achievement of maximum

cognitive, affective and ethical potential.

E. STAFF DEVELOPMENT

1. To support implementation of other recommendations

In order to implement the TAG plan as designed and to incorporate the recommendations to start subject area options and modify honors appropriately, intensive and systematic staff development on modifying required subject areas for students with gifted potential should be planned. The beneficiaries would be not only the identified students, but the other "regular students" taught by the trained teachers. Up to 40 % of the students in each building could potentially benefit. That is a good investment for advancing the various district curriculum improvement initiatives.

2. Needs for staff development

a. Conflict between primarily teacher-centered classes and requirements of curriculum for maximizing potential (Richert, 19991a).

Presently, there is a conflict between the objectives and methods of typical required curriculum (which focuses on extrinsic rewards and conformity to teacher expectations and penalizes both creativity and risk-taking) and the nurturing of gifted achievement (which involves not only intellectual and creative abilities, but such traits as intrinsic motivation and risk-taking). If the gifted are to develop these traits of self-actualizing individuals (to use Maslow's terms) in the context of schools, then educators themselves must be encouraged to develop their own latent emotional potential. Therefore, faculty who are or will be teaching subject area classes should get instruction and experience in methods for maximizing both their students' emotional and intellectual potential and their own.

b. District curriculum initiatives need to be supported.

c. Personal development for staff.

Effective site-based management requires individuals who are intrinsically motivated and have the foundations of ethical decision-making (Kohlberg, 1981, 1982 Sergiovanni 1992a, 1992b). The staff development offered includes fostering intrinsic motivation and ethical decision-making for teachers and students.

3. Content of staff development

Teachers should have the equivalent of a graduate course on most of the 36 strategies on the *Richert Teacher Self-Evaluation Log*, which is a criterion-referenced approach to incorporate higher level cognitive, affective and ethical objectives. These methods incorporate a multicultural definition of maximum intellectual, creative, emotional and ethical potential (using the sources in the bibliography), including:

- shifting locus of control from teachers to students in a student-centered classroom,
- instructing students in homogeneous groups or in the regular (heterogeneous) classroom,
- modifying the content, process, products and evaluation methods for required

subject areas,

- appropriately accelerating required skills,
- using authentic evaluation for required subject areas,
- individualizing acceleration,
- individualizing for interests and learning styles,
- developing of critical and creative thinking within required subject areas,
- encouraging students to learn to plan and create original products,
- fostering self-actualization (intrinsic motivation, risk taking, self-esteem independent of external evaluation, self-evaluation, and responsibility for consequences of actions, etc.),
- managing peer interaction, cooperation and socialization.
- integrating higher level cognitive, affective and social skills into a student interest-based curriculum,
- managing individualization and small group projects.

This training is appropriate for all faculty, but should be required for faculty teaching any of the advanced sections of the major subject areas K-12. Furthermore, these strategies support the major district curriculum and evaluation initiatives cited above.

4. Sources for methodology

- Sources for training on cognitive development include: Colangelo & Zaffran (1979), Gallagher (1979), Guilford (1967), Kaplan (1982), Kohlberg (1981), Meeker, (1969), Renzulli (1978), Richert (1986, 1990), Tannenbaum (1983), Torrance (1979). Sources for overcoming underachievement and fostering emotional development include: Frankl (1980), Ginsberg (1972), Gowan (1957), Jung (1964), Krathwohl et al (1984), Kohlberg (1981, 1983), Kohut (1971), Maslow (1970), Miller (1981), Piechowski and Colangelo (1984), Richert (1982a, 1982b, 1986, 1991a), Roeper (1982), Sartre (1967), Taylor (1967), Whitmore (1980), and Zaffran and Colangelo (1977).
- Additional sources are the objectives of various district curriculum initiatives and others are included among the appended References.

5. Staff development will benefit up to 40% of students in a building.

Since the teachers will also have heterogeneous classes, or other level ability classes, up to 40% of students in a building may benefit from the staff development. That is a very cost effective result which will foster the various curriculum and evaluation initiatives listed above.

6. Effectiveness of staff development

We are in the process of gathering data on the effectiveness of the methodology with over 100 teachers and 2000 students in more than 20 schools in 9 districts. Among the preliminary results (final data should be available in the Fall) we are finding:

- increase in achievement test scores (we looked primarily at reading),
- students are reading more,
- increase in self-esteem,
- increase in student motivation,
- decrease in discipline problems,

- improvement in attendance,
- improvement in grades.

F. BUDGET

The total amount projected in the district plan for next year could be far better used to reduce the per pupil cost by at least 60-70% by re-allocating funds in order to:

- serve many more (up to 20-25%) students,
- increase effectiveness of programming,
- reduce class size on the elementary level in some basic skills areas,
- reduce the per pupil cost by 60-90%,
- support various district curriculum and evaluation initiatives.

Reallocation of most of the funds for these two purposes would be far more cost-effective:

1. Systematic staff development for maximizing student potential in required subject areas in order to implement the district plan for subject areas classes (as described in F. above) and benefit up to 40% of students in a building;
2. Combine various part-time allocations in elementary and middle schools for overlapping purposes (such as TAG and REACH) to create additional full time reading/language arts teachers in some of the elementary or middle school buildings. This can reduce class size and create subject area gifted classes for up to 20-25% of students.

V. IMPROVEMENT PRIORITIES

A. PRIORITIES FOR IMPLEMENTATION OF MULTIPLE PROGRAM OPTIONS

The comprehensive district plan includes various program options to be developed at different grade levels. Others have been suggested in this report. The following priorities for building implementation are urged, with the first three priorities suggested as minimums in each building by 1993 and for piloting in 1992-1993:

a. elementary

- (1) Content modifications through equitable regrouping for some subject areas
- (2) INSTEP
- (3) Enrichment classes for 6-15 students at a time

b. middle school

- (1) Content modifications through establishing equitable subject area classes
- (2) INSTEP
- (3) Concurrent enrollment
- (4) Flexible pacing, special options
- (5) Counseling
- (6) Mentorships
- (7) Enrichment classes for 8-15 students focusing on emotional needs
- (8) Independent study (Type III) activities

c. high school

- (1) Content modification through equitable honors and AP classes
- (2) INSTEP
- (3) Concurrent enrollment/tuition option
- (4) Independent study
- (5) Flexible pacing, special options
- (6) Counseling
- (7) Mentorships

B. ESTABLISH AND IMPLEMENT DISTRICT MINIMUMS, by Sept., 1992

Once the minimums are established, the district will have a single articulated program which allows a great deal of flexibility per building to exceed the minimums.

1. Establish three minimums per building as described in V. A.
2. Establish minimums for enrichment service (number of children, number of hours) to be offered per teacher funded in each elementary building.
3. Establish equity in identification and use for placing children in pull-out options.
4. Schedule groups of 6-16 children for K-8, Type III services on a regular schedule, Sept.-Jun.

C. PILOT SOME NEW OPTIONS

1. In selected elementary buildings where there is already principal support, plan piloting re-grouping for required subject area classes.
2. In selected middle schools, where there is already principal support, plan piloting required subject area classes.

D. PLAN FOR CHOICES FOR SITE-BASED AUTONOMY to be phased in from Sept. '93-'95

1. Provide extrinsic motivation for district priorities

The district should encourage prioritization of some options through offering staff development to buildings that elect to add subject area classes to expand services and to withhold it from buildings that use solely more expensive models, such as pull-out.

2. Planning committee memberships and charges

- The district parent planning committee should be involved to help support implementation of options that go beyond the minimums.
- Planning committees for expansion should be started in each building. They may include one or two (not more) members of the enrichment steering committees in the elementary buildings. They **should not supplant** that committee, since those committees have a different ongoing function that serves all students, not just the gifted. In addition to faculty trained in the education of the gifted and a building administrator, these committees must include someone from the building site-based team or strategic planning committee (if there is one) and parents of gifted children as significant stake-holders. On the secondary level, inclusion of gifted students is highly recommended, since as part of strategic planning, students are the primary stake-holders. Representatives from the existing district-wide committee should be the first parents invited to participate, since they have already put in a great deal of their time and energy.
- The charge to these committees should **not** be to start planning all over again, but to:
 - a. consider the various district approved options/choices for expanding services already planned or recommended and determine which will be implemented in each building,
 - b. prioritize the sequence for implementation,
 - c. suggest some maximums that, given availability of resources, may be developed to exceed district minimums,
 - d. offer access to resources to support implementation of the selected options.

E. SUGGESTED TIMELINES

Timelines are suggested in VI. Four Year Improvement Plan on the following pages.

YEAR:	92	93	94	95
Completion:	MONTH			

III. CURRICULUM OBJECTIVES

A. IMPROVING CURRICULUM *for all students*

•K-12, in all subject areas, define curriculum objectives and teaching strategies for maximizing cognitive, affective and social potential for all students.	2			
•K-3, implement plans for developmentally appropriate instruction.	9	9		9
•Implement plans for developmentally appropriate middle school instruction.	9	9		9
•K-12, implement plans for authentic assessment.	9	9		9

B. IMPROVING CURRICULUM *for students with gifted potential*

•Implement INSTEP K-12.				
•Specify range of teaching strategies to maximize students' potential.	12	1	1	1
•Specify authentic student evaluation procedures to avoid penalizing students in homogeneous classes.		1		
•For middle school enrichment option, use units that students select for personal and social development.		9	9	9
•Establish K-12 scope and sequence of higher level process skills to be integrated in all subject area and enrichment classes.		9		
•For K-12 subject area classes, stress higher level emotional and social development.		9	9	9

IV. IDENTIFICATION OBJECTIVES

•Make K-12 identification equitable and research-based.	10			
•Establish procedures for each recommended program option.	12			
•Implement equitable identification procedures.		1	1	1

V. K-12 STAFF DEVELOPMENT OBJECTIVES

•Reallocate staff development funds toward training of teachers in subject area options.	10			
•Offer training for present teachers in maximizing potential for all students.		4		
•Offer training for teachers who will start in 1/93 in various subjects.	12			
•Offer ongoing staff development.		8	8	8
•Offer staff development for supervisors and administrators as well as teachers for appropriate ways to evaluate students with gifted potential.		4	10	4
•Schedule bimonthly peer staff development/coaching K-12, by buildings, for teachers in subject area options.		1	8	8

VI. EVALUATION OBJECTIVES

•Decide whether to develop evaluation design for various program goals.	3			
•Develop evaluation design with consultant.	6			
•Implement evaluation design.	9	9		9
•Complete evaluation report on student progress in higher level goals.				12

VI. FOUR YEAR IMPROVEMENT PLAN

FOR MAXIMIZING THE POTENTIAL OF ALL STUDENTS IN MMSD

Submitted, by E. Susanne Richert, Ph.D. June 1992

This is a low cost three year plan for implementing the recommendations in the assessment report.

PLEASE NOTE IN THE FIRST COLUMN the dates for implementation this year

YEAR:	92	93	94	95
Completion:	MONTH			

I. OBJECTIVES FOR IMPROVING ADMINISTRATION/POLICIES

•Reallocate program budget to carry out following objectives.	10	10	10	10
•Develop a K-12 program philosophy emphasizing development of exceptional intellectual, emotional and social potential for all students.	12			
•Establish policy for specifying 3 minimum program options per building.		1		
•Establish district priorities for various program options.		3		
•Expand INSTEP K-12.		1		
•Make secondary tuition and concurrent enrollment option far more flexible.		6		
•Develop policies to provide flexible pacing for all students.		1		
•Require 45 hours of training for all existing staff teaching subject area classes.		6		
K-12 by 9/94, and all new staff within 1 year of teaching in the program.		6		

II. PROGRAM DESIGN OBJECTIVES

A. K-12 IMPROVEMENTS

•Use district-wide parent committee to set 3 minimum options and recommend other priorities.	11			
•Establish 3 minimum options per building.	11			
•Prioritize options to be supported by district funds.	11			
•Use building planning committee to set priorities for additional program options.	11			
•Implement INSTEP K-12.	10	10	10	10

B. IMPROVING ELEMENTARY PROGRAM DESIGN

•Schedule elementary enrichment classes so students have more time in larger groups in each building.	11			
•Plan schedule for subject area class in reading/language arts where it is not already in place.	11			
•Plan schedule for piloting class in math where it is not already in place.		8	8	8
•Pilot subject classes in reading/language arts in 3-5 buildings.		1		
•Pilot subject classes in math, grades 3 on up in 3-5 buildings.		1		
•Pilot combining part time allocations to get extra reading teacher.				
•Schedule at weekly common planning time for teachers in various options to conduct peer staff development and to share resources.	12			
•Implement subject classes in reading/language arts in 5 other buildings.		9	9	9
•Implement subject classes in math, grades 3 on up in 5 other buildings.		9	9	9

C. IMPROVING MIDDLE AND SECONDARY PROGRAM DESIGN

•Pilot equitably identified classes in reading/language or English and math in 2 middle and at least 1 high school.			1	9
•Buildings chose among additional program options to implement.		1		
•Survey middle and school students and parents to determine topics/subjects for honors, AP, electives, enrichment and extra-curricular activities.		2		
•Implement more flexible secondary concurrent enrollment options.		1		
•Plan for developing priority courses and activities suggested by survey.		5		
•Implement new courses (AP, honors, or electives) and activities.		9	9	9

APPENDICES

Chart of Demographics

Evaluation References

Resume

Chapters, articles and materials by S. Richert

Richert Teacher Self-Evaluation Log Form

What to look for in a Gifted Program

Rampant Problems and

Promising Practices in the Identification of the Gifted

Patterns of Underachievement Among the Gifted

Toward the Tao of Giftedness

Richert Teacher Self-Evaluation Log Form

What to look for in a Gifted Program

Rampant Problems and

Promising Practices in the Identification of the Gifted

Patterns of Underachievement Among the Gifted

Toward the Tao of Giftedness

Curriculum for Programs for Gifted

UNDER SEPARATE COVER:

Executive Summary of TAG Program Assessment

##Demographic Representation

*DEMOGRAPHIC REPRESENTATION	1991 %IN DISTRICT	Students in TAG 1991 %IN TAG	1991 [% of district] Representation	MMSD % UNDER- REPRESENTATION	** NATIONAL%UNDER- REPRESENTATION
American Indian	0.50%	9	0.28%	56.06	178.39
Asian	5.30%	188	5.85%	110.47	110.47
Black	12.50%	188	5.85%	46.84	213.50
Hispanic	2.80%	73	2.27%	81.19	123.16
MINORITY TOTAL	21.10%	458	14.26%	67.60	147.93
White	78.90%	2,753	85.74%	108.66	108.66
TOTAL	100.00%	3,211	100.00%	100.00	100.00
TOTAL #Students	23,214				
% SERVED		13.83%			Bold=%over-rep
*Data from: 1991 DPI Report 118.35 & MMSD 1991 District & School Data Profile &** Richert, 1991					

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RESUME

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EXPERIENCE IN TEACHING AND ADMINISTRATION

Director Gifted and Talented Programs, Educational Information and Resource Center, Sewell, N.J. (1976-Present)

Responsibilities: Director, *APOGEE*, \$850,000 federal grant
Plan, develop and supervise the activities and budget of a gifted team with 3-8 members
Manager National Clearinghouse for Gifted Education
Direct a federal contract on national identification methods
Direct I-GATE, a national leadership training institute
Manage a 17-district consortium for early childhood gifted education
Develop, manage and offer consulting services to 144 districts
Locate and develop funding sources; wrote 20 grants for over \$1,600,000
Train teachers in personally developed graduate courses

Adjunct Faculty

Glassboro State College (1991)
Arkansas Technical University (1985-89)
Jersey City State College, NJ (1984-85)
Rutgers Graduate School of Education, NJ (1978-84)
Stockton College, NJ (1974-76)
Barrington College, RI (1968-69)

Director, Southern New Jersey Consortium for Gifted Students,
Galloway Township Public Schools, New Jersey (1983-1985)

Director Language Arts and Foreign Languages,
Galloway Township Public Schools, New Jersey (1983-1985)

Visiting Faculty Columbia University, Teacher's College. Summer Institutes (1979-81)
Johnson State College, VT (1979-80, 1986)

Teaching Assistant (English) University of RI (1969-70)

Project Trainer Institute for Political and Legal Education (IPLE), Educational Improvement Center-South, Sewell N.J. (1976-77)

Coordinator (English Teacher) Gifted Humanities Program,
Holy Spirit High School, Absecon, N.J. (1972-74)

Teacher (English) Diman Vocational High School, Fall River, Mass., (1968-69)

EDUCATION

- Ph.D., Brown University, English Literature, 1976
Dissertation: *Perception of Women's Roles in Thomas Hardy's Novels.*
- M.A., University of Rhode Island, 1970 (English)
- A.B., Brown University 1968 (English, Psychology)
- C.E.S., (*Certificate d'Etudes Superieures*) with honors in English Lit.
- C.E.S., With high honors, in American Literature and Civilization, University of Strasbourg, France, 1966
- Junior Year Abroad, Institute for American Universities and University of Aix-Marseilles, Aix-en-Provence, France, 1964-65
- Certificates from University of Aix-Marseilles, Aix-en-Provence, France, 1964-65, with high honors in French literature, French language and French phonetics

CERTIFICATION

- Massachusetts and New Jersey in teaching secondary English and French

LANGUAGES SPOKEN

- French,
- German,
- Hungarian

BOARD MEMBERSHIPS

CONSULTANT BANK, National Research Center for the Education of the Gifted (1990-Present)

REVIEW EDITOR, *JEG, Journal for the Education of the Gifted* (1984-Present)

MATERIAL AND BOOK REVIEW EDITOR, *JEG, Journal for the Education of the Gifted*
(1980-1982)

EDITORIAL BOARD, *Gifted Child Quarterly*, (1985-1991)

ADVISORY BOARD, *Gifted Children Monthly*, (1981-1990)

CONTRIBUTING EDITOR, *Roeper Review* , (1984-86, 1990-Present)

ADVISORY BOARD, Western Connecticut School for The Gifted, 1989

EDITORIAL BOARD, *Roeper Review: A Journal on Gifted Education* (1981-84; 1986-89)

EXECUTIVE BOARD, National Association for Gifted Children (1984-87)

ADVISORY BOARD, Project REACH girls, SUNY, at New Paltz (1987- present)

MEMBER, New Jersey Advisory Committee for Gifted and Talented Education (1977-1987)

BOARD MEMBER, The New School, Pleasantville, N.J. (1972-79)

BOARD OF DIRECTORS, N.J. Social Studies Council (1976-78)

PROFESSIONAL ADVISORY BOARD MEMBER, Gloucester County Mental Health Clinic, Woodbury, N.J.(1976-1977)

CONSULTANCIES

To United States Supreme Court (1976-77 and 1987)

Achievements: Wrote and presented to Justice Byron White and others at the supreme Court a teaching guide for the film series, Equal Justice Under Law. Over 200,000 copies were printed and distributed to all chairmen of college political science departments, media centers, federal judges and the 50 state bar associations, among others.

To American University, Midatlantic Center for Education Equity (1982-Present) and University of Pittsburgh, Race Desegregation Assistance Center (1982-Present)

Achievements: Conducted training and consultation in unbiased identification and assessment of gifted students and maximizing potential in multicultural populations.

To Education Consultant Associates (ECA), Englewood, Colorado (1981-82)

Achievements: Presented at major conferences in U.S. and Canada (San Francisco, Denver, Chicago, Lake Placid, Vancouver, etc.) on the planning of gifted programs to audiences of administrators. Management consulting focused on trouble-shooting, problem-solving, staff development, generating internal and external support for changes.

To WQED-TV, Pittsburgh, Pa. (1979-80)

Achievements: Wrote training and promotional materials for professionals on conflict resolution for the television series Waging Peace, which aired on PBS.

To Caesar's Hotel & Casino, Atlantic City (1984)

Achievements: Offered training for potential managers in promoting productivity, motivation, and leadership by application of left/right brain research.

To Atlantic County Board of Freeholders, N.J. (1978-79)

Achievements: Developed successful Jail Management Plan and grant application to LEAA for the purpose of reducing overcrowding at the county jail in light of expected expansion due to casino gambling.

In gifted education, curriculum, leadership and application of brain research

Presentations (1982-Present) to:

- U.S. Department of Education
- State Departments of Education of Arkansas, Delaware, Illinois, Iowa, Kentucky, New Jersey, New York, Pennsylvania, Rhode Island and Virginia, among others
- Ministries of Education of Israel, South Africa and Ethiopia
- Secretary of Education's Region III professional staff
- Research for Better Schools
- More than 40 districts in New Jersey, and in over other 40 states

OTHER ACHIEVEMENTS

- Publications:** Two books and more than 30 articles, monographs or chapters, (list attached), 11 teaching guides or course manuals
- Grantsmanship:** Wrote over 20 successful grants to numerous agencies [U.S. Dept. of Education, N.I.E., N.J. Dept. of Education, etc.) that awarded over \$1,600,000.00 from 1976-1993.

Honors and Awards:

Hall of Fame, New Jersey Association for Gifted Children, first recipient of award for contribution to Gifted Children in New Jersey (1992)
Education Policy Fellowship, Institute for Educational Leadership, George Washington University (1979-80)
Award in recognition of service and leadership from N.J. Association for Supervision and Curriculum Development, 1978 and 1979
French Government Scholarship, 1965-66
Pembroke College Scholarships, 1962-64
Certificate of European Studies, Institute for American Universities, 1965

- Presentations:** At least 40 presentations at national, regional and state conferences (in over 20 states) in New York (Columbia University), Houston, Boston, Washington, D.C (Institute for Educational Leadership), Denver, Chicago, San Francisco, Las Vegas, Baltimore, New Orleans, New Haven, Atlantic City, St. Louis, Newport, Philadelphia, Providence, Pensacola, Madison, St. Louis, Little Rock,
- International conference presentations include: Vancouver, Montreal, Toronto, Ottawa, Hamburg, Amsterdam and Budapest, among others.

OTHER EXPERIENCE:

- Special Education Supervisor**, Atlantic County Youth Services Shelter, Northfield, N.J. (1975-76)
- Medical Writer**, Merck, Sharp and Dohme, International, New York, N.Y. (1966-67)
- Counselor**, State Home for Delinquent Girls, Strasbourg, France (1965-66)
- Interpreter**, Grandes Galleries, Strasbourg, France (1965)

PUBLICATIONS LIST

Books

Co-Editor, Special Populations of Gifted Students, Trillium Press, 1991.

Gifted Girls, Forthcoming 1992.

Individual Rights, Institute for Political/Legal Education, Sewell, N.J. 1977.

Reports

National Report on Identification: Assessment and Recommendations for Comprehensive Identification of Gifted and Talented Youth, for The U.S. Department of Education, Sewell, N.J. (1982)

Articles and Chapters on Gifted Education

"Patterns of Underachievement Among Adolescents," in The Gifted Adolescent: Personal and Educational Issues, Genshaft, J, and Bireley, M. [eds.] Teachers College Press, 1990.

"Rampant Problems and Promising Practices in the Identification of Gifted Children in the United States," in Handbook for Gifted Education, Colangelo, N., and Davis, G. [eds.] Allyn and Bacon, 1991.

"Rampant Problems and Promising Practices in the Identification of Disadvantaged Gifted Students," Gifted Child Quarterly, Vol. 31, No. 4, Fall 1987, 149-154.

"Toward The Tao of Giftedness," Roeper Review, Vol. 8, No. 3, Feb. 1986, 197-204.

"Identification of Gifted Children in The United States: The Need for Pluralistic Assessment," Roeper Review, Vol. 8, No. 2, Nov. 1985, 68-72.

"The State of the Art of Gifted Education in The United States," Illinois Council for the Gifted Journal, 1986.

"Personality Patterns of Gifted Children," Gifted Children Monthly, Sept. 1982, Vol. 3, No. 9, 1-3, 20.

"Strategies for Self-Fulfillment of the Gifted," Gifted Children Monthly, Oct. 1982, Vol. , 3, No. 10, 1-3, 20.

"Grade Skipping for the Gifted," Gifted Children Monthly, May 1982, Vol. 3, No. 5, 17-18.

"Sex Education for the Gifted," Gifted Children Monthly, May 1983, Vol. 4, No. 5, 17-18.

"The State of the Art of Identification of Gifted Students in the United States, Gifted International," Vol. 3, No 1, 1985, 47-51.

"What to look for in a Gifted Program," Gifted Children Monthly, May 1985, Vol. 6, 17-18.

"Media Mirrors of the Gifted," Gifted Child Quarterly, Vol. 25, No. 1, Winter 1981, reprinted in Gifted International, 1984.

"National Survey of Identification Practices in Gifted and Talented Education," Exceptional

Children, Vol. 48, No. 2, Oct., 1981, 124-132 (with James Alvino & Rebecca McDonnel).

"Television for the Gifted: A Double-Edged Sword," Roeper Review, Vol. 3, No. 4, 1981, 17-20.

"Business Would Benefit From Support of Gifted and Talented Programs," Bucks County Courier Times, Pa., Sept. 30, 1979 (with James Alvino).

"Time and the Basics: A Question of Proportion in Gifted and Talented Education," Basic Ideas, Mar., 1981.

"Methods and the Basics: A Question of Means Not End for Talented and Gifted Students." Basic Ideas, Apr., 1981.

"The Politics of Basics and the Gifted" in An Anthology of Articles on Gifted and Talented Education, The Northeast Exchange, 1978; (Paper presented at Second World Gifted Conference, Jerusalem, Israel, July, 1979).

The Gifted and Talented Enquirer, N.J. Department of Education, 1979.

"The Gifted - also Neglected?," New York Times, Nov., 1977.

"Beyond the Classroom: Programs for the Gifted and Talented - An Approach to Gifted Education," New Jersey Education Association Review, Apr., 1978 (with Ted Gourley).

National Advocacy Forum Report. Sewell, NJ: EIRC, 1979.

Education Articles

"Citizenship Skills for High School Students," Social Studies Review, Jul., 1977.

"Political/Legal Survival Skills for Disaffected Youth," " Just Us, Publication of N.J. Juvenile Task Force, Summer 1977.

Individual Rights: Student Manual, Institute for Political/Legal Education, 1976.

Television Teaching Guides

Teaching Guide for Equal Justice Under Law, film series, revised for the bicentennial of the Constitution, for the United States Supreme Court, (for secondary and college level), 1987.

Waging Peace, discussion guide for Global Papers television series on conflict resolution, produced by WQED, Pittsburgh, 1979; reprinted in Social Education, Apr., 1979.

Teaching Guide for Equal Justice Under Law, film series, sponsored by The Judicial Conference, United States Supreme Court, 1977 (for secondary and college level); reprinted in Media and Methods, 1977.

Law Articles

"Judicial Involvement in Corrections: Recent French reforms," The Journal of the American Judicature Society, May 1975 (with John P. Richert).

"The Impact of the Civil Code of Louisiana Upon the Civil Code of Quebec of 1865," Revue Juridique Themis 1973, No. 3 (with John P. Richert).

"Review of the Growth of Crime," by Sir Leon Radzinowicz and Joan King, Basic Books,

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Among her numerous publications is the widely used *National Report on Identification*, written for the U.S. Department of Education. She has directed a national leadership training institute and is running a clearinghouse of materials out of EIRC.

Dr. Susanne Richert is director of gifted education at New Jersey's Educational Information and Resource Center, which develops gifted programs state wide. Her special areas of expertise include program design and evaluation, curriculum development, and meeting the emotional needs of the gifted.



Now serving on the editorial boards of four gifted publications including *Gifted Children Monthly*, Dr. Richert has been an educational consultant to the U.S. Supreme Court, the U.S. Department of Education, state departments of education in the U.S. and abroad, and to numerous individual school districts.

What You Should Look for in a Gifted Program

I. IDENTIFICATION PROCEDURES: Look for comprehensiveness and equity.

A. Nomination for a Talent Pool:

1. Students are sought in all areas of giftedness in the federal definition: a. general intellectual; b. academic; c. creative; d. visual and performing arts; e. leadership.
2. The talent pool is representative of the entire student population.
3. Tests are used to include, not exclude, students from programs.
4. Information beyond tests is used.
5. Teachers have training in the characteristics of giftedness.

B. Assessment: Matching Needs and Program Options

1. Further information on interests and learning styles is sought.
 2. Data is gathered to match student needs and multiple program options.
- #### C. Evaluation: Improve the Program
1. Data on individual student progress rather than competitive evaluation is gathered.
 2. Students are involved in self-evaluation.

II. PROGRAM DESIGN: How many of these different program options are available to identified gifted students?

- A. The regular classroom provides alternatives to students as part of the regular curriculum
- B. Homogeneous grouping in required or elective subjects
- C. Resource rooms or learning centers in a pull-out option
- D. Access to libraries/laboratories at a higher-level building
- E. Continuous progress in the basic skills
- F. Early entrance to or exit from school, or grade skipping
- G. Mini-courses, seminars
- H. Extracurricular, after school, or Saturday activities that focus on student interests
 - I. Independent study
 - J. Internships/mentorships
 - K. Field trips

L. Counselors with special training dealing with gifted students

III. STAFF TRAINING: Do staff in all program options, including the regular class, have some training in each of these areas of gifted education?

- A. Identification
- B. Academic needs
- C. Emotional needs
- D. Non-competitive evaluation procedures

IV. CURRICULUM: Does the curriculum in each program option, including the regular class, meet more than half of these objectives?

A. Grouping:

At least part of the time do gifted students have time to work together in groups of 2-18?

B. Content or Subject:

At least part of the time is the content modified in one of these three ways?

1. Accelerated—moving more quickly
2. Interdisciplinary
3. Based on individual or group interests

C. Is the emphasis on higher-level thinking rather than just more information?

D. Are children encouraged to apply their learning to create a variety of products rather than just tested?

E. Does the curriculum provide for emotional growth by developing these things?

1. Positive self-concepts, self-acceptance
2. Independence
3. Risk-taking in creative activities or projects
4. Self-evaluation skills

F. Does the curriculum develop decision-making skills?

1. As part of the content of the curriculum
2. In offering students a variety of options at each stage
3. By guaranteeing that students learn the objectives of every class and activity

G. Does the curriculum stimulate both sides of the brain?

1. Does the curriculum develop spacial and visual abilities as well as verbal abilities and calculation?
2. Are intuition, feeling, and imagination as valued as logic, scientific data, and accuracy?

LOW COST, HIGH QUALITY GIFTED PROGRAMS:

Academic Programs for the Gifted with Excellence and Equity

Avoiding pull-out by differentiating required curriculum K-12

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I. BENEFITS OF HIGH QUALITY LOW COST ADMINISTRATIVE DESIGN

- The philosophy is to find students with gifted *potential*, not just academic achievers, and design a program to evoke their potential.
- The cost-effective design using primarily existing staff to teach identified students some required subject areas (instead of hiring enrichment teachers) makes the model pragmatic and inexpensive.
- Trained teachers may also teach "regular" classes using student centered methods which can benefit up to 60% of students.
- The model is adaptable to various kinds of schools and districts because of its extreme flexibility in:
 - the number of subject areas addressed;
 - the range of homogeneous and heterogeneous options;
 - the grade levels served;
 - same-grade or cross-age grouping possibilities;
 - and the number of teachers at each grade level who are trained.
- Avoids various kinds of problems of "pull-out" for administrators, teachers, students, and parents

II. BENEFITS OF EQUITABLE IDENTIFICATION DESIGN

- The identification procedures are research-based, equitable and comprehensive since they are based on *The National Report on Identification* (Richert, 1982, written for the U.S. Dept. of Education), which reports the recommendations of a national panel of experts.
- The design avoids elitism by serving not only achieving and advantaged, but also underachieving, disadvantaged and culturally different students.
- The most innovative aspects of the identification plan are:
 1. the targeted use of the regular classroom curriculum as a procedure for the identification of gifted potential (trained teachers also teach "regular classes")
 2. specific procedures for guaranteeing equity;
 3. detailed prevention of exit procedures;

III. BENEFITS OF CURRICULUM TO MAXIMIZE COGNITIVE, AFFECTIVE AND ETHICAL POTENTIAL

- Resolution of all the problems of pull-out programs cited by research;
- Integration of advanced affective, cognitive, and ethical strategies;
- Avoidance of the elitism and neglect of affective needs in the academic acceleration typically offered elementary and secondary students;
- Provision of differentiation and articulation in several required subject areas;
- Offer the potential of upgrading the curriculum for most students;
- Replacement of, rather than addition to, required skills and content;
- Trained teachers address these objectives 25-75% of the time: high level thinking skills; advanced affective and social skills and shifting the locus of control from the teacher to the students to develop intrinsic motivation and independent learning.

IV. CURRICULUM BENEFITS FOR STUDENTS

- Gives identified students credit for the best work they do;
- Addresses students' affective as well as cognitive needs;
- Serves underachieving and disadvantaged students equitably;
- Offers a minimum of 4.5 hours a week of curriculum differentiation;
- Offers up to 60% of students per grade level instruction by teachers trained in maximizing the cognitive, affective and ethical potential of all students.

V. BENEFITS OF THE STAFF/CURRICULUM DEVELOPMENT DESIGN

- Teachers are offered the equivalent of a graduate course in curriculum for MAXIMIZING THE COGNITIVE, AFFECTIVE AND ETHICAL POTENTIAL OF ALL STUDENTS, followed by at least 4 semi-monthly coaching sessions and problem-solving conferences.
- The approach upgrades professional skills, reinforce innovation among teachers, reinvigorates commitment to teaching, and produces lesson plans or management materials of benefit to all teachers.

1990

Grade

Period

-
- A full-page view of a blank sheet of graph paper. The grid consists of small squares formed by thin black lines. There are approximately 20 columns and 30 rows of squares. A single small mark is visible near the top center of the page.

GIFTED PROGRAM-PROCEDURES FOR PREVENTION OF EXIT

c 1988 E. Susanne Richert

1. Identify the problem

If the teacher, student, parent or administrator, identifies a problem which may be serious enough to lead to possible exit at the end of the year, then before the end of the marking period in which the problem occurs a teacher/student meeting should be scheduled in order to complete an INFORMAL STUDENT IMPROVEMENT PLAN that does not include the involvement of anyone outside of the classroom. [This should not be necessary for more than 1-3 students per marking period.] At this stage, the steps in completing an improvement plan should be followed, except for involving the parent or anyone beyond the classroom.

2. If the problem is consistent, persistent, and serious enough to lead to possible exit at the end of the year, and the student has not responded to the informal class improvement plan, then before the end of the marking period schedule a teacher/student/ parent conference in order to complete a FORMAL STUDENT IMPROVEMENT PLAN. Ideally, regularly scheduled parent conference time should be used.

STEPS COMPLETING AN IMPROVEMENT PLAN[check them off as you complete them]

- a. Offer positive reinforcement for specific performance (class contributions, assignments, creativity, etc.) that is positive.
- b. State that the purpose of the improvement plan is to help the student do even better. Do not threaten exit from the program.
- c. Specify the exact nature of the problem. What has not been done, or what skill has not demonstrated adequately, etc.
- d. Conduct an informal student interest survey to determine how the assignment or skill could incorporate the student's interest.
- e. Ask the student what alternatives he or she might offer for meeting a class requirement.
- f. Offer modification of the assignment which will meet the learning objectives of the assignment, but provide flexibility for a student's learning style and interests.
- g. Ask for suggestions from your peers (teachers) as to how they deal with similar problems.
- h. Define precisely what would be considered adequate improvement [see form.]
- i. Write an improvement plan [see form] with the student if it is an initial problem, with the parent and perhaps the coordinator, if it is a recurrent problem.
- j. Give copies of the plan to the student and the parent.
- k. Offer assistance in meeting the specified goal [see form]
- l. Specify the date by which the goal should be achieved.

SIGNATURE _____ DATE _____

GIFTED PROGRAM---FORMAL STUDENT IMPROVEMENT PLAN

c 1988 E. Susanne Richert

student_____date_____

teacher_____subject_____grade_____

PERFORMANCE/SKILL TO BE DEMONSTRATED_____

STUDENT'S LEARNING STYLE_____

STUDENT'S INTERESTS_____

IMPROVEMENT GOALS (select those which apply)

Completion of assignments (specify which ones):

Meeting criteria for assignments:

assignments:_____

criteria to be met: _____

Improve a skill: _____

Improve a test score by a specific number of points:_____

Other:_____

ASSISTANCE TO BE OFFERED

By

peer:_____

By

teacher:_____

By

parent:_____

DATE FOR REASSESSMENT:_____à

SIGNED BY

student_____date_____

teacher_____date_____

_____date_____

CC.: parent, program coordinator, peer tutor_____

GIFTED PROGRAM---INFORMAL STUDENT IMPROVEMENT PLAN

c 1988 E. Susanne Richert

student_____date_____

teacher_____subject_____grade_____

PERFORMANCE/SKILL TO BE DEMONSTRATED_____

STUDENT'S LEARNING STYLE_____

STUDENT'S INTERESTS_____

IMPROVEMENT GOALS (select those which apply)

Completion of assignments (specify which ones):

Meeting criteria for assignments:

assignments:_____

criteria to be met: _____

Improve a skill: _____

Improve a test score by a specific number of points:_____

Other:_____

ASSISTANCE TO BE OFFERED

By

peer:_____

By

teacher:_____

By

parent:_____

DATE FOR REASSESSMENT:_____

SIGNED BY

student_____date_____

teacher_____date_____

_____date_____

CC.: parent, program coordinator, peer tutor_____

Rampant Problems and Promising Practices in Identification

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National studies such as the Marland (1972) report, the *National Report on Identification* (Richert, Alvino, & McDonnel, 1982) and the Richardson study (Cox, Daniel, & Boston, 1985) reveal major gaps between research and practice in identification of the gifted. One of the participants on the panel of experts for the *National Report on Identification* called problems in identification "an epidemic of errors." Yarborough and Johnson (1983) and others have pointed to the gap between theory and practice. A disturbing trend is the widening of this gap with the proliferation of the following major errors that distort identification:

1. Elitist and distorted definitions of giftedness
2. Confusion about the purpose of identification
3. Violation of education equity
4. Misuse and abuse of tests
5. Cosmetic and distorting use of multiple criteria
6. Exclusive program design

This chapter will analyze these errors and offer recommendations in the following areas:

1. Principles of identification
2. Defensible definitions
3. Appropriate use of test data
 - a. Selection of tests and instruments
 - b. Use of tests with groups disadvantaged in identification
 - c. Using data to identify special populations
4. Appropriate use of data from multiple sources

5. Other procedures and sources of information
 - a. Teacher, parent, and peer nominations
 - b. Self-nominations
 - c. Data on student progress
6. Developmental curriculum
7. Comprehensive low-cost programs

Rampant Problems in Identification of Gifted Students

Elitist and Distorted Definitions of Giftedness

Many districts and states are using elitist definitions of giftedness that include only certain kinds of gifted students, most often those who are white, middle class, and academically achieving. A major purpose of the federally legislated definition was to expand the concept of giftedness beyond IQ (Marland, 1972). Yet in practice, much more limited definitions are applied. Some state or local definitions distort the intention of the federal definition by inappropriately distinguishing between *gifted* and *talented*, creating a hierarchy by using the former for general intellectual ability measured primarily by intelligence tests and the latter for the other gifted abilities referred to in the federal definition: specific academic aptitude, and creative, visual and performing arts, and leadership abilities.

Some state departments of education, that of New York, for example, distort J. S. Renzulli's conception of giftedness as the intersection of above-average ability, creativity, and motivation by designating as *gifted* (and thereby eligible for programs) those students

who demonstrate all three, and as *talented* those students who exhibit only two (New York State Department of Education, n.d., p. 2). Such distinctions ignore the differences between the full manifestations of giftedness studied in adults and the potential of children that gifted programs are designed to develop.

Many distinctions are made among students with gifted potential that are not predictors of adult gifted achievement but are rather indices of present performance on test instruments. It is important to remember that giftedness in test taking is not yet a recognized field of human endeavor to which original contributions can be made. False distinctions between *talented* and *gifted* among children, or designating degrees of *giftedness* ("highly," "severely," "profoundly," or "exotic" gifted) rather than specifying the identification procedures used (high IQ or high achievement) creates implicit hierarchies, engenders elitism within programs, and excludes many students with gifted potential. Such implicit hierarchies ignore the fact that giftedness *emerges*, as Renzulli (1978), Richert (1986), Richert et al. (1982), Tannenbaum (1983), and others assert, through the interaction of innate abilities and learning or experience.

There are a variety of reasons for such elitism. The major bias that impels such practices is the prevalent myth that academic achievement is related to adult giftedness. Repeated studies (Baird, 1982; Holland & Richards, 1965; Hoyt, 1965; Munday & Davis, 1974; Price, Taylor, Richards, & Jacobsen, 1964; Taylor & Ellison, 1967; Taylor, Albo, Holland, & Brandt, 1985) have revealed no correlation, or sometimes a small negative correlation, between academic achievement and grades and adult giftedness in a broad range of fields. This should not be surprising since many of the evaluation criteria for determining grades, such as propensity for convergent thinking, conformity to expectations of teachers or test makers, and meeting externally determined deadlines, are inversely correlated with adult eminence or original contributions to most fields. These studies demonstrate that test scores predict test scores; grades predict grades. Giftedness, or original contribution to

a field, requires nonacademic abilities unrelated or inversely related to school achievement, such as creativity and intrinsic motivation.

Confusion about the Purposes of Identification

There are various kinds of confusion about the purposes of identification. Identification is not, as too many people assume, a mere categorization of gifted abilities already fully manifest. If it were, educational programs would be unnecessary. Identification is actually a needs assessment for the purpose of placing students into educational programs designed to develop their latent potential. Some parents, out of a desire to have their children reaffirm their own self-esteem, want a label for the innate abilities their children inherited from them (see Miller, 1981, *Prisoners of Childhood*, about parents of gifted children using them to meet their narcissistic needs).

Teachers, administrators, and often parents feel that entry into a program for the gifted should be a reward for achievement or "good" behavior, operationally defined as conformity to school or test-maker expectations. Many educators seem to want the identification procedure to reaffirm the values inherent in the school systems to which they have committed their own abilities. This is a distortion of the purpose of programs for the gifted, which are necessary precisely because the standard curriculum rarely maximizes exceptional potential.

Giftedness requires originality, risk taking, and intrinsic motivation. It could well be argued that conformity to school expectations and external rewards such as grades or test scores may inhibit giftedness. Extracurricular activities beyond the required curriculum are therefore probably the best predictors of adult gifted achievement (Goleman, 1984; Guilford, 1977). The only defensible rationale in our democratic society for additional expenditures is student need, not reward for conformity to teacher or test-maker expectations, which is essentially how students become academic achievers.

Violation of Educational Equity

Some gifted students are consistently being screened out by present prevalent practices. In national figures published by the U.S. Department of Education's Office of Civil Rights, minority groups such as blacks, Hispanics, and Native Americans are underrepresented by 30 to 70% in gifted programs (U.S. Department of Education, 1979). These figures are collected each year but are evidently considered so controversial that they have not been published since 1979.

While most states formally subscribe to the comprehensive federal definition of giftedness, in practice many local districts tend to seek—and to find—white, middle-class academic achievers. Measures of academic achievement that are most often used by schools, including teacher recommendations, grades, and most especially standardized tests, have been amply demonstrated to have cultural biases (Black, 1963; Davis, Gardner, & Gardner 1941; Goolsby, 1975; Hoffman, 1962; Kamin, 1974; Klineberg, 1935; Miller 1974; Nairn & Associates, 1980; Samuda 1975).

The *National Report on Identification* (Richert et al., 1982) reveals that measures of academic achievement, which are not very good predictors of adult gifted achievement, are often screening out the following subpopulations:

- Underachieving, learning-disabled, handicapped, and minority students who most need programs to develop their potential
- The most creative and divergent thinkers who, as Torrance (1979) has pointed out, will be excluded by IQ tests

Even if there is cultural homogeneity within a school district, there is always a range of economic differences. A significant finding of the *National Report* is that it is the poor who are most consistently screened out of gifted programs because their disadvantage cuts across every other subpopulation (Richert et al., 1982).

Because one pernicious effect of the "excellence" reforms has been even greater reliance

on standardized tests for assessment, this discrimination has not only persisted but seems to have increased since 1979. This shocking inequity is a problem not only for those excluded from gifted programs but also for those included, since it makes programs vulnerable to charges of elitism.

Misuse and Abuse of Tests

Identification instruments are being misused. The *National Report on Identification* revealed that there are major discrepancies between reported practices and the intended use of various tests and instruments for the five areas of giftedness in the federal definition. Tests are being used in ways that test makers never intended, sometimes to measure abilities that they were not designed to determine. For example, achievement and IQ tests are used almost interchangeably, thereby confusing the categories of specific academic and general intellectual ability. They are also being inappropriately used to identify creativity and leadership (national survey of identification practices reported in *National Report on Identification*, Richert et al., 1982, Chap. 2, pp. 23–39).

Instruments and procedures are being used at inappropriate stages of identification. Instruments and procedures are being used at inappropriate stages of identification. Diagnosis is not the purpose of initial screening procedures. However, the use of diagnostic tests, such as the Stanford Achievement Test (reading and math) and the Woodcock Reading Mastery Tests, for screening is common. Such tests are only useful for determining placement in a particular course or to measure progress once students are placed in a program option (*National Report on Identification*, Richert et al., 1982, pp. 35, 62).

Another problem occurs when data from parents are gathered only *after* students are nominated by teachers or after they qualify for a talent pool through a test score. Under such procedures disadvantaged students have already been screened out. The same error occurs

when teachers assess the creativity or motivation of students only *after* they qualify for a talent pool with a standardized achievement test score, or when individualized IQ tests are given only to students after they qualify through a group IQ test or are referred by teachers. Most of these efforts are merely cosmetic since they often simply reinforce the exclusion of the same disadvantaged groups of students.

Cosmetic and Distorting Use of Multiple Criteria

One of the few apparently positive trends is the collection of data from a variety of sources for identification. Practitioners in many states are typically using test scores (IQ, achievement, or both), teacher observations, and sometimes even parent observations.

The intent of collecting a variety of data may be to make the procedure appear more defensible or more inclusive. However, the data are often misused in several ways: The data may be unreliable, used at an inappropriate stage of identification, weighted in indefensible ways, or invalidly placed in a matrix containing other data.

Unreliable Data. Some data that are not very reliable are collected. In most districts, teachers tend to be involved in identifying students for programs. There is ample evidence from several studies that teachers without training in characteristics of the gifted are often unreliable sources of identification data (Baldwin, 1962; Barbe, 1964; Ciha, Harris, Hoffman, & Potter, 1974; Cornish, 1968; Gear, 1976, 1978; Holland, 1959; Jacobs, 1971; Pegnato & Birch, 1959; Wilson, 1963). Other questionable sources of information include locally designed checklists or observation forms that are not research based.

Inappropriate Combination of Data. The statistically unsound practice of combining data from multiple sources in various matrices or other weighted-scoring procedures, which may obscure a variety of important indicators of potential, was strongly criticized by a national panel of experts (Richert et al., 1982).

While the combination of creativity, productivity, and task commitment are indisputable requisites for manifestations of adult giftedness, the relative importance and the developmental patterns of each of these in children has not yet been demonstrated. Adding the results of various procedures or measures is also questionable since it is the statistical equivalent of adding apples and oranges. The range, standard deviations, reliability, and construct and content validity of different measures, whether formal or informal, are not necessarily equivalent, and simply adding the various scores together or arbitrarily determining weightings is highly problematic (Richert et al., 1982).

Furthermore, combining data inappropriately also tends to identify jacks-of-all-trades, or students who develop ability, creativity, and motivation concurrently, but may eliminate the "masters of some," who especially need a gifted program to develop their potential, for example:

- Students with a very high IQ who may be underachieving in school because of the extreme inappropriateness of the regular curriculum and therefore lack teacher or parent nominations
- Exceptionally intellectually creative students, who are often screened out by IQ or achievement measures (Torrance 1979)
- Creative students who are independent, rebellious, and nonconforming, who tend not to get teacher or even parent recommendations

Furthermore, most of the identification procedures used, such as standardized tests, teacher recommendations, and grades (often used for such secondary program options as honors, AP, or accelerated courses), are really measures of conformity to middle-class academic values and achievement. The national survey of practices reported in the *National Report on Identification* (Richert et al., Chap. 2) revealed that even when multiple measures are used, standardized test scores tend to be given disproportionate weight. The more measures that are used and *combined* inappropriately, the more likely it becomes that disadvantaged students (poor, minority, creative, and others who tend to be underachievers in

schools) will be excluded. Therefore, the use of multiple measures, which merely reinforce a narrow concept of giftedness, may create the appearance of inclusiveness but can actually exacerbate elitism in identification.

Exclusive Program Design

Because of the limited resources, there have been several counterproductive trends among theoreticians and groups vying for services. Parents whose children are being served through present identification practices defend the status quo because they fear their children will be excluded if other groups, such as the disadvantaged, are included. Many administrators argue that because of limited resources only small numbers of students can be served, with the result that the same white middle-class students are identified.

One unfortunate outcome of educational reforms trying to foster "excellence" has been the reinforcement of elitist programs that serve as few as 2 to 5% of students. Program models that delineate a hierarchical pattern (*pyramids or ladders*), rather than an egalitarian model that simply acknowledges various kinds of gifted potential that may require different programmatic provisions, create unnecessary forms of elitism. No one knows how many students have gifted potential, since no one has made an effort to elicit giftedness from all students. Luis Machado, Minister for the Development of Intelligence in Venezuela, comes close to attempting to do so. Machado (1980) has embarked on an ambitious venture to develop maximum intellectual potential in *all* segments of Venezuelan society. While programs for the gifted, by definition, cannot serve all children, serving fewer than 25% of students will exclude too many students with gifted potential.

Although many states and districts use broad written definitions, in practice primarily students with a single pattern of manifestation of giftedness are served, that is, high-achieving, conforming students. In addition, considerable effort by writers in the field is being expended in debates as to which are the single best program models, rather than in the

development of practical inexpensive program models that could serve more students.

Promising Practices in Identification

Principles of Identification

Principles for assessing identification procedures emerged through the deliberations of the national panel of experts that met as part of the *National Report on Identification* (Richert et al., 1982). They should be heeded by practitioners. They are as follows:

1. *Defensibility.* Procedures should be based on the best available research and recommendations.
2. *Advocacy.* Identification should be designed in the best interests of all students. Students should not be harmed by procedures.
3. *Equity:*
 - Procedures should guarantee that no one is overlooked.
 - The civil rights of students should be protected.
 - Strategies should be specified for identifying the disadvantaged gifted.
 - Cutoff scores should be avoided since they are the most common way that disadvantaged students are discriminated against. (High scores should be used to include students, but if students meet other criteria, through self or parent nominations, for example, then a lower test score should not be used to exclude them.)
4. *Pluralism.* The broadest defensible definition of giftedness should be used.
5. *Comprehensiveness.* As many gifted learners as possible should be identified and served.
6. *Pragmatism.* Whenever possible, procedures should allow for the modification and use of instruments and resources on hand.

Defensible Definitions

The *National Report on Identification* (Richert et al., 1982) analyzed a strong trend in the United States toward a broadening of definitions over the last century to include multiple

abilities and factors of giftedness. A few of the contributors to that direction have been Guilford in his multifactorial structure of intellect model (1977), Torrance (1964) in creativity, Renzulli (1978) in elaborating some of the motivational factors in giftedness, Tannenbaum (1983) in stressing the nonintellectual and experiential variables in manifestations of giftedness, Roeper (1982) in suggesting that it might be necessary to develop a concept of *emotional giftedness* and Piechowski and Colangelo's (1984) elaboration of Dabrowski's conceptualization of a developmental potential intrinsic to giftedness.

In the area of cognitive science, the publications of Gardner (1983; see Chapter 5) and Sternberg (1985; see Chapter 4), as well as the special issue of the *Roeper Review* (Silverman, 1986b), emphasize the recognition of diverse, discrete cognitive abilities in the identification of giftedness. In addition, I have argued for a comprehensive and pluralistic definition that not only acknowledges the existence of various exceptional abilities but is ethical in that it will not harm or limit the potential of exceptional students (Richert, 1986, 1987). Definitions used should not harm students. Students who are labeled *gifted* resent the label with good reason (Colangelo & Brower, 1987; Kerr, Colangelo, & Gaeth, 1988). Often, inappropriate expectations for consistently high academic performance are projected onto identified students by educators or parents. It is much more defensible, in terms of the research, and more acceptable, in terms of students' self-concepts, to view the identification process as a *needs assessment* that targets untapped gifted potential. Districts should use broad, pluralistic definitions, such as the federally legislated definition that includes diverse abilities. Such definitions may identify up to 25% of the students as requiring a program to help develop their diverse gifted potentials.

Appropriate Use of Test Data

Selection of Tests and Instruments. The misuse of tests can be avoided by considering the cautions and recommendations of the panel of experts for *The National Report* (Richert et

al., 1982), which are summarized on the list of tests and recommendation for use in Table 7.1.

The list indicates the appropriateness of tests for different abilities, populations, and stages of identification. Practitioners should follow these precautions in the use of tests:

1. Select different measures and procedures to identify each diverse gifted ability.
2. Address these issues before using any test:
 - Is the test appropriate for the ability being sought?
 - Is the test being used at the appropriate stage of identification (i.e., nomination into a broad talent pool; assessment for a specific program option; evaluation within a program)?
 - Is the test appropriate for any disadvantaged subpopulations in the district that are typically discriminated against in measures of academic achievement (i.e., poor, minority, creative, underachieving, etc.)?

Equitable Procedures for Identifying Groups Disadvantaged in Identification

Avoiding Discrimination. Discrimination against disadvantaged students should be assiduously guarded against both for the purpose of equity and to avoid charges of elitism. The special procedures described below are required in order to find students with gifted potential among the social groups that are most disadvantaged in an identification process that relies heavily on measures of academic achievement (such as teacher recommendations, grades, or standardized tests), particularly such groups as:

- The poor (students meeting federal standards for qualifying for free or reduced-price lunch)
- Minority races or cultures
- Students with minimal proficiency in English
- Males (when identifying verbal ability below the fifth grade)
- Females (when identifying mathematical ability)

Regardless of students' social background, special efforts are necessary to identify these students with gifted potential who also tend to be excluded from programs that rely primarily on measures of academic achievement:

- The intellectually creative
- The academically underachieving
- The handicapped or learning disabled

Equitable Use of Academic Achievement Data. If in using actual test data or teacher recommendations to identify students, the outcome is more than a 5 to 10% underrepresentation of any individual subpopulation (the poor, minority races or cultures, students with minimal proficiency in English, males or females) within a school district, then the following procedures guaranteeing equity should be used.

When selecting standardized tests, only those tests deemed appropriate by the national panel of experts for disadvantaged students should be considered. *The National Report* (Richert et al., 1982) lists more than 12 tests that have been assessed as appropriate for the subpopulations in various school districts. These are indicated on the list of instruments in Table 7.1. If a school district is not already using an approved test, there are several problems in selecting different tests for various populations. It is certainly a more costly and complicated choice than using existing test data. Questions may also be raised as to whether the instruments are measuring the same abilities or whether comparisons across tests are valid.

If a district is using a test that is not approved for one of its disadvantaged subpopulations, the most practical approach is to use existing test data but to renorm it to overcome test bias. In a procedure approved by the U.S. Office of Civil Rights, the scores may be disaggregated (i.e., broken down) by various populations in order to factor out the inherent bias in most standardized tests (Angoff, 1971; Hansen, Hurwitz, & Madow, 1953; Sudman 1976; Wood & Talmadge, 1976). Renorming allows the selection of the same percentage of students from each subpopulation to ensure equal representation from each group. The purpose of renorming is, however, not merely to achieve

equity. Rather than relying solely on school achievement, which is skewed by social and economic environmental differences, the major objective of renorming is to identify inherent and latent gifted potential in all populations.

These are the steps for renorming test scores or teacher nominations.

1. Determine whether the existing procedure underidentifies any of the disadvantaged subpopulation in the district by more than 5 to 10% to determine whether the following steps should be taken.
2. Determine the percentage of students that will be identified for each program option. (For example, a district may chose to select 25% of its students for program options in mathematics and reading in grades K-6.)
3. Disaggregate the scores. Determine in which of these categories students belong:
 - Economic:
 - Disadvantaged (use federal guidelines for free or reduced-price lunch)
 - Advantaged (not needing free or reduced-price lunch)
 - Races or cultures:
 - Black
 - White
 - Hispanic
 - Other
 - Sex:
 - Male
 - Female
4. Rank-order the disaggregated scores from the various populations *within* each group.
5. The same percentage of the top-scoring students from *each* subpopulation as from among advantaged students is selected. If the district has resources for serving, for example, 25% of its students grades K-8 in homogeneously grouped classes in reading, then based on achievement subtest scores in reading, the top 25% of the white students, top 25% of the black students, top 25% of the Hispanic students, top 25% of the boys, and top 25% of the girls should be selected for services. Students will, of course, fall into several categories (economic, social, sex), but a balance can be worked out so that the outcome is a group representative of the district's entire school population.

Table 7.1
Alphabetical Listing of Instruments and Recommendations for Use

INSTRUMENT	CATEGORY					POPULATION			AGE		ID STAGE
	General Intellectual	Specific Academic	Creativity	Leadership	Visual and Performing Arts	Disadvantaged	Early Childhood	Grades 4-8	High School to Adult	K-12	
ASSETS	•	•	•			•	•	•	•	•	
Barron-Welsh Art Scale				•	•		•	•	•	•	
Biographical Inventory-Form U		•	•	•	•		•	•	•	•	
California Achievement Tests		•			•			•	•	•	
California Psychology Inventory					•		•			•	
Cartoon Conservation Scales	•				•	•	•			•	
Cattell Culture Fair Intelligence Series	•				•	•	•		•	•	
CIRCUS	•	•			•	•				•	
Cognitive Abilities Test	•				•	•	•			•	
Columbia Mental Maturity Scale	•				•	•	•			•	
Comprehensive Tests of Basic Skills		•			•			•	•	•	
Cornell Critical Thinking Tests					•		•			•	•
Creativity Assessment Packet			•			•	•			•	
Creativity Tests for Children			•		•		•	•		•	
Design Judgment Test				•	•		•	•		•	
Differential Aptitude Tests	•	•			•	•	•			•	•
Early School Personality Questionnaire					•	•	•			•	
Gifted and Talented Screening Form	•	•	•	•	•		•	•		•	
Goodenough-Harris Drawing Test	•				•	•	•			•	
Group Inventory for Finding Creative Talent (GIFT)		•			•	•	•			•	•
Group Inventory for Finding Interests (GIFFI)		•			•		•			•	
Guilford-Holley I Inventory					•		•			•	
Guilford-Zimmerman Aptitude Survey	•						•			•	
Henmon-Nelson Tests of Mental Ability	•	•			•			•	•	•	
High School Personality Questionnaire					•		•	•		•	
Horn Art Aptitude Inventory				•	•	•	•			•	
Iowa Tests of Basic Skills		•			•	•	•	•		•	•
Kaufman-ABC	•	•			•	•	•			•	•
Khatena-Torrance Creative Perception Inventory			•			•	•	•		•	•
Large-Thorndike Intelligence Tests	•				•	•	•	•		•	
Maier Art Judgment Tests				•	•		•	•		•	
Metropolitan Achievement Tests		•			•					•	•
Multidimensional Screening Device	•	•	•	•	•					•	
Musical Aptitude Profile				•	•	•	•	•		•	•
Oris-Lennon Mental Ability Test	•				•					•	•

If data from teachers do not differ markedly from test scores, rather than offering complementary information, such data may have a similar bias. In that case, data from teachers may be renormed in the same manner. The

scores from teacher nomination forms can be disaggregated and ranked within each of the various subpopulations, and a fixed top percentage from within, rather than across, each subpopulation may be selected.

INSTRUMENT	CATEGORY				POPULATION		AGE		ID STAGE
	General Intellectual	Specific Academic	Creativity	Leadership	Visual and Performing Arts	Disadvantaged	Early Childhood	Grades 4-8	
Peabody Individual Achievement Test		•			•			•	
Pennsylvania Assessment of Creative Tendency		•			•		•	•	
Piers-Harris Children's Self-Concept Scale					•		•	•	
Preschool Talent Checklist	•	•	•	•	•			•	
Primary Measure of Music Audiation				•	•	•		•	
Progressive Matrices—Advanced	•				•		•	•	
Progressive Matrices—Standard	•				•			•	
Remote Associates Test				•		•		•	•
Ross Test of Higher Cognitive Processes	•				•		•		•
Scales for Rating Behavioral Characteristics of Superior Students	•		•	•	•			•	
Seashore Measures of Musical Talents				•	•	•		•	
The Self-Concept and Motivation Inventory (SCAMMI)					•	•	•		•
Sequential Tests of Educational Progress (STEP)		•			•	•	•		•
Short Form Test of Academic Aptitude	•	•			•	•	•	•	
Slosson Intelligence Test	•				•	•	•	•	
SOI Gifted Screening Form		•	•		•	•	•	•	•
SOI Learning Abilities Test		•	•		•	•	•	•	•
SRA Achievement Series		•			•		•	•	•
Stallings' Environmentally Based Screen	•				•	•		•	
Stanford Achievement Test		•			•	•	•	•	•
Stanford-Binet Intelligence Scale	•				•	•	•	•	
System of Multicultural Pluralistic Assessment (SOMPA)	•				•	•			•
Tennessee Self-Concept Scale					•		•		•
Test of Creative Potential			•		•	•	•		•
Tests of Achievement and Proficiency		•			•			•	•
Torrance Test of Creative Thinking—Verbal			•		•	•			
Torrance Test of Creative Thinking			•		•		•	•	•
Torrance Test of Creative Thinking—Figural							•	•	•
Vane Kindergarten Test	•	•			•			•	•
Watson-Glaser Critical Thinking Appraisal	•				•	•	•		•
Wechsler Intelligence Scale for Children Revised (WISC-R)	•				•	•	•		•
Wechsler Preschool and Primary Scale of Intelligence	•				•			•	

Alternative Test Procedures for Learning-Disabled or Handicapped Students. Tests that are not affected by specific handicapping conditions should be used to assess the exceptional potential of learning-

disabled and handicapped students. These students may also be identified by using non-standardized data, such as parent, self, or teacher nominations.

Appropriate Use of Multiple Sources of Data

Recent work in the field of cognitive science, as reviewed above in the discussion of defensible definitions, presents a very strong case for multiple and discrete kinds of intelligence (rather than single-factored intelligence), each of which requires different assessment measures.

Precautions should be taken when using data from various measures. Districts should not add apples and oranges when collecting formal and informal data. The purpose of using data from different sources is *not to validate or confirm* one source with another (parent nomination and teacher nomination, or IQ and achievement test scores, for example). The goal is to have a variety of measures *complement each other* in order to find diverse indicators of potential that a single measure cannot reflect.

Data from different sources should be used *independently*, and each source should be sufficient to include a student in a program. High scores should be used only to *include* students. *Cutoff scores should not be used* since they tend to exclude creative, underachieving, and disadvantaged students. Intellectually creative or disadvantaged students should not be excluded from a program solely on the basis of a test score if there are other indicators of exceptional potential, such as teacher, parent, or self-nominations. In other words, a high score on a nonstandardized measure or a standardized test should be enough to offer entry into a program for at least 1 year. Students should be able to qualify for a program by scoring high on *any* of several measures, rather than on most or all.

Other Procedures and Sources of Information

Data from Parents, Teachers, and Peers. Checklists and other informal data from parents, teachers, and peers should be used appropriately to *complement* rather than confirm tests or other data about school achievement at appropriate stages of an ongoing assessment. They are especially important to ensure identification of the disadvantaged

populations cited above. At the primary (K-3) level, parents are good sources of information about a child's strengths and intrinsic motivation demonstrated by extracurricular activities outside school. At all grade levels, teachers *trained* in negative characteristics of the gifted are particularly good sources of observations about creative behaviors. A list of some negative characteristics associated with high levels of creativity, critical thinking, or intrinsic motivation is presented in Table 7.2. Without such training, data from teachers may offer information even less useful than a standardized test (Gear, 1976, 1978). Checklists provide opportunities for seeking information about students' activities beyond the required curriculum.

Peer nominations are useful especially to find leadership potential, for it is from peers that leaders emerge and by peers that leaders must first be recognized. Peer nominations also have some utility in the area of creativity, since peers have a good basis for judging the exceptionality, imaginativeness, and uniqueness of a fellow student's ideas.

The panelists for the National Report (Richert et al., 1982) stressed that the following standards should be used for such instruments:

- Characteristics listed should be *research based*, not just the product of a well-intentioned local committee (several are included in Chapter 6 of the *National Report*).
- The list should include negative or unexpected characteristics indicated by the research.
- Teachers using such instruments must be *trained* to observe especially the negative behaviors.

In addition, nomination forms should produce different scores for diverse abilities. For example, a minimum requirement would be for teacher observation checklists to evaluate both specific academic abilities that the program addresses and intellectual creativity. Because achievement and IQ tests tend to screen out the most creative students and teachers often have biases against the nonconforming student, nominations for creativity are especially cru-

Table 7.2
Characteristics of the Gifted That Tend to Screen Them Out of Programs

BEHAVIORS	ASSOCIATED WITH:
Bored with routine tasks, refuses to do rote homework. Not interest in details; hands in messy work. Makes jokes or puns at inappropriate times.	CREATIVITY • High tolerance of ambiguity • Independent, divergent thinking • Risk taking • Imaginative, sensitive
Refuses to accept authority; nonconforming, stubborn. Difficult to get her to move onto another topic.	MOTIVATION • Persistence in interest areas • Intensity of feelings and values • Independence
Emotionally sensitive—may overreact, get angry easily, or be ready to cry if things go wrong.	
Tends to dominate others. Often disagrees vocally with others or with the teacher about ideas or values.	CRITICAL THINKING • Sees discrepancies between real/ideal truth/expression • Sets high standards • Capable of analysis and evaluation
Is self-critical, impatient with failures. Is critical of others, of the teachers.	

cial. With the exception of the Torrance Tests of Creative Thinking (the Figural version is especially useful with all populations including the disadvantaged) (Torrance & Ball, 1984) and the Structure of the Intellect—Learning Abilities test (Meeker, Meeker, & Roid, 1985), there are very few readily available standardized tests that will elicit scores in creativity.

Self-Nominations. Starting at about grade 4, self-nominations have been used very successfully in many programs. Students are informed about the curriculum and objectives or invited to visit various program options. They apply for those that interest them. This method taps into the intrinsic motivation and intense interests of the gifted. Table 7.3 includes an interview protocol for self-nominations. Table

7.4 is a form for assessing interviews in terms of student motivation, interests, creativity, and quality of efforts beyond the required curriculum.

Use of Data on Student Progress. The last stage of identification is evaluation. If a program for the gifted offers effective, trained staff, an appropriate curriculum, and enough time within each program option, then identification should be not only an ongoing process. Students should be assessed annually to determine *not* whether they are “gifted,” but whether they should remain in a particular program option or would be better served in another option or in the regular classroom. The same data being gathered to evaluate individual students may be used in aggregate for program evaluation and improvement.

Table 7.3
Interview Protocol for Self-Nominations

1. On what do you spend most of your time outside school when you can choose the activity?
2. How much time do you spend on this activity or interest?
3. From whom or where did you learn about this activity or interest?
4. What have you done or produced as a result of your interest?
5. How would you evaluate the quality, effectiveness, or originality of your achievement?
6. What more would you like to know about your interest?
7. Would you like to talk with people who are experts on your interest, or read more about it?
8. If you had help in getting the information, materials or contacting experts, would you want to prepare a project, paper, model, slide tape, talk, artwork, and so on, or use your new information for some real problem you or someone else wants to solve?
9. What problems have you had in trying to study or work independently? In using your time? In finding information? In completing your project?
10. Would you like help in improving in these areas?

Richert et al. (1982) and Hagen (in an interview by Silverman, 1986a), among others, point out that criteria used to place students into programs are not necessarily appropriate for exiting them. The real challenge in evaluating student progress in a program for the gifted is the development of standards for evaluation that correlate with adult original contributions to a field, so that the present low or inverse correlation between school performance and later original contributions will be

defeated and more students will be able to develop their gifted potential. Data on student progress in a program option (related to the program's curriculum objectives, which should be designed to develop not only higher level cognitive abilities, both creative and critical-thinking, but also higher level emotional and ethical potential), rather than any changes in standardized test scores that may have provided students entry into the program, should determine whether a student continues in the

Table 7.4
Assessment of Interview

	<i>Not at All</i>	<i>Somewhat</i>	<i>To a Great Degree</i>
1. Does the student initiate his or her own activities?			
2. Is the student's interest intense enough so he or she has sought or will seek to learn more?			
3. Does the student show motivation to apply what he or she may learn to produce something?			
4. Does the student indicate commitment to use his or her abilities and be productive?			
5. Do activities, products, or achievements indicate an original or creative approach?			
6. Does the student have problems in initiating or completing independent activity?			
7. Are there areas such as time management that require attention?			
8. Does the student need assistance in developing research skills?			

program each year. (See Richert, 1986, for analysis of the higher levels of cognitive, affective, and ethical taxonomies appropriate for curriculum objectives.)

The few standardized tests appropriate at this stage are specified in the "Evaluation" column on the list of test instruments included in Table 7.1. These tests may provide some assessment of progress in critical thinking. However, teacher, self, and peer *product and process evaluations* are very useful indicators of progress. Product evaluations should include assessments of higher level cognitive skills such as creativity, complexity, and pragmatism (does it work?) as well as critical thinking. Process evaluation by self and teacher should address, in addition to cognitive skills used, higher level affective and social skills such as independence, intrinsic motivation, risk taking, persistence, decision making, cooperation, and so forth. Process and product evaluation may be carried out through the use of various criterion-referenced scales and checklists that address the goals of the program. Many have been collected in an evaluation handbook (Richert, 1978).

Developmental Curriculum

Elsewhere, I point out that the regular classroom is a *de facto* identification procedure (Richert, 1987). If the regular classroom develops only those abilities that can be measured by tests or recognized by teachers, then many underachieving or disadvantaged students will be missed in identification. If, however, the regular class does indeed develop higher level cognitive and affective abilities, then it can offer what may be called a *developmental curriculum* that can evoke gifted potential (Richert, 1987). The long-range educational goal of all districts should be to train all teachers in methods that maximize the potential of all students. Then whatever their background, characteristics, or diverse potential, students could be identified because their abilities would become manifest. Another immeasurable benefit of this approach would be the improvement of the quality of education for all students. This is one of the ways that the goal of Machado (1980), to develop maximum intel-

lectual potential in all segments of Venezuelan society, could be applied in our society.

Comprehensive Low-Cost Programs

Because of the inevitable competition for resources, an inexpensive program design is necessary to serve the 20 to 25% of students with gifted potential who require programs to develop their abilities. A crucial advocacy issue to consider is that identifying much fewer than 20% of students will tend to polarize parents of high-achieving students and disadvantaged or minority parents in the competition for places in a program. In order to develop a high-quality program that can serve the diverse needs of up to 25 or even 30% of a student population, I have recommended a five-step plan for modifying a diversity of existing district resources (including homogeneous grouping in required subject areas, the regular classroom, cocurricular activities, and electives, among many others; Richert, 1985a, b, c). Two of the most crucial steps in this approach are equitable identification and intensive staff development for those faculty who will be teaching the various program options. Without a pragmatic and comprehensive program design, broad-based and equitable identification cannot be carried out.

Conclusion

Pluralism, or the celebration of diversity, as Alexis de Tocqueville observed, is the hallmark of American democracy. Rather than developing identification procedures and programs that are elitist and exclusive, programs for the gifted should reflect American pluralism. Educators should also adopt the Hippocratic injunction to "do no harm" by avoiding errors and distortions that exclude some students from programs that they need or impose impossible expectations on students. Programs for students with gifted potential can be defensible and equitable if the following practices are followed:

- Adoption of a comprehensive and pluralistic definition that includes diverse abilities and emphasizes potential rather than labeling

- Recognition that the purpose of identification and programmatic provisions for the gifted is not to label or to reward achievement or conformity to school expectations, but to find and develop exceptional potential
- Use of data about cognitive (especially creative) and noncognitive abilities from various sources beyond academic achievement to identify diverse, discrete gifted abilities
- Appropriate assessment of data from multiple sources
- Equitable use of academic achievement data by renorming test scores to overcome bias against various disadvantaged groups, particularly the poor and minority groups
- Identification of up to 25% of a district's population so that if errors are made they are errors of inclusion rather than exclusion
- Development of cost-effective multiple program options to serve the diverse needs of a heterogeneous gifted population
- Funding of appropriate staff development

This pluralistic approach incorporates the expanding conceptualizations of giftedness and provides equitable, comprehensive, defensible, and pragmatic identification procedures and programs that can serve the needs of both students and our society.

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CHAPTER 10

**Patterns of Underachievement
Among Gifted Students**

E. Susanne Richert

In every cry of every man,
In every infant's cry of fear,
In every voice in every ban,
The mind-forg'd manacles I hear.
William Blake, *London* (1794/1968)

A review of research reveals five major issues in defining underachievement among gifted students:

1. *Confusion about the definition of underachievement.* As Dowdall and Colangelo (1982) have pointed out, definitions of underachievement vary and conflict. Most definitions of underachievement among the gifted do have the common factor of assuming that there is a discrepancy

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1. *Confusion about the definition of underachievement.* As Dowdall and Colangelo (1982) have pointed out, definitions of underachievement vary and conflict. Most definitions of underachievement among the gifted do have the common factor of assuming that there is a discrepancy between potential ability and demonstrated achievement.
2. *Confusion about what constitutes gifted potential.* In the literature on gifted underachievers, potential is defined in a variety of ways, but most often it is related to IQ. Almost invariably, underachievement is defined in terms of *academic* achievement and is measured either by a standardized achievement test, grades, or meeting specific teacher expectations.
3. *Absence of clear distinctions between academic and gifted achievement.*

versely correlated with adult eminence or original contributions in virtually all fields. Therefore, research does not support either the use of academic achievement to measure *gifted underachievement*, or the use of academic underachievement to predict giftedness in adults. These are my conclusions, but the debate on this issue is far from over.

4. *Underestimation of the amount and degree of underachievement among students with gifted potential.* At least 50% of students identified through IQ have been designated as academic underachievers (Gowan, 1957; National Commission on Excellence in Education, 1984; Raph, Goldberg, & Passow, 1966; Terman & Oden, 1947). Yet the 50% figure does not include underachievement among students who were not identified because IQ was used.
5. *Development of counterproductive curriculum objectives for gifted underachievers.* There exists confusion between definitions of gifted and academic underachievement. It is highly questionable whether the goal for "underachieving" gifted students *should* be primarily academic achievement and higher standardized test scores. The bias that drives such goals has been the pervasive myth that academic achievement is always the path to adult giftedness.

DEFINING MAXIMUM GIFTED POTENTIAL

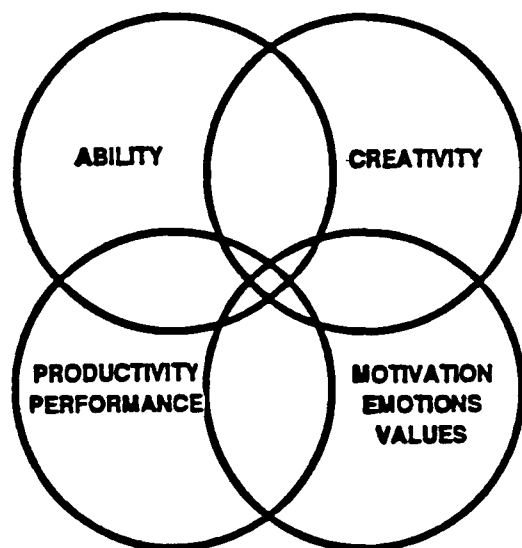
Aspects of Gifted Potential

Gifted potential is not a single-dimensional intellectual phenomenon, but a complex ability that emerges from the interaction of innate potential, learning, and experience. As Hollingworth (1926), Renzulli (1978), Tannenbaum (1983), Terman and Oden (1947), and I (Richert, 1982a), along with many others, have stated, nonintellectual factors are necessary variables in gifted achievement, for which I will use the operational definition, *original contribution to a field*.

Figure 10.1 is a schematic depicting the four aspects of gifted potential necessary for the manifestation of giftedness, or original contribution to a field.¹ The first circle illustrates the capacities/skills necessary for the specific kind of giftedness the individual possesses. These types of giftedness may be categorized into the seven "intelligences" defined by

1. Renzulli (1978) uses a three-ring schematic but does not define each of the circles, or their interrelationship, the same way, nor does he distinguish between the manifestation of giftedness in adults and the gifted potential evident in children, who do not necessarily develop all the requisite abilities concurrently.

Figure 10.1 Maximum Human Potential



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Gardner (1983), the three areas Sternberg uses (1985), any of the six areas in the federal definition, or any human ability (Renzulli, 1978; Richert, 1986).

The second circle refers to products or performance as the visible, concrete, or measurable manifestations of giftedness—the solution, product, or performance itself. Renzulli (1978), Tannenbaum (1983), and I as well as others (Richert, 1987, 1991; Richert, Alvino, & McDonnel, 1982) stress the importance of the application of the abilities to specific products, if only to have an observable manifestation of giftedness.

The third circle refers to the criteria for creativity that are used in any society or historical period to assess a product, performance, or solution as original. Creativity, as Torrance (1964, 1972, 1979) and Renzulli (1978), among many others, have insisted, is absolutely necessary for gifted achievement.

The fourth circle depicts the emotional and ethical components of giftedness, which provide the energy to develop an individual's potential giftedness. Without this motivation, neither high achievement nor IQ scores by themselves can guarantee that someone will make an original contribution to any field.

As Gardner (1983) and Sternberg (1985) have emphasized, there is a big difference between school- or test-measured "intelligence" and pragmatic, real-life, or gifted "intelligence." Creative artists and writers who have made the greatest breakthroughs rarely received the approval of either their teachers or the art or literary critics of their time. Yet the majority of the literature on underachieving gifted students deals only with ability as measured by tests (achievement or IQ) or productivity as assessed by indicators of academic achievement such as grades, test scores, and teacher evaluations.

Characteristics of Maximum Human Development

The diverse views of writers who represent Eastern as well as Western philosophical and psychological perspectives were analyzed to formulate a comprehensive conceptualization of the characteristics of maximum intellectual, creative, emotional, and ethical potential. Summarized in Table 10.1 are the seven salient characteristics of maximum intellectual, creative, productive, physical, emotional, ethical, and spiritual development conceptualized by these writers. These characteristics address the immediate needs and the major developmental tasks of all adolescents, particularly those with gifted potential.

Defining Underachievement Among Students with Gifted Potential

For the purposes of helping the gifted achieve their maximum intellectual, productive, creative, emotional, and ethical potential, the three following factors should be emphasized in defining gifted underachievement:

1. Achievement among gifted students must be defined as the developing of *all* the four aspects of giftedness depicted in Figure 10.1.
2. Underachievement among gifted students must be defined as underachievement in *any* of the four areas necessary for the manifestation of giftedness.
3. Underachievement in any of the four areas of gifted potential is significant.

Since one of the primary psychological tasks of adolescence is development of self-concept and socialization, emotional, ethical, and social development should take precedence over academic achievement.

There are three major advantages to using this conceptualization of underachievement among the gifted. First, this approach provides a

Table 10.1 Survey of Salient Characteristics of Maximum Human Potential

AREA OF POTENTIAL DEVELOPMENT	SOURCE	Dahrowski (1967)	Frankl (1980)	Fromm (1951)	Govinda (1974)	Jung (1963, 1964)	Kohlberg (1981, 1983)	Kohut (1970)	Krathwohl (1964)	Lao Tzu (1972)	Maslow (1964, 1970)	Miller (1981)	Mookerjee (1982)	Muktananda (1978)	Richert (1986)	Roeper (1982)	Sartre (1967)	Torrance (1979)
INTELLECTUAL (critical thinking)		●	●		●	●	●			●	●		●	●	●	●	●	●
CREATIVE		●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●
PRODUCTIVE						●				●			●	●				●
PHYSICAL, SENSUAL EMOTIONAL		●			●	●	●	●		●	●		●	●	●	●	●	●
Self-initiated productivity; intrinsic motivation		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Self-concept accepts limitations, values strengths		●	●	●	●	●				●	●	●	●	●	●	●	●	●
Self-esteem independent of external judgment		●					●			●	●		●	●	●	●	●	●
Capacity for intimacy and commitment		●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●
Sense of potency/independence from external constraints (internal locus of control)		●	●		●	●	●			●	●	●	●	●	●	●	●	●
Risk taking to develop self or help others		●	●	●	●	●				●	●		●	●	●	●	●	●
Capacity for compassion, empathy		●	●	●	●	●			●	●	●	●	●	●	●	●	●	●
ETHICAL		●	●	●			●		●	●	●		●	●	●	●	●	●
Nonjudgmental, authentic relations with others		●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
Values transcend societal norms		●	●		●		●		●	●	●		●	●	●	●	●	●
Acceptance of consequences of actions		●	●	●	●	●	●			●	●		●	●	●	●	●	●
Actions based on universal ethical or transpersonal (spiritual) principles		●	●	●	●	●	●			●	●		●	●	●	●	●	●
SPIRITUAL		●	●		●	●	●			●	●		●	●	●			●

philosophical foundation that is in the best interests of both students and society. Underachievement must be defined in terms of students' intellectual, ethical, and emotional needs as opposed to evaluation criteria related primarily to academic performance.

Second, the goals and possible errors of identification that may foster underachievement are clarified. Since most identification procedures in the United States rely primarily on measures of academic performance, one of the most crucial problems of gifted underachievers is that they tend *not* to be identified or served in gifted programs and they may never learn what their potential is. The reported 30%-70% underrepresentation of minorities in gifted programs nationally makes it certain that many economically, culturally, or socially disadvantaged students who most need special programs are excluded and may therefore not develop their full potential (Richert, 1987, 1991; Richert et al., 1982). The recommendations in this chapter optimistically assume that equitable identification procedures have been used to identify the gifted, including academic underachievers of all economic and ethnic backgrounds (Richert, 1987, 1991). The goal of identification is to discover students with exceptional ability or potential in any of the four areas depicted in Figure 10.1 since they may *need* learning or experiences that an appropriate curriculum can offer to evoke potential in all four areas. When I use the term *gifted student*, I mean *students with gifted potential*.

Third, this conceptualization can also help in determining curriculum objectives for the gifted. The goal of gifted programs—for both academic achievers and academic underachievers—should be to develop potential in all four areas in Figure 10.1, and the traits listed in Table 10.1, as opposed just to raising test scores or producing teacher-pleasers who get good grades.

PATTERNS OF UNDERACHIEVEMENT AMONG THE GIFTED

Psychologist Abraham Maslow (1970) found very few people who had realized their full intellectual and emotional potential. The psychoanalytical theory of Heinz Kohut (1970) suggests that a significant factor preventing self-actualization may be the lack of "mirroring." Kohut insists that in order to develop their full potential, all children need to have others reflect their best and nonjudgmentally accept their worst. This echoes the views of the gifted poet William Blake, who two hundred years ago blamed "mind-forg'd manacles" as the prime cause of the loss of joy, energy, and creativity.

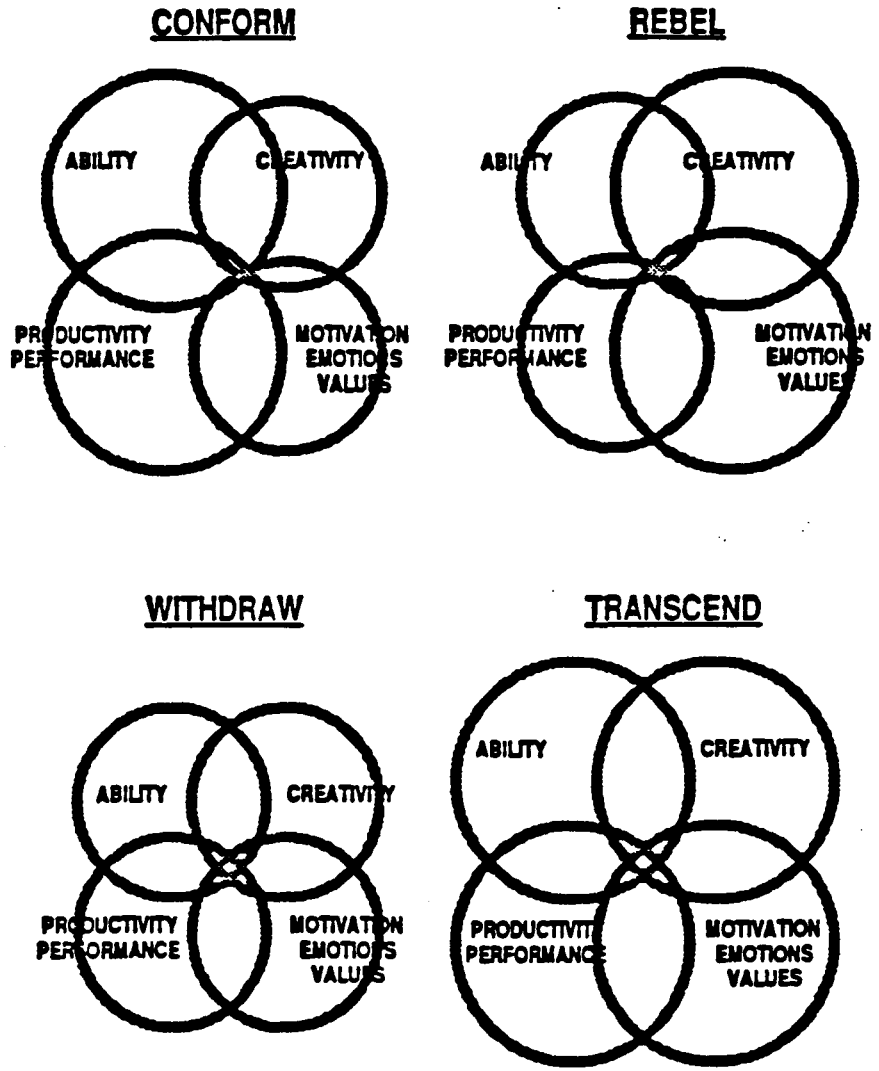
"Mind-forg'd manacles," the acceptance of externally imposed emotional or intellectual expectations, limit everyone's potential. Children, as well as their parents, are pressured to conform to what their parents, teachers, employers, neighbors, spouses, or other children expect of them. For two reasons the gifted, unfortunately, bear a heavier burden. First, the more exceptional the child, the more likely that the expectations will be inaccurate or unfair. Second, because of the prevalent myths concerning the nature of the gifted (e.g., they will always make it on their own; they are excellent students; they are agreeable and charming), formal identification in school may only serve to reinforce distorted self-concepts.

Kohut (1970) and Miller (1981) argue that expectations mold self-concept and influence use of latent cognitive, emotional, and ethical abilities. As Figure 10.2 illustrates, everyone has the choice to accept, reject, transcend, or withdraw from others' expectations, but each of these responses also exacts a distinctive price, either short or long range. None is easy, yet some are more conducive to survival and fulfillment of giftedness. The gifted pay a higher social and personal price than average people. When the gifted blindly conform to external expectations, they lose a great deal of themselves. If they deny their uniqueness, their values, and their needs, the cost is self-alienation and loss of emotional and creative energy. They have a much greater potential to lose than others, if they withdraw from expectations. However, if they overtly reject group norms, their rebellion may be so extreme as to invoke severe penalties.

The gifted—even more than the rest of society—are continually assaulted by the expectations, or mind-forg'd manacles others try to impose on them. Miller's poignant book, *Prisoners of Childhood* (1981), depicts the drama of gifted children imprisoned by their parents' narcissistic ambitions. *Money* magazine had a very powerful article and cover picture showing an adolescent impaled with arrows, representing the pressures to meet the expectations and needs of his parents' self-esteem, the desires of schools to demonstrate "successful" academic programs, and the ambitions of colleges to appear to be the most competitive (Schurenberg, 1989).

There are different patterns of underachievement among males and females (Kerr, 1985; Shaw & McCuen, 1960). While gifted boys seem to start their academic underachievement early, underachievement among gifted girls becomes more prevalent in adolescence. Twice as many males as females underachieve academically in school, but over an individual's lifetime, females as a group are the greater underachievers. Some of these gender differences will be discussed in the description of patterns of response to expectations.

Figure 10.2 Patterns of Achievement and Underachievement in Response to Expectations in Relation to Potential



From my clinical experience with gifted children and adults, including underachievers, I have observed that in response to externally imposed values, they seem to develop one of four survival strategies: accepting others' expectations (conformity); withdrawal from others' expectations; rejecting the expectations of others (rebellion); or transcending others' expectations (independence). From my observations I have developed a model in which each of these strategies is suggestive of a distinctive personality style or tendency, and each fosters or hinders the development of certain aspects of self-concept, social relations, and the emotional impact of experiences. In different contexts with different degrees of demands, the same student may react differently. The more rigid the expectations, the more extreme a student's response is likely to be. Table 10.2 depicts the four possible responses to externally imposed expectations.

Conformity—The Closet Gifted Child

The very existence of norms demonstrates that for the sake of survival, most people—including the gifted—take the path of least resistance and accept what others require of them. Many gifted children *do* accept, conform, and perform. First they learn to please their parents and teachers, then their employers, spouses, and friends. The gifted child's excellent grades, intense competitiveness, and need to excel may be motivated not by confidence, but by insecurity. The unhealthy pattern of narcissism analyzed by Kohut (1970) can make children become dependent on continual external reinforcement of their worth by grades, test scores, parental praise, and friends' admiration. As adults, they can become ambitious workaholics who are never satisfied by their achievements, but continually crave another recognition of their worth: a credential, promotion, raise, publicity, or award. This is hardly surprising since our society encourages people—males in particular—to value themselves according to how many of these external narcissistic status symbols they acquire. Personal relationships of narcissists can also be based solely on expediency (Kohut, 1970; Miller, 1981).

For females in our society, pleasing others—whether teachers, parents, or friends—can become far more important than other measures of achievement. The pressures for both males and females to conform are great. The unquestioning acceptance of conventional academic standards is counseled by many parents and advisors because it offers the most immediate rewards and ostensibly the surest route to success (or yuppieedom) as defined by our culture. Conforming to social expectations is based on denial of individual values, a reluctance to accept mistakes, repression of creativity and independence, and a fear of being

Table 10.2 Patterns of Response to Expectations

Aspects of Potential	Accept		Reject	Transcend
	<i>Conformity</i>	<i>Withdrawal</i>	<i>Rebellion</i>	<i>Maximizing</i>
Ability	Successes satisfy others	Safe mediocrity/ Evades	Failure/Rejects	Satisfies own values
Achievement	Extrinsically motivated	pressure to perform	external expectations	Intrinsically motivated
Productivity				
Values	Based on norms	Evades external	Reacts against	Independent
	Externally dependent	judgment		
Creativity	Repressed	Repressed/ Refuses	Divergent	Creative
	Fear of failure	to take risks	Negative	Risk taker
Self-Esteem	Insecure/Dependent	Follower/Avoids	Dependent/Internalizes	Independent
	on others' perceptions	competition	negative external judgment	Self-accepting
	External locus of control	External locus of control	External locus of control	Internal locus of control
Social Relations	Roles that lead to	Follower/Avoids	Loner or gang leader	Withdraws or takes
	rewards/Pleases others	competition	isolated or domineering	leadership
				May have few friends
Emotional Impact of	Reinforces dependence	Reinforces feeling of	Punishment	Potency: Asserts
Experiences	on external rewards	self-dissatisfaction	Betrayal	control over own life
Vulnerability	and approval	and fear of judgment	Rejection	Compassion
	for self-esteem			

unmasked or rejected. If the traits in Table 10.1 are considered, conformity is a distinctive kind of emotional and ethical underachievement, for which the term "closet" gifted seems most appropriate.

Without the development of creativity, a child can be successful—but not gifted. Yet even more serious than the repression of creativity is the emotional dependence that, in the long run, makes these children insecure and inordinately susceptible to external criticism (Kohut, 1970; Miller, 1981). Some closet gifted children—and adults—can be so devastated by what seems to be the exposure of their true worthlessness, such as getting their first C's or even B's, that they can become self-destructive.

Withdrawal from Competition

Other children accept external standards but—unlike the closet gifted—feel they cannot meet them and withdraw from competition before they can be defeated or rejected. Withdrawn gifted children fear success because it can heighten the pressure to perform. Therefore, they hedge their bets psychologically by avoiding both failure and success. They become so adept at underachievement that they perform and achieve like "average" children and are often not even identified for classes for the gifted. By consistently delivering less of themselves—both personally and academically—these children lower others' expectations so there are fewer public emotional risks.

Some boys respond in this way to external values, especially if they have an older sibling, male or female, who is very successful in school. Withdrawal, however, is probably more typically a feminine response. For females, success in terms of academic, professional, or financial achievement, which males can rely on for self-esteem, can endanger personal relationships. So if girls win in one arena they may lose in another. The value of females and males is still judged differently. Many women fear or avoid professional success because their self-esteem is based on how well they please males in general. Some females still dare not risk the approval of males who are emblems of their value, so they may settle for "safe" mediocrity. This path is the most debilitating and limiting "mind-forg'd manacle."

Rebellion

Some gifted children—frequently those whose thinking is most divergent—respond by totally rejecting any external expectation. They choose to rebel against rules or restrictions they find confining. However, the vociferous assertions of rebels are indications of dependence rather

than independence. Unlike revolutionaries who object to the status quo because they want to establish a superior order, rebels are only reacting against rules or norms. Adults can mistake aggressive protests of teenagers against cleaning rooms, completing homework, or arriving at meals on time as arrogance or self-confidence rather than an insecure ploy to reject others before they are themselves rejected as inadequate.

In counseling sessions, teenage rebels in a half-way house and a youth shelter have revealed to me that while they reject rules, they still believe in the judgments others impose on them. They accept the "mind-forg'd manacles" that label them as "bad" students or children. Since they feel rejected and betrayed, they use their divergent thinking abilities to undermine authority figures and risk the punishment or failure that might result.

In school, if various expressions of creativity—wild ideas, day-dreaming, tolerance of disorder, lateness, sloppiness—are not accepted or are punished, creative children can feel rejected and respond by rebellion. To some exceptionally creative children, being a rebel can become a lifestyle with many more risks than rewards. For other children, this stance will emerge only in very rigid, restrictive situations or in adolescence as they strive to release their uniqueness.

While closet gifted children strive for acceptance by revealing no less than their best and hiding their weaknesses, rebels use the opposite tactic. Presenting their anger, impatience, sloppiness, and selfishness, they calculate that if their worst is accepted, then they are indeed loved unconditionally. They may well be right. However, since few parents or teachers are blessed with infinite patience, it is hardly surprising that this approach is usually counterproductive.

Maximizing Potential

If the gifted are to develop their maximum emotional and ethical, as well as intellectual, potential, the healthiest and most constructive response—according to the sources shown in Table 10.1—is to transcend group expectations and work toward an independent self-concept and values. This approach leads to resilience when one is confronted with the inevitable conflicts with norms and externally imposed limitations. Self-esteem liberated from external approval unleashes potential creativity and energy and allows achievement to be motivated by personal interests and values as opposed to the need for grades, approval, prestige, or money as proof of self-worth.

"Maximizing" behavior may look like that of other personality types. Students may appear to agree or disagree with rules, but the critical issue is *why* they have made that choice. For example, on a typical school

evening, four exceptional children may have to prepare for four tests. The closet gifted child calculates that by spending one hour on each subject, she can pull in four A's. The withdrawn child feels overwhelmed by the task but decides that quick token reviews in all the subjects will suffice to avoid abysmal failure. The rebel argues that four tests are too many anyway, so he risks failure by deciding to spend the evening watching a science fiction movie. The child who is on the road toward self-actualization reasons that by continuing to work on the science project he cares about, he will be preparing for both the science and math tests, but won't have time to review for the English and social studies tests. He also acknowledges that he may perform very well in the first two subjects and less well in the last two. It is only for the latter response to expectations that content, purpose, or intrinsic value of a task is an issue. The other children are merely reacting to expectations.

One of the key indicators of a person who has maximized her potential is the ability to make choices based on personal commitment and to accept the consequences of those decisions (refer to Table 10.1). It is essential for gifted children who have the potential for original contributions to be willing to take two types of risks: incurring the disapproval of others and the risk of failure. Seward, Jefferson, Mahler, van Gogh, and Joyce had to endure the censure of political and artistic critics. Edison failed more than 120 times before he found the right filament for the incandescent light bulb that has become a symbol for original invention. In our schools and institutions failure is an epithet, and mistakes are irrevocably recorded in grades or test scores. The cost of developing creativity can therefore be very high, and the gifted must become strong enough to pay.

APPROACH TO OVERCOMING UNDERACHIEVEMENT

Review of Research

The review of the research on programs for gifted underachievers is not very helpful, particularly in light of the definitions proposed in this chapter. However, the following generalizations about fostering achievement among gifted adolescents may be made:

1. Early intervention is important to prevent increasing gaps between potential and achievement (Shaw & McCuen, 1960).
2. Long-term programs are necessary for changes in achievement (Dowdall & Colangelo, 1982; Gallagher, 1979; Raph, Goldberg, & Passow, 1966).

3. Family members need to be involved in interventions (Dowdall & Colangelo, 1982; Rimm, 1986; Shaw & McCuen, 1960; Whitmore, 1980).
4. Counseling programs without curricular changes are unlikely to boost achievement (Broedel, Olsen, & Proff, 1958).
5. While many writers argue for homogeneous grouping of gifted students to maximize achievement, it is clear that without modifications in curriculum, grouping alone will not make a significant difference (Goldberg, 1959).
6. Strategies of grouping underachievers together may aggravate rather than alleviate the problem (Perkins, 1969). Grouping achievers and underachievers together is more likely to be beneficial for emotional and academic development (implicit in Richert, 1982a, 1982b).
7. Different strategies are required for different forms of underachievement (Richert, 1982a, 1982b; Rimm, 1986; Whitmore, 1980).
8. Equitable identification of gifted potential is necessary to find underachievers, particularly among the economically disadvantaged and various minority groups (Richert, 1982a, 1987, 1991).
9. The first goal of education should be to foster physical survival. Adolescents with gifted potential are under even greater emotional stress than other students (Richert, 1982a, 1982b; Webb, Meckstroth, & Tolan, 1982). While conflicting data exist, the highly gifted and high achievers may well be at even greater risk (Sargent, 1984; Seiden, 1966). Meeting the emotional needs of the gifted should be the first concern of all counseling programs and a primary goal of curriculum for the gifted.
10. The inclusion of emotional and ethical, perhaps even spiritual, development as objectives for gifted underachievers is necessary not only for these children to achieve their potential, but for the protection of society. It is instructive to remember that because of his remorse about inventing dynamite, Nobel created the prizes bearing his name to inspire the gifted to use their abilities for peaceful rather than destructive purposes.
11. Finally, unless programs for the gifted have goals and evaluation criteria that include creativity and maximum emotional and ethical development, the curriculum itself may foster forms of gifted underachievement.

Strategies for Maximizing Potential

I have developed a heuristic model that not only includes the 11 requisites for an effective approach to overcoming underachievement,

but also incorporates the views of many of the sources listed in Table 10.1.² While quantitative data have not yet been gathered for this model, informal responses over a decade (1980-1990) from many groups of parents, counselors, and teachers who deal with gifted adolescents suggest that all three groups are able to identify the different patterns of achievement and that the recommended strategies are specific enough to be practical.

Whatever a child's socially recognized achievements, unless emotional potential is realized, including the understanding and acceptance of self and others, even the gifted will in some ways be underachievers. The approach to developing unachieved potential is to create situations that will counteract inappropriate expectations; make children resilient to external judgments; and evoke children's maximum potential (including special abilities, productivity, creativity, emotions, and values). Six strategies that educators, counselors, parents, and advocates of the gifted can use are depicted in Table 10.3. The effectiveness of specific strategies will vary according to a child's distinctive personality pattern: closet (conforms), withdrawn (avoids competition), rebellious (rejects any rules), or maximizing (determines own values).

Strengthening Self-Concept. A positive or healthy self-concept distinguishes the best and the weakest parts of the self while also accepting the imperfect condition of being human. To strengthen self-concept, nonjudgmental classroom and home environments should be created. Home and classroom rules should reflect the highest level of emotional and ethical development and incorporate the universal injunction, "Thou shalt not judge," in order to provide the experience of "mirroring" that Kohut (1970) argues is a prerequisite for a healthy self-concept. No one—whether child or adult—should be allowed to make judgmental statements, which can be as emotionally destructive as physical abuse. It is the ethical responsibility of authority figures to prevent such emotional abuse.

For the closet or withdrawn gifted child, hidden faults and errors ought to be revealed and accepted, so that eventual exposure is not feared (further discussed below). Patience will be required to regain the trust of rebels so that they are willing to expose their interests. Rebels' strengths and interests, academic and other, should be legitimized by being incorporated into assignments.

2. Some other writers have developed effective materials and approaches that include some aspects of emotional potential discussed here (Betts, 1985; Delisle, 1986; Galbraith, 1983, 1987; McCutcheon, 1985; Webb, Meckstroth, & Tolan, 1982).

Table 10.3 Strategies for Achieving Maximum Potential

Personality Patterns	<i>Closest</i>	<i>Withdrawn</i>	<i>Rebel</i>	<i>Maximizing</i>
GOALS				
Strengthen Self-Concept	Evoke weakness Accept limits Avoid judgments	Reinforce strengths Accept limits Avoid judgments	Reinforce strengths Legitimize interests Avoid judgments	Accept independence Provide safety Avoid judgments
Help Cope with Failure/Success	Inoculate against failure	Generate success Inoculate against failure	Generate success by incorporating interests	Allow freedom to choose criteria/ Assist in calculating costs
Help Unleash Creativity	Encourage divergence Push risk taking	Value divergence Have patience with anxiety	Value divergence Have patience with imperfect products	Accept divergence Find audience for products
Teach Planning	Avoid making decisions for/ Force choices Involve in goal setting	Generate choices/ Avoid making decisions for Have patience with low motivation	Avoid giving orders Generate choices Have patience with mistrust	Generate new options Accept goals Offer resources
Teach Evaluation	Liberate from external evaluation/ Reward risk taking more than product excellence Develop self-evaluation skills	Liberate from external evaluation/ Reward both excellence and risk taking Develop self-evaluation skills	Liberate from external evaluation/ Reward task-commitment more than excellence Develop self-evaluation skills	Value producer above product Reinforce self-evaluation Generate criteria for self-evaluation
Provide Role Models	Match with R&M gifted Be model for W & R Exhibit self-acceptance	Match with R&M gifted children and adults Exhibit self-acceptance	Match with C & M children and adults Exhibit self-acceptance	Match with M adults Be model for C,W,R Exhibit self-acceptance

Children working toward maximizing their potential also need their teachers and parents to be nonjudgmental mirrors who reflect and accept their worst as well as their best. I have previously developed a "self-concept" curriculum for all students, which consists of a series of questions appropriate for small group class discussions, counseling sessions, or a personal journal (Richert, 1985). In addition, James Alvino and I (1989) have written a text on gifted adolescents, with sections specifically for boys and for girls, which is designed to develop various aspects of maximum potential.

Helping Cope with Failure and Success and Encouraging Creativity. Some strategies can help adolescents cope with failure and success, while evoking their creativity. For closet gifted children, success is earned at the exorbitant cost of repression of creativity and the fear of failure. They need protection against both the inevitable judgments that can devastate them and the rewards that can inhibit their creativity. Closet and withdrawn gifted children should be encouraged to embark on new tasks while taking risks to be creative. This can be fostered if adults set an arbitrary limitation; tell them not to repeat a safe, successful achievement; require them to find an alternative; or help them to brainstorm other options. The new task may be a different responsibility for a family trip (planning the itinerary rather than packing the car) or another way of approaching a school assignment (composing a song or poem rather than writing a report on a reading assignment). The risk may be the first independent clothing purchase or the first attempt at negotiating an alternative homework assignment with a teacher. Just a slight dose of mistakes or failure can inoculate them against the greatest danger closet gifted students can face—someone's inevitable judgment that their work is not good enough.

Rebels and withdrawn gifted children share the need to overcome the stigma of failure. Too often these children are unfairly accused of being unmotivated, irresponsible, or lacking task-commitment. To generate success, strengths need to be evoked. Rebels should be given the freedom to work in an area of interest to them. Underachievement can be overcome by a sensitive teacher who incorporates a required skill into a topic that interests a child. For example, a boy who refuses to memorize the multiplication tables will learn them if he needs them in order to use international exchange rates to assess the value of his coin collection in various currencies. A girl who is impatient with spelling will ask for help if the teacher suggests that if her story met spelling standards, it might be suitable for publication in a classroom magazine.

Rebels with divergent views that are very often rejected need encouragement to bring one of their ideas to fruition. They may be asked to select one idea among several options, or they may be required to finish an assignment by a mutually agreed upon deadline. Teachers may offer rebellious students options such as making up questions instead of answering those at the end of the chapter; recording notes on a tape recorder rather than writing them on index cards; taking photos of animals for a project rather than drawing them by hand; composing a song or poem in response to reading rather than a repetitive book report; or creating a spelling list from personal writing or reading rather than using one from a book. Elsewhere I have listed many other alternative student interest-based assignments for reading, language arts, and English that can help students fulfill curricular requirements (Richert, 1978).

Parents could agree to allow children the following creative alternatives: mowing the lawn in a zigzag rather than rectangular pattern, baking cookies in a frying pan, using old pipes as a sculpture in the perennial garden, or setting their own bedtime for a week. Once the task is finished, the rebel needs recognition both for completing the project and for trusting the teacher or parent not to judge him unfairly. A rebellious child should be helped to negotiate alternative tasks at school or at home. For instance, a parent might suggest that instead of saying, "No, I won't do the dishes," the children could offer an alternative such as, "I'd rather set the table and make the salad." This helps break the pattern of failure, judgment, rejection, and rebellion.

Approaches required by both closet and rebel gifted children are needed by the child who tends to withdraw. Both weaknesses and strengths need to be evoked and confronted without the evaluations the child so fears. Children who tend to withdraw from competition and fear external evaluation may be asked to list two activities they do best at home and two at school and two activities they do not do well at home or at school. To help them overcome evasion, the children should be asked to commit themselves to carrying out one activity from each category. Upon completion, the teacher or parents can discuss how they feel after completing each task. This will help them to accept both their strengths and limitations. It will also help for the adult to admit his or her own strengths and weaknesses. Knowing that their teachers and parents have such anxieties, yet manage to cope, will greatly reduce children's fear of being required to do too much. It is important to accept their anxieties as real, yet encourage them to act in spite of the anxieties.

Adolescents with anxieties need adults to accept their anxieties as real, but also to encourage them to act in spite of their trepidations. All risk-taking children should be able to enjoy the psychological safety of

knowing that their risk taking is a factor in their evaluation. Whatever the quality of their performance or product, they should feel they cannot fail if they take a major risk. The best response to the first wobbly geodesic dome built by the girl who previously got A's is not the dishonest judgment that it's good. Rather, the teacher should admit that while her building skills are not great, risking imperfection shows strength.

Teaching Planning. It is essential to avoid making decisions for adolescents because it either fosters dependence (among closet and withdrawn children) or rebellion (among rebels), or inhibits independence (among maximizing students). Children must be given choices and required to make decisions while setting their own goals. Discipline and motivation must be shifted from dependence on teachers or parents to internal feelings and values as the prime basis for action. Within the parameters of school and family responsibilities and mutually accepted standards, children should choose among alternatives. The parent's or teacher's role should be not to direct, but instead to generate options. The adult should guide discussions of the consequences of each alternative while carefully avoiding either offering implicit preferences or making explicit recommendations. It is particularly important for exceptional children, who must eventually function independently while developing their unique abilities, to be involved in goal setting, as well as in changing plans and goals as needed.

Generating options avoids reinforcement of counterproductive responses to expectations. Closet gifted children are prevented from merely conforming because they are required to choose for themselves. Rebels are given nothing to rebel against. The pressure to perform is reduced for withdrawn children, yet they too must apply their abilities by choosing. Children aiming for development of maximum potential can risk independence without penalty.

Teaching Self-Evaluation. The closet gifted child—more than any other—gets trapped into valuing himself according to his grades, but there never seems to be enough adulation. These children crave approval as if it were an addiction. Kohut (1970) points out that pathological narcissism—the insatiable craving for approval—results from parents failing to accept nonjudgmentally both positive traits and limitations of children. Miller (1981) explicitly states that neurotic parents of gifted children, whose own self-esteem is dependent on external demonstrations of worth, can often be narcissistic in exploiting their children's accomplishments. These parents, like the parents of the boy who commits suicide in the 1989 film *Dead Poets' Society*, feel self-esteem only to

the degree their children earn the visible rewards of success: spectacular grades, impressive test scores, and/or public acclaim such as awards.

Children who continually bend their ideas to please others need the help of parents, counselors, peers, and an appropriate curriculum to overcome dependence on others for self-esteem. All children, most particularly the closet gifted child and the withdrawn child, need to learn self-evaluation skills based on the following four principles:

1. *Children must learn to distinguish between themselves and their schoolwork.* Language is important! A child may get A's in math, but she should not be called an "A student." Productivity may be encouraged in a gifted program, but children should not be called "producers," since it identifies them with their work rather than their intrinsic value.
2. *The most important purpose of evaluation is to help students assess their personal progress, not how they compare with each other.* Evaluation should not be based on comparing students. The essential question self-evaluation should address is, "What can I do now that I couldn't do before?" Gifted programs should help students answer that question, but parents and counselors can also assist in liberating children from unproductive competition. Report cards can be occasions for discussing not whether the grades are good enough, but, "What have you learned in math?" or "Have you progressed in writing?" Personal emotional growth must be stressed. Product perfection, so prized by closet gifted children, should have less emphasis than originality. Withdrawn children and rebels should recognize that the value of their progress in task-commitment is more important than their imperfect products. Children should be encouraged to evaluate the strengths and weaknesses of their own work so they can determine directions for improvement.
3. *Creativity, originality, and risk taking ought to be major evaluation criteria.*
4. *Children need to be aware of the criteria for evaluation in different fields.* While children should not be compared, products and performance are compared in the real world, and therefore children need this information in order to decide how they will respond to external demands.

Providing Role Models. Gifted programs that segregate academically achieving students from creative or underachieving students foster unhealthy competition. Overemphasis on competition reinforces students' insecurity and dependence on grades, represses their creativity, and

denies them risk-taking, creative role models, such as rebels or students attempting to maximize their potential.

Gifted children with all four patterns of response to expectations have complementary strengths and weaknesses. They should be grouped together so they can serve as effective peer role models for each other. Rebels can learn from closet gifted children that completing a task does not necessarily require the sale of their souls. Withdrawn and closet gifted children can learn from rebels that being creative, risking failure, and making mistakes does not lead to irrevocable rejection. Everyone can learn from children taking risks to develop their maximum potential that independence can bring strength—but also has its price.

The following suggestions are offered for meeting the different needs of gifted males and females: help them find self-actualizing, same-sex mentors; encourage the development of authentic friendships (as opposed to just "romantic" relationships) with members of the opposite sex; and foster relationships with same- and opposite-sex parents (Alvino & Richert, 1989).

The single most awesome influence educators and parents have are as role models. Since statistically Maslow's (1970) research indicates that very few people in our culture are likely to be self-actualizing, there may be an almost inevitable conflict in adult teachers, counselors, and parents attempting to be effective role models for adolescents or even tolerating adolescents who are moving toward independence. Yet it is not necessary to be a perfect human being, or even to be self-actualizing, in order to be a useful role model for gifted students. There are two approaches that can be used by advocates of the gifted. First, since it is helpful for adolescents to understand the obstacles to self-actualization in our society, role models should be willing to reveal their own struggles. It is not easy to resist conforming or seeking approval when adults' insecurities are continually reinforced by constant evaluations and judgments of supervisors, colleagues, family, and sometimes even friends.

Second, and more important, adults, whether educators or parents, ought to work on what they hope adolescents will achieve, by using the strategies for themselves that are listed here for children. Until the adults from whom the gifted initially acquire their self-concepts can become nonnarcissistic, nonjudgmental, accepting, risk-taking, empowering, and capable of operating on the highest ethical levels, the gifted will have a very costly struggle to develop their unique potential in the face of strong external pressures to conform. Until more members of our society, particularly parents and educators, unlock their "mind-forg'd manacles" in order to develop their own emotional and ethical potential, the social dynamics of being gifted will continue to be very burdensome.

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Linda K. Silverman, Guest Editor

Editorial

The IQ Controversy — Conceptions and Misconceptions p. 136

Linda K. Silverman

Toward the Tao of Giftedness

E. Susanne Richert

This article is a first step toward proposing some Eastern metaphysical and psychological tenets, particularly the Tao, as a pragmatic philosophical foundation for the concept of giftedness and the field of gifted education. One of several advantages of this approach will be to demonstrate that many of the theoretical and research-based conflicts in the field are apparent rather than real.

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Thus Something and Nothing produce each other;
The difficult and easy complement each other;
The long and the short off-set each other;
The high and the low incline towards each other;
Note and sound harmonize with each other;
Before and after follow each other.

Lee Tzu (Tao Te Ching)

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The Need for a Philosophical Foundation

The present controversy in cognitive science about the nature of human intelligence, whether IQ is indeed a meaningful measure of human intelligence, raises the issue of the philosophical foundation of gifted education. This is a serious immediate problem for the field for several reasons, that include ethical, pragmatic, as well as theoretical and research considerations.

First, The National Report on Identification (Richert, et al, 1982) revealed a morass of confusion about the definition of giftedness and the prevalence of inappropriate, non-research based identification procedures in the United States that are excluding many gifted students, especially the poor, the intellectually creative and other minority groups, from services they need to develop their potential. The issue of equity is certainly one the field needs to address, not only for obvious ethical reasons, but because it leaves gifted education vulnerable to the charge of bias which may erode support for programs.

Second, the current wave of national concern for education which was intensified by the Report of the U.S. Commission on Excellence in Education (1983) has led to both heightened interest in gifted education and increased demands for accountability. The widespread confusion about definition and identification, which is fueled by the many prevalent societal myths about gifted education, is polarizing advocates both within and outside the field. This not only makes advocacy difficult on the federal, state and local levels but may lead to inefficient allocation of financial resources for the gifted.

Third, lack of clarity about definition may be generating impractical research hypotheses when

the field crucially needs valid data.

Finally, and most important, decisions are being made right now that affect the education and the lives of potentially gifted children. Since these decisions are based on assumptions about giftedness, it would be advisable for the professionals in the field to adopt the Hippocratic injunction to "do no harm." The field needs to recognize its ethical responsibility by addressing the issue of its foundations in a way that expands rather than limits gifted potential for the sake of both gifted children and our society which needs their abilities.

The field of gifted education, as any developing field, is replete with healthy controversy that can help to clarify what ought to be done to nurture giftedness in students with exceptional potential. The diverse opinions are unfortunately frequently stated as dichotomies and even debated in major national and international conferences as well as in innumerable committee meetings, as if one of the divergent perspectives must be the mutually exclusive "true" assumption about giftedness as a phenomenon. These controversies, related to assumptions about intelligence, include:

1. **Definitions of Giftedness**
innate vs learned or acquired characteristics
sustained vs sporadic manifestations of giftedness
2. **Advocacy** (arguments for committing resources for gifted education)
student need vs social utility
3. **Identification problems** (how we select gifted students)
creativity vs IQ
objective vs "subjective" indicators of exceptional potential
actual vs "potential" giftedness
cognitive vs "personality" characteristics
4. **Program Design** (how programs are structured to develop giftedness)
homogeneous vs heterogenous grouping
programs organized by specific subject areas vs an interdisciplinary approach
individual study vs class or small group work in school vs out of school resources and experiences
student interest-based vs K-12 articulation
5. **Curriculum Design** (how the curriculum is designed to develop gifted potential)
affective vs cognitive objectives
cognitive vs psychomotor or physical development
acceleration vs enrichment
content vs process emphasis
sequential vs horizontal organization
6. **Staff Selection and Development**
use of certified vs non-certified personnel (not educators)
certification requirements vs experiential learning
pre-service vs in-service training
formal courses vs workshops, internships, independent study, etc.
7. **Program and Student Evaluation**
use of standardized tests vs observational, or

subjective data
quantitative vs qualitative evaluation
teacher vs students - self evaluation
process vs product evaluation
product vs performance evaluation

Stating these issues as dichotomies is one of the factors in the proliferation of error (practitioners copying from each other inappropriate definitions, identification procedures, and other practices in gifted education) one participant in the national panel of experts that met to assess prevalent methods in identification (as part of *The National Report on Identification*) called a national epidemic. Outsiders looking at the field see what seems to be irreconcilable differences among the various "experts" and researchers.

Sources for a Sol

There are several sources that point to directions for a possible solution. The most significant might be an analysis of the present social and historical context of giftedness. Definitions of giftedness have always had a social and historical context. At different times different cultures have needed or valued diverse intellectual abilities (Richert, 1982; Tannenbaum, 1983). It is necessary for the field of gifted education to avoid parochialism and to embrace pluralism. Looking to other disciplines is vital for testing the comprehensiveness and applicability of the field's assumptions and for finding new sources to inspire or clarify its hypotheses.

The development of a foundation for gifted education could be illuminated by an examination of some significant trends in such diverse fields as literature and esthetics, business and economics, medicine, higher education and technology, cognitive science, politics, development of heuristic taxonomies of human abilities (cognitive, affective, ethical, and esthetic), gifted education, and in the physical sciences. The trends seem to be converging toward these common assumptions: (a) the recognition of the need for both diversity and comprehensiveness; (b) the use of an interdisciplinary approach to crucial problems; and (c) a move toward comprehensiveness by attempting to reconcile apparent controversies.

Sources in Literature and Esth

Through their literature, gifted writers have long been eloquently expressing their experience and perceptions of giftedness or exceptional intelligence. Some authors have anticipated more recent trends in other fields. Samuel Taylor Coleridge (1815) required great poetry to reveal "...itself in the balance or reconciliation of opposite or discordant qualities; of sameness, with difference; of the general with the concrete; the idea with image; the individual with the representative; the sense of novelty and freshness, with old and familiar objects; a more than usual state of emotion with more than usual order. . . ."

William Blake (1972) asserted the importance of diversity and creative conflict by writing very simply but profoundly, "Without Contraries is No Progression [sic]." John Keats (1817) elaborated his own definition of genius. He wrote, "the essence of genius is Negative Capability, that is when man is capable of being in uncertainties, Mysteries, doubts... [sic]."

In this century, F. Scott Fitzgerald echoed the similar sentiment that, in his judgment, "The sign of a truly fine mind is the ability to hold two conflicting opinions at the same time." It is significant that esthetic criticism in the West has historically alternated between what has been called "Classicism" and "Romanticism", or what the Greeks would have called Apollonian (logic, reason, analysis) and Dionysian (passion, intuition, insight, imagination) modes and values.

There seemed to be an irreconcilable conflict between Eastern and Western approaches to medicine in the beginning of the second half of this century. In the last decade the two seem to be having a reapproachment. American physicians are using Eastern visualization techniques not only in psychotherapy, but to reduce the size of tumors in cancer patients. Biofeedback has become the new acceptable Western "scientific" term for certain venerable yoga techniques for controlling some functions of the autonomic nervous system. Yoga techniques for self-healing are beginning to be recognized as empirically demonstrable ways of activating the autoimmune system for the treatment of a wide range of stress related diseases. (See LeShan, 1982).

Shifts in Institutions of Higher Education and the Effects of Technology

Business Trends

While the research methodology of John Naisbitt (1982) and Peters et al (1982) has been questioned, these analysts of American business have certainly identified some emerging trends within business and industry. While most training in business has traditionally emphasized convergent, analytical, linear, quantitative thinking (calculating "the bottom line" on an annual basis), evidently there is a burgeoning recognition of the value of intuition, creativity, risk-taking, and emotional commitment in America's best companies. In his *Forbes* magazine, Malcomb Forbes has perennially argued for the value of those characteristics. The new emphasis is not a humanistic, but a materialistic one. Nevertheless, it is significant that within one of the nation's most conservative sectors, it has become possible to reconcile individual creative expression and corporate financial interests through productivity. The development of new periodicals, such as *Venture*, *Success*, *Inc.*, and others for entrepreneurs and "intrapreneurs" is a clear manifestation of some of these changes.

Management specialists have already recognized that there are several conflicting models for productivity which have been existing side by side. McGregor (1960) is generally credited with distinguishing between "theory X" (which argues that employees are basically lazy, need to be threatened and want to be told what to do); and "theory Y" (which posits that people will respond to responsibility and self-control). In an influential book, Ouchi (1981) recently explicated a Japanese management model. Ouchi's "theory Z" has a much more holistic approach which assumes that there is a balance between the interests of management and employees. Another approach to using Eastern philosophy was used by Bennet Goodspeed (1983) in a practical, if somewhat simplistic attempt, to apply the *Tao* to investing.

Formal higher educational institutions, particularly those involved in graduate professional training are starting to include studies that cross traditional disciplinary lines. In response to concerns about American legal practices, some law schools are instituting ethics as a course requirement for graduation. The issue of ethics courses is being raised, and has been implemented in some business schools.

Technological advances are requiring professionals in some fields to confront serious ethical issues for which their training may not have prepared them. Scientists conducting experiments in genetic engineering who are being assailed by some religious groups certainly wish they had training in ethics, and perhaps even in metaphysics. Since nuclear engineers may have the ethical problems that Robert Oppenheimer and many of the gifted scientists who were involved in the scientifically successful Manhattan Project, universities including M.I.T. are developing courses in ethics. It could be argued that they should also be including courses in psychology, since Alfred Nobel and later some of the early nuclear physicists had serious emotional problems in dealing with the destructive consequences of their work. The stakes presently are unfortunately even higher, since the life of the entire planet depends on nuclear physicists' ethical judgments.

Technology, particularly computers, has been the almost exclusive domain of mathematicians. Now they are indispensable to every discipline and cross disciplinary lines. The improvements in video, audio, as well as computer technology have created new art forms and new media of expression for the gifted in almost every field of human endeavor from business, creative writing, rock music, teaching, and biochemistry to ballet.

Directions in Cognitive Science

Some of the recent research on the specialization of cognitive functions in the left and right hemispheres of the brain is requiring a re-exami-

Developments in Medicine

nation of definitions of intelligence, most of which is evolving into a recognition of diverse intellectual abilities that may be combined in various ways in individuals. Robert Sternberg (1985), Howard Gardner (1983), and others have recently been influential in shifting the analysis of intelligence beyond such quantitative measures as IQ, into several categories more pragmatic than recalling strings of digits.

Some of the brain research seems to be inspiring studies of non-verbal abilities such as visual and spatial. A related development is the field of linguistical investigation of semiotics, or "sign" systems which may go beyond verbal systems (Guiraud, 1975).

Geopolitical Imperatives

Whether politicians intend it or not, the world has become a global village. Political philosophies and the proliferation of various kinds of weapons can affect individuals in very harsh ways. The threat of a nuclear holocaust is more real than ever. In spite of the geopolitical imperatives with the direct potential results, this is lamentably one field in which trends seem not to be moving toward integration or reconciliation. There is an unquestionable need for major efforts in conflict resolution, yet it is a very specific skill and ability that does not yet seem to be valued in most tests of intelligence or developed by educational institutions.

Parallel Developments in Heuristic Taxonomies

Theoreticians have been engaged in developing heuristic taxonomies in human cognition, affect, ethics and esthetics. Table 1. is a beginning of an analysis of the interrelationship of the most complex levels of these taxonomies. The two highest levels of all of these different taxonomies seem to have several characteristics in common: (a) they are the most comprehensive; they include (rather than exclude), by transcending or synthesizing each of the previous levels; (b) they transcend conflicts at lower levels of each taxonomy through a conceptual holism that recognizes but reconciles conflicts that seem inescapable at lower levels; (c) they are theoretically economical; if the highest level is achieved there is a simplicity in the holism that the level conceptually posits; (d) they have implications that, if they are fully developed, can be translated to the highest levels of each of the other taxonomies and inevitably lead toward a conception that a unity of all of them is indeed the highest level of human potential; (e) as an actual human experience, energy is generated that can be used to bring others to that level through its expression.

Advances in Science

It is in advances in physics, however, that perhaps the broadest leap toward comprehensive

has been attempted. Capra in *The Tao of Physics* (1975) and *The Turning Point* (1983) has eloquently argued that Eastern philosophy, particularly the Tao, can resolve some problems in nuclear physics that are beyond the limitations of logic-based Western science. Along with Huxley (1956), Grof (1982), Chilton-Pearce (1977), Berman (1984), and Krippner (1980), Capra and others have recognized the limitations of Western linear thinking and pointed to Eastern holistic conceptions for illuminating paradoxes or dichotomies inherent within the atom as well as human nature.

These scientific advances in the West have not been made without a struggle. Capra movingly writes of the emotional crises of researchers such as Werner Heisenberg and Niels Bohr who were engaged in the investigations of quantum mechanics. Even Albert Einstein, that gifted synthesizer of the time-space continuum, in his unsuccessful search for the ultimate integrative scientific principle, unified field theory, was intensely anxious that the universe have meaning in a Western logical cause and effect mode. When Einstein was wrestling with his theory, his famous statement was an expression of wish fulfillment: "God does not play dice with the universe." It seems now that Einstein was wrong, at least as his perception applies to particle physics. To the dismay of a great many scientists and to the vast puzzlement of Western laymen (though as Capra perceptively states, it was no surprise to Eastern philosophers) probability is indeed the universal law governing the behavior of subatomic particles.

American Definitions of Giftedness

The *National Report on Identification* (Richert, 1982) analysed a strong trend in the United States toward a broadening of definitions of giftedness over the last century. A few of the contributors to that direction have been: Guilford in his multi-factored *Structure of the Intellect Model* (1967); Torrance (1964) in creativity; Joseph Renzulli in elaborating some of the motivational factors in giftedness (1978); Tannenbaum (1983) in stressing the non-intellective and experiential variables in manifestations of giftedness; Roeper in suggesting that it might be necessary to develop a concept of "emotional" giftedness (1984); and Piechowski's elaboration of Dabrowski's conceptualization of a developmental potential intrinsic to giftedness (1979).

Toward a Philosophical Foundation

It seems that the field needs a definition of giftedness that has these three characteristics:

1. comprehensive enough to encompass (a) all of the various definitions of giftedness presently being used, not only in the United States and in Western cultures, but also in some Eastern cultures; (b) the diverse hypotheses that are the bases of different kinds

or research being done in the field; (c) needs of both gifted individuals and the societies which are committing resources (in their own interests) to the development of exceptional potential; (d) the apparently converging trends in diverse fields of human knowledge and endeavor; (e) the highest levels of human potential defined by cognitive, affective and ethical, and esthetic taxonomies.

2. pragmatic enough to (a) lead to immediate applications for the education of children who presently have exceptional potential in any area of human potential; (b) that can generate hypotheses for research that addresses broader or diverse aspects of giftedness; (c) demonstrate that many of the theoretical and research-based conflicts in the field are apparent rather than real.
3. ethical, in that it will not harm or limit the potential of exceptional students.

Most Eastern philosophies, particularly various forms of Buddhism and Taoism include these major tenets which are relevant to a foundation for gifted education: (a) the significant unity, interdependence and inseparableness of all things; (b) all opposites are actually polarities or differing aspects of the same phenomenon; (c) there is a dynamic interplay or alternation of all polarities within each individual and within the universe as a whole; and (d) an implicit epistemology and pedagogy: truth or knowledge can be found both from within and without; both intuition and reason must be used for the understanding of self and the universe; process is part of understanding.

For the benefit of the potentially gifted as well as our world culture, we need the most comprehensive foundation of giftedness that is also pragmatic. It is the purpose of this article to suggest the *Tao Te Ching* as a possible foundation for gifted education. Implicit in the *Tao*, which may be translated as "the way," or the inherent essence of humans as well as the universe, is a process of working through conflicts by defining the divergent differences, but coming to an ultimate resolution when the entire nature of a phenomenon is understood or experienced.

The *Tao* offers a metaphysics which, through the inexorable alternations of yin/yang polarities, can: reconcile the dichotomies in the field of gifted education that were listed above; include divergent practical and theoretical issues; generate hypotheses that will be more comprehensive; explain the various converging trends analyzed. Most important, as the matrix on The "Yin/Yang" of Taxonomies suggests, these archetypal concepts can encompass the highest levels of various cognitive, affective, ethical and esthetic taxonomies developed by various writers.

Tentative steps toward using the *Tao* as a philosophical foundation would explore its applications to some major areas of gifted education: definition, advocacy, identification, curriculum objectives, staff selection and development, and evaluation. The Matrix of the Yin/Yang of Gifted Education suggests that rather than dichotomizing perspectives, both Western, "yang" approaches and more Eastern "yin" applications are necessary. A further advantage of attempting to use the

Tao as a foundation is that it will by its very nature lead researchers, theoreticians and practitioners to develop all aspects of their own potential. Or as Lao Tzu wrote:

If you would have a thing shrink,
You must first stretch it;
If you would have a thing weakened,
You must first strengthen it;
If you would have a thing laid aside,
You must first set it up;
If you would take from a thing,
You must first give to it.

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Table 1
The Yin/Yang of Taxonomies

Taxonomy		Highest Levels	Source
YANG concepts		YIN concepts	TAO cycle (Lao Tzu)
Cognitive	Sensory perception of finite differences	Intuition of wholeness through meditation	Lao Tzu/ Govinda Muktananda/ Mookerjee (Kundalini yoga)
	through "physical" yoga		Bloom
	Analysis/ evaluation	Synthesis	
	Convergent thinking/ evaluation	Divergent thinking	Guilford
Affective	Individual differences	Metaphysical integration	Lao Tzu
	Disintegration	Metaphysical integration	Upanishads
	Emphasis on "physical" yoga	Emphasis on meditation	(Mahayana yoga) Govinda Muktananda Mookerjee (Kundalini yoga)
	Disintegration	Integration	Dabrowski (Piechowski)
	Individualization	Transpersonal experience	Jung
	Physical survival	Self-actualization	Maslow
Ethical	Conscious ethical action	Unconscious ethical/ metaphysical state of being	Fromm
	Ethical understanding/ analysis	Ethical feeling	Lao Tzu Govinda/ Muktananda/ Mookerjee (Kundalini yoga)
	Post-conventional ethical action	Post-conventional ethical intuition	Piaget
	Ethical action	Characterization	Kohlberg
	Responsibility to others	Community with others	Krathwohl
	Responsibility to others		Sartre Frankl
Esthetic	Perception of Forms	Intuition/experience of forms	Lao Tzu Govinda
	Apollonian	Dionysian	Greek/ Jung
	Classical	Romantic	Frye



Table 2
Matrix of the Yin/Yang of Gifted Education

Area of Gifted Education	YANG APPROACHES	YIN APPROACHES
DEFINITION	● Emphasis on innate cognitive ability; especially higher level critical or analytical thinking ● Limitation to quantifiably measurable traits based on statistical models of exceptionality (i.e., 1 or 2 standard deviations from the norm) ● Stress on research-based predictors of adult giftedness designated by Western culture-specific values such as productivity, public recognition by professional peers, etc.	● Stress on developmental potential in all areas of human ability, not just cognition ● Expansive, holistic view of exceptional potential that includes not only divergent expressions of cognition, but also incorporates the highest levels of affective, ethical, and esthetic taxonomies ● Acknowledgment of heuristic models that transcend Western cultural values, that include private, personal expression of emotional, ethical or esthetic exceptionality
IDENTIFICATION	Use of quantifiable measures based on norm-referenced indicators, such as I.Q., achievement tests, grades, and other measures of school achievement such as grades and teacher recommendations	Use of observational, subjective qualitative indicators (i.e. self, peer, parent, nomination checklists that are criterion-referenced) using indicators of the highest levels of affective, ethical, esthetic, as well as cognitive taxonomies
ADVOCACY	● Arguments for gifted education based on social utility	● Arguments for gifted education based on individual need
PROGRAM DESIGN	● Structured by resources available in a district ● Organized by subject areas; focus on acceleration ● Age-peer grouping ● Homogeneous grouping ● Emphasis on in-school activities	● Structured by inherent individual student needs ● Interdisciplinary organization; focus on flexibility in response to student interests ● Interest and need-based grouping ● Flexible grouping: including heterogeneous grouping ● Emphasis on students selected activities both in and out of school
CURRICULUM OBJECTIVES		
Emphasis	● Cognition above affect and higher level ethical development	● Affective and ethical above cognitive development
Cognitive	● Higher level critical thinking ● Content learning ● Absorbing concrete knowledge	● Higher level divergent thinking ● Process learning ● Unfolding of inherent wisdom
Affective	● Social integration; adjustment to norms	● Idiosyncratic integrity; development of unique characteristics
Ethical	● Social conformity and responsibility	● Responsibility to self as well as to others
Esthetic	● Ethical action ● Conformity to rules	● Ethical intuition
Decision-making, goal setting	● Teacher-centered	● Organic unity determined by the inherent nature of the task/product
ADVOCACY	● Arguments for gifted education based on social utility	● Arguments for gifted education based on individual need
PROGRAM DESIGN	● Structured by resources available in a district ● Organized by subject areas; focus on acceleration ● Age-peer grouping ● Homogeneous grouping ● Emphasis on in-school activities	● Structured by inherent individual student needs ● Interdisciplinary organization; focus on flexibility in response to student interests ● Interest and need-based grouping ● Flexible grouping: including heterogeneous grouping ● Emphasis on students selected activities both in and out of school
CURRICULUM OBJECTIVES		
Emphasis	● Cognition above affect and higher level ethical development	● Affective and ethical above cognitive development
Cognitive	● Higher level critical thinking ● Content learning ● Absorbing concrete knowledge	● Higher level divergent thinking ● Process learning ● Unfolding of inherent wisdom
Affective	● Social integration; adjustment to norms	● Idiosyncratic integrity; development of unique characteristics
Ethical	● Social conformity and responsibility	● Responsibility to self as well as to others
Esthetic	● Ethical action ● Conformity to rules	● Ethical intuition

CURRICULUM GUIDELINES

For Programs for Gifted Students

by E. Susanne Richert, Ph.D.

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PART I. INTRODUCTION-Outline

A. PROCESS OF DEVELOPMENT OF THIS GUIDE

B. PURPOSE

C. DEFINITION OF THE POPULATION TO BE SERVED

D. PROGRAM DESIGN: From Identification to Evaluation

1. Introduction

2. Definition of Program Design Options

3. Chart of Program Design Variables

4. Integration of Program Components, From Identification to Evaluation

E. RECOMMENDED POLICIES

A. PROCESS OF DEVELOPMENT

This guide for curriculum for the gifted has been developed in accord with the principles of maximizing gifted potential (Richert, 1990). In addition to the references in the Bibliography, sources include thirty educators with expertise, experience and representation from:

- various levels of education (primary, elementary, secondary, and higher education);
- different content specialties (language arts/English, math, science, and social studies).

B. PURPOSE OF THIS GUIDE

The purpose of this curriculum guide is to provide educators, school boards, legislators, parents and community members guidelines and resources for the development of effective gifted education programs. There is some intentional repetition since it is assumed that different audiences will focus on various parts, depending on their diverse interests in gifted education.

The recommendations in this guide are designed to provide gifted students educational opportunities and experiences which will allow for the ultimate development of their cognitive, academic, creative, and emotional capabilities. These educational experiences are structured to lead gifted students to become self-directed learners.

In order to achieve these goals, it is imperative that differentiation in methods, strategies, materials, and evaluation occur so that the gifted can maximize their potential, not only for their own benefit, but in order to provide resources for our society. This developmental process requires a learning environment which is conducive to risk-taking, problem-solving, decision-making, and independent thinking.

C. DEFINITION OF THE STUDENTS TO BE SERVED

A district's gifted population should include students with these diverse exceptional abilities:

1. exceptional creative thinking ability;
2. specific academic aptitude;
3. superior intellectual ability;
4. exceptional psychosocial abilities such as leadership skills, oral and written communication ability, management skills;
5. Outstanding abilities in the visual and performing arts.

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D. PROGRAM DESIGN

1. INTRODUCTION

The program design addresses three specific concerns about gifted education in the United States. These problem areas among districts include:

- (1) fragmentation of curriculum within programs;
- (2) lack of k-12 articulation;
- (3) conflict between expectation of gifted children in pull-out options and the regular classroom which may result in students being penalized in various ways for being in a gifted program.

To address these concerns, local districts should give thoughtful consideration to the design of a program. The consensus of research available appears to indicate that no single program design or model best serves gifted children. Given the diversity of those children's abilities, **multiple options** should be available.

While a districts' identified gifted and talented students will have many similar characteristics, the comprehensive assessment process will result in a diverse student population that requires a range of program options. These multiple options should be carefully matched with student needs, interests, learning styles and preferences. In designing a program, districts should consider factors which are unique to their situations, for example:

- school/community philosophy;
- number, type, and distribution of students to be served;
- resources available to the district.

2. DEFINITION OF PROGRAM DESIGN OPTIONS

Following is a list defining terms dealing with program design for gifted students.

Advanced Placement	•Courses emphasizing college level content based on College Entrance Examination Board tests.
Regular Classes	•Heterogeneously grouped classes.
Self-Contained Classes	•Homogeneously grouped classes for students who have been identified as gifted.
Pull-out Classes	•Enrichment classes for gifted students, when students miss work in the regular classroom.
Cluster group	•Pupils re-grouped within grade level or on a cross-age basis for certain required or elective content areas. Groups may be

range or program options. These multiple options should be carefully matched with student needs, interests, learning styles and preferences. In designing a program, districts should consider factors which are unique to their situations, for example:

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Pull-out Classes	•Enrichment classes for gifted students, when students miss work in the regular classroom.
Cluster group	•Pupils re-grouped within grade level or on a cross-age basis for certain required or elective content areas. Groups may be composed of students who have been identified as gifted in any, or several, of the priority areas designated by a state.
Independent Study	•A selected topic is studied on an independent basis under the

3. PROGRAM DESIGN VARIABLES

Districts should consider these variables in planning a program design:

- personnel;
- the skills or a specific content area addressed;
- whether grades are generally given;
- whether students generally get academic credit for work;
- and planning issues that must be addressed such as schedule, budget, staffing, transportation, space, materials and other considerations.

4. INTEGRATION OF PROGRAM COMPONENTS, FROM IDENTIFICATION TO EVALUATION

While this guide focuses on curriculum, it is essential that it not be isolated from other aspects of programming. In developing a program, it is crucial that all of the design elements are integrated.

- **Multiple program options** need to be developed to meet students' diverse needs.
- **The curriculum must**
 - address the population found through equitable identification procedures
 - be appropriate for the specific option in which it is used.
- **Evaluation procedures** must be consistent with students' identified needs, the different curriculum objectives of various program options, and Kohlberg's Level I moral development.

E. RECOMMENDED POLICIES

Program design should be selected to maximize the development of a gifted student's potential. Policies concerning the following programmatic considerations should be implemented:

1. time minimum,
2. budget,
3. homogeneous grouping,
4. not penalizing students in pull-out programs,
5. acceleration possibilities,
6. credit,
7. recordkeeping for attendance,
8. evaluation and grading,
9. access to resources,
10. internships, mentorships, independent study, cross-age grouping.

1. TIME

Minimum time per week spent by a student in a gifted program should be a total of 225 minutes. This time may be scheduled variously, for example, as five 45-minute periods, two half days, or one full day. Programs using itinerant teachers should give special attention to the scheduling of students so that at least the minimum time requirements are met. Occasionally, larger blocks of time may be needed. Flexibility in scheduling may be necessary as the needs of the children and the activity in which they are involved dictate. (See PART II. A. 2. Methods and Teaching Strategies.)

2. BUDGET

•**Curriculum materials**

Districts need to budget for extra materials, equipment and supplies for curriculum purposes. These will vary based on the type of program, but some are very content specific and are specified in each of the content areas below in section II.C.

•**Staff development**

A district's needs in staff development will vary. Assessing needs should be done in relation to Part IV, Staff Development Recommendations.

3. HOMOGENEOUS GROUPING

Homogeneous grouping in required or elective subjects, (either in cluster classes on the elementary level, or separate courses on the intermediate and secondary levels), is recommended when based upon appropriate criteria. Students should demonstrate some of the following:

- (1) self-direction/self initiation (products or projects produced outside the school);
- (2) creativity (as demonstrated in behavior, products or creativity tests);
- (3) student choice, which may be assessed through an interview, using an interview protocol focusing on the first two criteria (1 and 2)
- (4) exceptionally high achievement in a specific (not necessarily all) academic area.

4. AVOIDING PENALIZING STUDENTS IN PULL-OUT OPTION

A gifted program should offer students, **different, not more** work. In order to avoid penalizing students in pull-out options, districts should implement the following policy that should be carefully monitored. Assignments required as part of regularly scheduled gifted programs should **replace, not add to**, gifted students' regular classroom workload.

5. ACCELERATION OPTIONS

Acceleration alone will not meet all of the needs of gifted students, since it is only one of the kinds of curriculum differentiation they require. While the higher level process skills are a more important priority, acceleration in various forms, but which minimally excuses students from previously mastered materials, is of benefit to most academically achieving gifted students.

Gifted students are as different from each other as they are from the rest of the population. They have varying needs for acceleration at different stages of development, which may range from just being excused from some work in a classroom for a limited period of time, to grade-skipping. The time saved can be used to work on higher level process skills (see Part II.B., below) or to work on higher level content (see Part II.C., below). Districts should have policies to allow these various possibilities to respond to students' individual and diverse needs.

•**In the regular classroom**, students should be pre-tested in the basic skills and excused from work already mastered. To do any less is to waste their time and penalize them by forcing them to repeat work they already know.

•**In content specific program options** (See Part II.C., below), students should be pre-tested in the content, and excused to go onto higher level cognitive activities which apply that content.

•**Students who are functioning two or more years above grade level in a single area** (this will include almost all of the identified intellectually gifted students) should be offered these possibilities:

- continuous progress in a basic skill, but being maintained at the same grade level;
- continuous progress in a basic skill, by going to a higher grade level for certain subjects;
- curriculum compacting or straight linear acceleration (the same work faster);
- simultaneous enrollment in courses at different grade levels, including post-secondary.

•**For the rare students who are three or more years above grade level in almost all subjects**, more extreme forms of acceleration may be needed. Provided students prefer the company of older children outside of school, these should be possibilities:

- early entrance to school, or early exit from school;

- skipping the last year of a level (primary, intermediate, secondary);
- other forms of grade-skipping.

6. CREDIT

Students should not only be released from previously mastered material, but if they can demonstrate competency through a test score, a product, or a grade from a course completed elsewhere, especially at a higher level, they should get academic credit where applicable, especially on the secondary level. They should also receive academic credit for such options as independent study, internships and mentorships.

This will acknowledge both the quantity and quality of students' work. Furthermore, such a policy will reinforce, rather than penalize, independent learning, one of the crucial objectives of a gifted program.

7. ACCESS TO RESOURCES

Gifted students need to have unlimited access to libraries, media and computer centers and their resources within their own buildings. They also need to have occasional access to resources beyond their schools such as computer data-bases, higher level libraries and laboratories, experts in the community, mentors, and other human resources. Policies should be implemented to accomodate these needs readily inside, or beyond, the regular school building.

8. RECORD-KEEPING FOR ATTENDANCE

Since gifted students need access to resources beyond the school building, neither students nor districts should be penalized for having or providing learning experiences beyond the school building. Therefore, students should be counted legally present in the regular classroom when attending gifted program related activities, under the supervision of school personnel, even if they are outside the building.

9. EVALUATION AND GRADING SHOULD NOT PENALIZE THE GIFTED

Grading and evaluation for gifted program options, particularly advanced, honors, or AP classes should be weighted to reflect the difficulty of those courses and to avoid penalizing students attempting more difficult work. If weighting is not possible, grades should be based on what equivalent work would earn students in a regular class. (Also see Part II.F., Student Evaluation.

10. INTERNSHIPS, MENTORSHIPS, CROSS-AGE GROUPING, INDEPENDENT STUDY

Gifted students often need to study in groups other than age-mates in order to develop their full intellectual and emotional potential. Districts should allow students, as they need them and show interest, the possibility of these grouping options which should be offered for academic credit:

- independent study,
- internships, mentorships,
- cross-age grouping.

PART II. CURRICULUM DIFFERENTIATION-OUTLINE

A. GENERAL PRINCIPLES

1. Integrated, Non-Fragmented Approach
2. Methods and Teaching Strategies

B. PROCESS SKILLS FOR ALL PROGRAM OPTIONS

1. Introduction
2. Cognitive: Critical and Creative Thinking
 3. Independent Learning
 4. Communication
 5. Affective

C. CONTENT MODIFICATIONS

1. General principles
2. English
3. Math
4. Science
5. Social Studies

D. TEACHING REQUIRED SKILLS

E. PRODUCTS AND PROJECTS

F. STUDENT EVALUATION

A. GENERAL PRINCIPLES

1. Integrated, Non-Fragmented Approach

The Richardson Study dealing with national trends in gifted education (Cox, et al., 1982-5), and Richert (197), as well as many others, stress the serious problem of various kinds of fragmentation of curriculum in programs for the gifted.

It is essential that districts develop k-12 articulation of process skills so that there is continuity and integration in the educational experience of gifted students. While the process skill may be discussed separately, they are not intended to be taught in isolation. These other kinds of fragmentation of curriculum also need to be avoided:

- the teaching of process skills, in isolation from content, or content separately from process;
- teaching of either process or content that does not lead to the application of that learning to a product or performance;
- products with the teacher as the sole audience;
- repetition of skills already mastered by a gifted student.

In a curriculum for the gifted, as the graphic below illustrates, the **process** and **content** should be integrated so that they lead to a **product** developed by an individual or group of students. The teacher then helps the students find an appropriate **audience**.

2. Methods and Teaching Strategies

Experts in the field unequivocally agree that the curriculum for the gifted must be differentiated in several ways (Richert, 1984; Maker, 1983; Tannenbaum, 1983, Kaplan, 1982; Renzulli, 1977). While these modifications may be expressed differently, there seems to be consensus on several categories of differentiation, which may be summarized as follows:

1. Content/Process/Product differentiation;
2. Grouping;
3. Motivation;
4. Learning environment, atmosphere;
5. Student choice, providing variety, flexibility;
6. Organization, responsibility;
7. Resources;
8. Evaluation.

(1) Content/Process/Product Differentiation

In a curriculum for the gifted, the process, content, and product, as well as the relation among these components, require modification.

Each of these is addressed directly in sections below (A.4, products; Section B, process; Section C, content). In general, process and product are more important than content and skills. The emphasis therefore should not be on learning more information, but on different, higher level knowledge which is applied to some kind of project or product.

The process skills that require emphasis are higher level creative and critical thinking, advanced emotional growth, and the development of independence in thinking, learning and acting.

Through these process emphases, some degree of acceleration, allowing the content to reflect student interests, and making it interdisciplinary, the content will be on a higher level because it will be more complex and abstract

(2) Grouping

The gifted need various kinds of groupings at different stages of their development, including:

- homogeneous and heterogeneous grouping;
- small group, as well as individual activities and projects;
- mentors who are older than they are, and to serve as mentors for younger gifted students;
- appropriate audiences for their products.

(3) Motivation

Research clearly indicates that in order to galvanize the energy and highest abilities of the gifted, student interest should be the major source for motivation. This means that as much as possible, students need choices in the content of their assignments and products.

(4) Learning Environment, Atmosphere

In order to achieve the higher level cognitive and affective objectives, the environment requires the following conditions to occur.

- Open-mindedness that allows for the expression and critiquing of diverse views is essential for the development of critical thinking skills.
- Evaluation criteria that include originality and divergence are crucial for fostering creativity.
- Acceptance and respect of differences and limitations, and stress on cooperation as well as competition are required for the nurturing of emotional and social potential.

•Opportunities for decision-making about their own learning will develop all aspects of gift potential, particularly intrinsic motivation and internal locus of control.

(5) Student Choice; Variety and Flexibility

The major role of a teacher of the gifted is to offer variety and flexibility by generating choices related to students' interests in each of these aspects of the curriculum:

- in the content of assignments and products;
- in the media to be used for products;
- in length of time devoted to an investigation, project or products, so students are not deterred from attempting more ambitious work;
- in grouping (individual, mentor, small, large group);
- in resources available to use;
- in the research skills to be used;
- in the methods of evaluation to be applied.

(6) Organization, responsibility

There needs to be shift in locus of decision-making, from the teacher to the student, so that the students can acquire the ability to become independent learners and develop an internal locus of control.

(7) Resources

Gifted students need access to resources beyond the classroom. This should include access to higher level libraries, laboratories, computer data bases, and information from other media such as audio and video cassettes. However, they must also have access to human resources, such as specialists in the community and their gifted peers, who ought to be their first resource.

(8) Evaluation procedures

It is the role of the teacher to teach the gifted to learn to evaluate their projects and their individual progress, rather than just relying on the judgment of adults.

Section II.F. below offers more specifics on students evaluation, but in brief, evaluation criteria should be different in a gifted program. The criteria should focus on:

- individual progress, rather than just comparative judgments;
- on originality, rather than just on conformity to teacher expectations;
- on the process of learning rather than just on the outcome, or the product.

B. PROCESS SKILLS FOR ALL GIFTED PROGRAM OPTIONS

The major categories of process skills illustrated by the following charts include:

1. Cognitive: Critical and Creative Thinking
2. Independent Learning
3. Communication
4. Affective

EACH PROCESS AREA SHOULD BE INTEGRATED INTO STRATEGIES, PRODUCTS, AND CONTENT

- The process skills should be considered in the context of the general principles of curriculum for the gifted, discussed in Part II.A., above.

- Teachers are reminded that these process skills should not be taught in isolation, but in relation to appropriate content and well as products for the gifted, as the graphic at the bottom of this page, again illustrates.

- To assist teachers in applying the process skills to the curriculum, Part II.E., Products and Projects, below, has charts for each of the process areas, designating strategies and products specific to each area.

C. CONTENT AREA MODIFICATIONS

1. General principles

In programs that focus on specific subject areas, the content needs to be differentiated to make the curriculum appropriate for gifted students. Recommendations for the content areas of English/language arts, math, science, and social studies are specified in the sections (2,3,4,5) below. The following four areas of content modification are, however, applicable, regardless of the subject or the type of program option.

1. Higher level process skills
2. Subject/knowledge, interest-based
3. Level or rate of learning acceleration
4. Both discrete disciplines and interdisciplinary approaches

1. Higher level process skills

In every subject, the four areas of higher level process skills designated above, including affective and communication, and independent learning, must be integrated into the content.

2. Subject/knowledge

Because the research clearly indicates that the distinct abilities of the gifted are evoked by what interests them, the content needs to be made interest-based. This can be accomplished either by developing units in response to student interests (using interest inventories or informally surveying the students) or by expanding the subject and making it interdisciplinary so that students' interests can be integrated into the content.

3. Level or rate of learning

Acceleration is always appropriate for the gifted, but that does not mean just placing a group of students together and offering them the following year's curriculum, or doing this year's work more quickly. Acceleration should be individualized. Within each program option, students should be offered choices of materials at the highest reading levels mastered and be allowed to progress at the optimum pace that they can handle.

Achievement test results are useful to help students select materials at the appropriate level, and to excuse students from skills they have already mastered so they can go onto to higher level work. The objective here is not to have students do more work faster, but rather to save them time so they may proceed to more complex sources, analyses, or products.

Standardized tests, teacher made tests, or classroom performance can also be used as indicators for placing a student in a higher grade level for a particular subject, or even to skip a grade. This will help save students time in the basic skills, but gifted students will need other program options to develop higher level abilities. It is important to remember that in a formal accelerated option in a subject area such as math, or in an AP course, just offering advanced content will not be adequate without integrating the higher level process skills.

4. Both discrete disciplines and interdisciplinary approaches

Within each discipline, it is crucial that students acquire not only the fundamental concepts, but also the different methods of evaluating products or projects. However, an interdisciplinary approach to curriculum units in each subject area is essential for several reasons. Cross-disciplinary subjects allow for both more complex analyses and products, and for integration of students' interests into the curriculum. Furthermore, in our historical era, every subject area is becoming more interdisciplinary; all knowledge is becoming interrelated. If gifted students are someday to make original contributions to a field, they will have to be able to integrate knowledge from a range of fields and to relate their contribution to various fields.

5. Homogeneous grouping

Homogeneous grouping is recommended when based upon appropriate equitable criteria. Students should demonstrate some, not necessarily all, of the following:

- self-direction/self initiation (products or projects produced outside the school);
- creativity (as demonstrated in behavior, products or creativity tests);
- student choice which may be assessed through an interview, using an interview protocol is included above in the section dealing with program design and policies(I. D.);
- exceptionally high achievement in a specific (not necessarily all) academic area.

2. ENGLISH/LANGUAGE ARTS

I. Introduction

Language arts is most directly addressed in the communication section of the process skills. Therefore in a program option that focuses on language arts or English, these skills should be emphasized, though not to the exclusion of the other process skills.

The teaching of language arts skills should be holistic. Language skills are inherent in every discipline and provide educators with an avenue to address the cognitive and affective needs of students. As society progresses into the Information Age, language skills will enable students to function effectively, i.e., computer networking and word processing. These skills will assure achievement at an optimum level.

II. Administrative Considerations: Recommended Policies for language arts/English program options for the gifted

Each of the following policies which are elaborated in Part I.E. (please see) are appropriate to language arts/English program options, as well as for other content areas for the gifted, and should be part of the program design.

1. time minimum
2. budget
3. homogeneous grouping
4. not penalizing students in pull-out programs; work should replace, not add to required work
5. acceleration possibilities:
 - students should be pre-tested in skills, and excused to go on to higher level cognitive activities
 - continuous progress, but being maintained at the same grade level;
 - continuous progress in a basic skill, by going to a higher grade level for that subject;
 - curriculum compacting or straight linear acceleration (the same work faster);
 - simultaneous enrollment in courses at different grade levels, including post-secondary.
6. credit
7. recordkeeping for attendance
8. evaluation and grading
9. access to resources

There are, however, additional policy recommendations essential to the implementation of an effective language arts/English program options for the gifted.

1. Budget

In language arts, the budget should allow and provide for the purchase of paperbacks, magazines, and other supplementary materials to be used in addition to textbooks.

2. Access to resources

Students should have easy and unlimited access to libraries, media and computer centers and their resources.

3. Skills in content areas

Students should be encouraged to utilize language skills among and within the various disciplines.

4. Foreign Language

- Foreign languages should be offered earlier than on the secondary level, as early as possible, but not later than middle school.
- Gifted students should be encouraged to learn a second language.

5. Release from, and credit for, previously mastered material.

When students can demonstrate competency through a test score, a product, or a grade from a course completed elsewhere, especially at a higher level, they should be released from previously mastered material. They should get credit, where applicable, especially on the secondary level.

III. REQUIRED SKILL SCOPE AND SEQUENCE

The scope of the language arts curriculum is unlimited. It involves, as the chart on the next page indicates, the development of different products, with diverse purposes, for various audiences. The sequence of skills does not really follow a linear progression. Gifted students, in particular, master skills out of the sequence in district curriculum guides. Students should be allowed to move ahead as rapidly as they can, and be excused from skills they have mastered.

IV. CURRICULUM MODIFICATIONS

A. GENERAL MODIFICATIONS

In teaching the component parts of language (reading, writing, speaking, non-verbal expression and research skills) to gifted children, the general principles of content modification in Part II.B.1, above, should be applied:

1. higher level process skills;
2. interest-based content, knowledge;
3. level or rate of learning acceleration;
4. both discrete disciplines and interdisciplinary approaches.

B. SPELLING/VOCABULARY

These skills are best taught **in context** as integral parts of material read and written by the **individual students**.

C. WRITING AS A PROCESS

A study analyzing the methods of over 70 different writing projects around the country (Hillocks, 1983) demonstrated that writing is a **student-centered** process that involves emotional as well as cognitive development. Lessons on writing in language arts should facilitate this sequence of research-based steps illustrated in the chart below: motivation, pre-writing; generating the first draft; revising/editing, including peer editing; evaluation.

Therefore, in the teaching of writing, teachers should emphasize the following.

1. Motivation should be based on **student interests**.
2. Students should write a **variety of products**, with diverse purposes, for **different real audiences**, as the chart at the beginning of this section indicates.
3. The emphasis in writing should be the **generation** of creative and critical content.
4. Students should strive for clarity in their writing selections.
5. Proper use of mechanics is an outgrowth of the writing process, and best done in context, as **part of the editing stage** in the writing process. Peer editing is an effective technique for learning to edit.
6. Evaluation of products is best accomplished with specific, limited **pre-established criteria**. Assessment should be done by **self**, peers as well as others.

C. READING

1. Students need to be encouraged to read for pleasure, and therefore must have a **choice of selections** for reading.
2. Literary selections must represent a **variety of genre** and reflect the **abilities**, interests, and needs of the gifted student.
3. There should be student **involvement in analysis, evaluation, and interpretation** of material read.
4. Students must be offered a **choice of responses to reading**, based on learning styles and interests.
5. Students should read for information and be able to **evaluate the usefulness** and appropriateness of the material.
6. There should be a focus on literary criticism as it relates to different genres, particularly in secondary classes.

D. RESEARCH SKILLS

Research skills are crucial to the development of intellectual independence for the gifted.

1. Research skills should be taught **in the context of student needs**. The skills should be taught as students are working on a research project and need specific skills, but only if they have demonstrated that they have not yet mastered that skill.
2. Students should incorporate specialized and **varied retrieval systems** (primary and secondary sources) in their investigative procedures.
3. The result of research is a **creative product** to be evaluated according to pre-established criteria in which the student had input.

V. TEACHING STRATEGIES

Each of the recommendations in Part II.A.1., Methods and Teaching Strategies for the gifted, apply:

1. content/process/product differentiation
2. grouping
3. motivation
4. learning environment, atmosphere
5. student choice; providing variety, flexibility
6. organization, responsibility
7. resources
8. evaluation

Teachers should take the following five steps in providing for gifted students in language arts.

1. Assess **learning styles** and provide for differences.
2. Establish **safe physical and psychological** learning environment.
3. Provide **multiple sources and choices** of information/materials, assignments and activities.
4. Instructional techniques: **student-centered and chosen activities** should be the focus of the gifted classroom.
 - a. **Student-centered** activities may include:
 - Laboratory
 - Research Projects
 - Games
 - Manipulatives

- Independent study
- Individualized pacing
- Decision-making
- Leadership experiences
- Affective experiences
- Multi-media use
- Mentorships/internships
- Role-playing/Simulations
- Interviews/Surveys
- Debates
- Word-processing

b. Teacher-centered activities man include

- Discussions
- Demonstrations
- Tutoring
- Questioning
- Lectures

5. Grouping opportunities for:

- a. individual and small group activities
- b. having a mentor and being a mentor to younger students

VI. EVALUATION

See section II.F., Student Evaluation, below. All of the aspects of evaluation, the evaluator, what is to be evaluated, the criteria, and the procedures for evaluation apply in the study of English and language arts, as well as other content areas for the gifted. In addition, however, the following criteria have special emphasis in a course, or unit, focusing on language.

1. Creativity: originality, elaboration, flexibility, fluency

2. Appropriate level of material used

3. Critical thinking

- a. clarity of expression
- b. clarity of analysis
- c. appropriateness of evaluation
- d. appropriateness of form and style to the medium of expression and for the intended audience

4. Professional standards--as they apply to diverse student products

Different media, or different products for diverse purposes, for varying audiences (a research paper, a poem, a play, a computer program, a letter of application, etc., see product list above for language arts) require different criteria. Students should be taught to use these diverse criteria.

5. Individual progress

It is useful to get baseline data, or a "pre-assessment" on students by evaluating a writing sample or other products at the beginning of the year. These may be compared to a post-assessment of a similar sample at the end of the year in order to measure individual progress.

3. MATHEMATICS

I. INTRODUCTION

Mathematics in the gifted program seeks to incorporate the necessary skills in the numerical domain, while fostering the use of higher level thinking skills. Students must be presented with a rich array of situations in which they interact with numbers and their operations as they relate to the cognitive and affective domains. Mathematics should be directed toward an enriching, non-textbook, student initiated type of program, in addition to basic math instruction.

The gifted math program should be more concerned with qualitatively, rather than just quantitatively, different types of study; the focus should be on different rather than more or faster work.

II. POLICIES

Since there are multiple arrangements in programming (heterogeneous, self-contained, pull-out cluster, advance placement and accelerated classes), it is important to implement certain policies in order to better serve the needs of gifted students. Each of the following policies which are elaborated in Part I.E. (please see) are appropriate to mathematics program options, as well as for other content areas for the gifted, and should be part of the program design:

1. time minimum
2. budget
3. homogeneous grouping
4. not penalizing students in pull-out programs
5. acceleration possibilities
 - students should be pre-tested in skills, and excused to go onto higher level cognitive activities
 - continuous progress, but being maintained at the same grade level;
 - continuous progress in a basic skill, by going to a higher grade level for that subject;
 - curriculum compacting or straight linear acceleration (the same work faster);
 - simultaneous enrollment in courses at different grade levels, especially, post-secondary
6. credit
7. recordkeeping for attendance
8. evaluation and grading
9. access to resources

There are, however, specific policy recommendations essential to the implementation of an effective mathematics program option for the gifted.

1. Adequate funding is essential to make the required flexibility possible. This funding should include, but not be limited to, calculators, abacus pattern blocks, tangrams cuisenaire rods, computer hardware and software. Teacher materials should be provided for non-text, student activities.
2. Pre-testing is essential to allow students to test out of previously mastered material and to provide for the most effective use of time.
3. Simultaneous enrollment in courses at different grade levels including post-secondary.
4. Evaluation and grading must not penalize students attempting more difficult work.
5. Assignments required as part of regularly scheduled gifted program should replace, not add to, gifted students' regular classroom workload.
6. Early exit from math courses should be allowed, provided students meet state graduation requirements.
7. Internships, mentorships, apprenticeships and cross-age activities should be provided for by district policy.

IV. CURRICULUM MODIFICATIONS IN MATHEMATICS

A. INTRODUCTION

Math in the gifted and talented curriculum is designed to be a framework for individual learning alternatives. It should be flexible enough to meet the needs of both students and teachers.

In order to teach math more appropriately to the gifted, teachers must teach content that is more complex, more abstract, and organized with more divergent activities, and related to more concrete applications than the regular mathematics curriculum.

B. BASIC MATHEMATICS CONCEPTS AND SEQUENCE

1. Basic skills as the foundation of all mathematics.
2. An understanding of number systems, sequencing, patterning, and theorems.
3. Vocabulary
A clear understanding of definition, pronunciation and use of mathematical terms.
4. Research
Understanding the historical development of mathematics and its dependence on the technology of the time.
5. Accelerated scope and sequence for the gifted.

C. CONTENT AND PROCESS DIFFERENTIATION

In teaching math to gifted children, the general principles of content modification in Part II.B.1.(please see) above, should be applied:

1. higher level process skills;
2. interest-based content, knowledge;
3. level or rate of learning acceleration;
4. both discrete disciplines and interdisciplinary approaches.

All the process skills as listed in this guide are considered essential to the math content for the gifted, but not all students progress at the same rate. Some students may need more emphasis on basic math skills, while others progress rapidly.

Manipulatives are highly recommended because they benefit all students, but gifted students can experience inductive and deductive reasoning much more quickly and will have greater retention with their use.

D. APPLICATION OF MATHEMATICS SKILLS WILL INCLUDE:

1. understanding of binary operations, number theory and models;
2. problem solving that is challenging, enriching, non-text and non-routine activities;
3. estimating answers and evaluating the reasonableness of answers.

V. STRATEGIES

A. GENERAL APPROACH

Each of the recommendations in Part II.A.1., Methods and Teaching Strategies, apply:

1. content/process/product differentiation
2. grouping
3. motivation
4. learning environment, atmosphere

5. student choice; providing variety, flexibility
6. organization, responsibility
7. resources
8. evaluation

B. CONTENT AND SKILL MODIFICATIONS

In addition to the regular content in mathematics, gifted students need additional learning experiences that consider:

1. The **aesthetic** aspects of nature and the visual and performing arts as they apply to mathematics.
2. Understanding the implications of mathematics in **ethics** which includes statistics (graphs and polls), space technology and future impact of math advances.
3. The use of **tools** in mathematics includes calculators, abacuses, cuisenaire rods, pattern blocks, computer literacy, word-processing, computer ethics, simulations, and problem-solving.

C. LEARNING ENVIRONMENT

The learning environment should be one which is student-centered so that it fosters **intrinsic motivation** and **internal locus of control** rather than based on teacher-made decisions.

Students should feel that risk-taking and reasoned views are valued in classrooms and that the teacher's response will be **non-judgmental**. This atmosphere needs to be rich in hands-on and printed materials for students' intellectual stimulation.

D. ORGANIZATION AND RESPONSIBILITIES

The gifted program in math should be organized to produce a learner who can be independent as a problem-solver and apply solutions in a real world context. Task commitment and self-direction characterize giftedness in mathematics as well as other content areas. Individualization and self-initiated study are essential to these students. Strategies should be developed to offer students options based on styles and individual capabilities.

Teacher and student responsibilities for organization in the classroom may be distinguished in the following way.

• Teacher responsibilities

1. a facilitator/guide in the selection of variety of materials and learning
2. provider of learning and instruction in needed skills
3. evaluator with student
4. provide an atmosphere which fosters risk-taking and hypothetical ideas

• Student responsibilities

1. identify areas of personal interest
2. acquire skills necessary for problem-solving
 - a. identify problem
 - b. develop a plan for a solution
 - c. implement plan
 - d. evaluate solution
 - e. develop the product
 - f. evaluate product
3. develop skills in self-evaluation which includes process, individual progress and product evaluation

E. STUDENT PRODUCTS

Student-made products should be developed in math. Products produced in mathematics can be :

- (1) one dimensional, i.e. lines, written formulas,
- (2) two dimensional (spatial/visual) i.e. graphs, sketches, etc.
- (3) three dimensional, i.e. models, games, (kinesthetic).

Students in gifted programs should consider products in all these areas. These products make the concepts of application, transfer, and creativity useful, realistic experiences. The chart on the following page suggests a variety of products appropriate for math. (Also see Part II. E. below, for further product suggestions.)

VI. EVALUATION IN MATH

See section II.F. Student Evaluation below. All of the aspects of evaluation that apply, the evaluator, what is to be evaluated, the criteria, and the procedures for evaluation, apply in the study of mathematics, as well as in other content areas for the gifted.

In addition, however, the following three evaluation criteria should also be kept in mind in a course or unit focusing on math.

Process evaluation

- Risk-taking, the willingness to be wrong, and the capacity to analyze a problem, or project that did not succeed, are appropriate criteria in math for gifted students.
- The capacity to perceive applications of mathematics to other disciplines, is essential to the development of a mathematician, and is therefore a useful criterion.

Product evaluation

The criteria students should strive for are those used in the profession, which will vary according to the application, product and medium of expression chosen by students (it could be anything from art and music to architecture and science).

4. SCIENCE

I. INTRODUCTION TO SCIENCE FOR THE GIFTED

The goals of science education have remained essentially unchanged for decades. Effective science education should produce scientists and informed citizens prepared to deal responsibly with social issues related to science and technology. However, when dealing with the gifted, science education takes on new directions and dimensions. Instead of simply learning process skills, the gifted use those skills as a means to an end, i.e. "real life" research without predetermined outcomes.

In addition to learning concepts, the gifted use their knowledge of the concepts to extend their understanding at the analysis, synthesis, and evaluating levels. The basic concepts students should understand are as follows:

1. the nature of scientific inquiry;
2. the limitations of science and of the scientific method;
3. the interconnectedness of the elements of the physical world;
4. the scientific basis of problems in society;
5. the historical development of scientific concepts and their dependence on the technology of the time;
6. our place in nature and the causal relationships involved in scientific discovery;
7. the rapid rate of change of scientific information and the flexible nature of the discipline;
8. the ethical consequences of the use of new technologies.

II. POLICIES

Gifted students require time and resources beyond that generally provided by the regular school program. Each of the following policies which are elaborated in Part I.E. (please see) are appropriate to science program options, as well as for other content areas, and should be part of the program design:

1. time minimum
2. budget
3. homogeneous grouping
4. not penalizing students in pull-out programs
5. acceleration possibilities
 - students should be pre-tested in skills, and excused to go on to higher level cognitive activities
 - continuous progress, but being maintained at the same grade level;
 - continuous progress in a basic skill, by going to a higher grade level for that subject;
 - curriculum compacting or straight linear acceleration (the same work faster);
 - simultaneous enrollment in courses at different grade levels, especially, post-secondary
6. credit
7. recordkeeping for attendance
8. evaluation and grading should not penalize students attempting more difficult work
9. access to resources

These are, however, additional policy recommendations that should be stressed in the implementation of an effective science program option for the gifted.

1. Materials

Laboratory equipment and materials must be provided at all levels K-12. Scientific periodicals should be available.

2. Testing

It is important that pre-testing on content and process skills be administered so that students can test out of mastered materials to provide for the most effective use of time.

3. Simultaneous enrollment in courses at different grade levels including post-secondary.

4. Assignments required as part of regularly scheduled gifted program should **replace, not add to**, gifted students' regular classroom workload.

5. Evaluation and grading must not penalize students attempting more difficult work.

III. REQUIRED SKILLS/SEQUENCE IN SCIENCE

There are basic process skills dealing with the scientific method common to all grade levels of science instruction. These skills are integrated into science courses as suggested by the chart on the following page. They are included repeatedly with a greater level of sophistication and a greater degree of elaboration. Major among them are the following:

1. Observing/communicating
2. Classifying
3. Inferring
4. Predicting
5. Measuring
6. Interpreting data
7. Making operational definitions
8. Formulating questions and hypotheses
9. Experimenting
10. Formulating models

IV. CURRICULUM MODIFICATIONS IN SCIENCE

While taking into consideration individual interests, abilities, and learning styles of gifted students, certain content modifications are appropriate for all students. In teaching science to gifted children, the general principles of content modification in Part II.B.1 (please see), above, should be applied:

1. higher level process skills,
2. interest-based content, knowledge,
3. level or rate of learning acceleration,
4. both discrete disciplines and interdisciplinary approaches.

The science content and process skills should be offered at a more complex and higher level of thinking and they should be accelerated for gifted students. Emphasis should be placed on these approaches:

- inquiry,
- independent studies, laboratory experiences,
- open-ended exercises,
- presentations before professional audiences,
- mentorships.

V. INSTRUCTIONAL STRATEGIES

A. INTRODUCTION

Each of the recommendations in Part II.A.1., Methods and Teaching Strategies, apply:

1. content/process/product differentiation;
2. grouping;
3. motivation;
4. learning environment, atmosphere;
5. student choice; providing variety, flexibility;
6. organization, responsibility;
7. resources;
8. evaluation.

B. INTRINSIC MOTIVATION; SELF-AWARENESS; INTERNAL LOCUS OF CONTROL

The curriculum should aid students in understanding themselves, and make them aware of their strengths and limitations. These areas are critical for learning:

1. Interest

Define, develop and expand areas of personal interest in order to expand intrinsic motivation and reinforce internal locus of control.

2. Learning styles

Provide a variety of materials and methods suitable to different or preferred approaches for learning.

3. Capabilities

Recognize and accept abilities and limitations.

B. CURRICULUM ORGANIZATION AND RESPONSIBILITIES

The gifted curriculum should be organized to develop multiple options so that students may become independent learners. Strategies should be developed to offer students varied options.

1. Flexibility

a. The gifted classroom must provide an atmosphere that fosters creativity, critical thinking and problem solving. The role of the teacher becomes chiefly the provider of variety and choices in these areas:

- content
- time
- grouping
- resources
- cognitive skills

b. The following types of instruction are appropriate. Student-centered activities have been demonstrated as being the most effective.

Student centered

- laboratory
- learning activities packet
- research projects
- games
- manipulatives
- independent study
- instructional modules
- model building

- simulation
- observation

Teacher Centered

- lecture
- demonstration
- discussion
- tutoring
- recitation
- questioning

2. Teacher responsibilities as facilitator, rather than director of instruction should do the following:

- guide students in selection of variety of materials and resources;
- provide a learning environment that allows risk-taking and so that students may become independent , intrinsically motivated learners;
- provide instruction in needed skills;
- evaluate student progress.

3. Student Responsibilities include:

- identify areas of personal interest and need;
- acquire skills necessary for scientific inquiry including:
 - decision-making,
 - planning,
 - implementing,
 - task commitment,
 - evaluation,
 - risk-taking,
 - critical thinking,
 - problem-solving,
 - curiosity.

VI. EVALUATION OF STUDENTS IN SCIENCE

See section II.F. Student Evaluation, below. All of the aspects of evaluation, the evaluator, what is to be evaluated, the criteria, and the procedures for evaluation apply in the study of science as well as other content areas for the gifted.

In addition, however, the following evaluation criteria should also be kept in mind in a course or unit focusing on science.

Process and individual progress evaluation

- Risk-taking, the willingness to be wrong, and the capacity to analyze an experiment, or project, that did not succeed, are appropriate affective goals and evaluation criteria in science.
- The capacity to generate testable hypotheses, even if they don't work, are essential to the development of a professional scientist's creative thinking, and is therefore a useful process criterion.
- The ability to analyze the social and ethical consequences of discoveries or new technologies is a major responsibility of scientists. Progress toward this goal should be part of student evaluation.

Product evaluation

The standards students should strive for are those used in the profession, for example, those used in the Westinghouse competition.

RESOURCES IN SCIENCE FOR THE GIFTED

PERIODICALS

American Scientist

Challenge

Environment

Wildlife

New Scientist

Omni*

Science Science Challenge

Science and Children

Scientific American*

The American Naturalist

The Physics Teacher

SCIENCE PROGRAMS

-from the National Science Foundation:

BSCS: Biological Science Curriculum Study, Houghton Mifflin *

ISCS: Intermediate Science Curriculum Study, Silver-Burdett

ESCP: Earth Science Curriculum Project, Houghton Mifflin

PSSC: Physical Science Study Committee, Heath*

SCIIS: Science Curriculum Improvement Study

IPS: Introductory Physical Science, Prentice-Hall*

QPS: Quantitative Physical Sciences, Duke University

ESS: Elementary Science Study*

The Search for Solutions, Phillips Petroleum*

U.S. Dept. of Energy, Washington, D.C.

American Science and Energy Museum,

Ed. Dept., Oak Ridge, TN. 37830

PLACES

NASA

National Geographic Society, Washington, D.C. 20036

Huntsville Space and Rocket Center, Huntsville, Alabama

Scripps Oceanographic Institute, La Jolla, Ca.

Boys' Life

Discover*

National Geographic Magazine* National

Nature Scope

Odyssey

Science

Science World

The American Biology Teacher

The Science Teacher

World

5. SOCIAL STUDIES

I. INTRODUCTION

Social Studies is the study of individuals and groups in society. Because the world is changing so rapidly, facts become quickly obsolete and process skills take on increasing importance. An essential component of the social studies curriculum for gifted students is an emphasis upon higher level thinking skills. Gifted young people need to have their potential developed by engaging in learning experiences that require analysis, synthesis (creativity), and evaluation.

The process skills identified as essential components of a curriculum for the gifted have particular relevance in social studies. Each skill area (creative and critical thinking, communication, problem solving and independent learning) must be addressed since, by the nature of social life, these skills are necessary for an individual to be an effective citizen in contemporary society.

In addition, a large number of gifted students will assume leadership roles during their lifetimes. Consequently, social studies holds distinct opportunities for preparing effective decision-makers for a global society.

II. POLICIES

In most states, the majority of gifted students are involved with pull-out programs, spending the largest part of their time in heterogeneous, self-contained classroom environments. Recognizing this arrangement, it is important to implement certain policies in order to better serve the needs of gifted students.

Gifted students require time and resources beyond that generally provided by the regular school program. Each of the following policies which are elaborated in Part I.E. (please see) are appropriate to social studies program options, as well as for other content areas for the gifted, and should be part of the program design:

1. time minimum
2. budget
3. homogeneous grouping
4. not penalizing students in pull-out programs
5. acceleration possibilities
 - students should be pre-tested in skills, and excused to go onto higher level cognitive activities
 - continuous progress, but being maintained at the same grade level;
 - continuous progress in a basic skill, by going to a higher grade level for that subject;
 - curriculum compacting or straight linear acceleration (the same work faster);
 - simultaneous enrollment in courses at different grade levels, especially, post-secondary
6. credit
7. recordkeeping for attendance
8. evaluation and grading
9. access to resources

These are, however, additional policy recommendations that must be stressed in the implementation of an effective social studies program option for the gifted.

1. Adequate funding is essential to make the required flexibility possible. This funding should include, but not be limited to, periodicals, field trips, newspapers, up-to-date maps and globes, current audio-visual materials, and research materials for in-depth study.
2. Pre-testing will be offered to allow students to test out of previously mastered material and to

provide for the most effective use of time.

3. **Simultaneous enrollment** in courses at different grade levels including post-secondary

4. **Evaluation and grading must not penalize** students attempting more difficult work.

5. **Assignments** required as part of a regularly scheduled gifted program should **replace, not add to**, gifted students' regular classroom workload.

III. REQUIRED SKILLS/ SEQUENCE

Since gifted students enter classes at various levels, it is important to evaluate student mastery of required skills and content in order to adjust the rate and level of instruction. Teachers must feel free to use flexibility in "covering the curriculum" in order to serve this population effectively.

IV CONTENT MODIFICATION IN SOCIAL STUDIES

Taking into consideration individual interests, abilities, and learning styles of gifted students, certain content modifications and strategies are appropriate for effective options in social studies.

1. Intra/Interdisciplinary Approach

Concepts and themes should be developed across the social studies (sociology, geography, government, economics, history, anthropology, psychology), as well as other disciplines (mathematics, language arts, science, fine arts, foreign languages, etc.). The chart on a following page indicates the scope of the content of social studies within the social sciences and across other disciplines.

2. Inquiry-Based Approach

Active student involvement in in-depth investigation and actual research is important. Through the use of community resources, students should utilize the methodology of the disciplines to take on the roles of historians, sociologists, anthropologists, and political scientists.

3. Problem Solving and Decision-Making Approach

Opportunities should be provided for analysis of complex social systems and cultural patterns and how they change, and on study of the future, not just the past. **Leadership development, ethical reasoning** in relation to citizenship and social change, and conceptualizing at a high level of abstractness and complexity are important components. Working on **actual problems**, and various **creative problem-solving** approaches are crucial to social studies for the gifted, since it is from their ranks that many of our future leaders will emerge.

V. INSTRUCTIONAL STRATEGIES

A. ALTERNATIVE MATERIALS AND SOURCES

In an effort to overcome the limitations of a single text in dealing effectively with native Americans, ethnics groups, women in history, and causes of historical events, multiple sources of information (newspapers, periodicals, research and reference materials, current audio-visual materials, and resource people) should be utilized.

B. LEARNING ENVIRONMENT

The learning environment should be one which is **student centered**. Risk-taking, awareness, and appreciation of the perspectives of others, and multiple student options are key

elements. There should also be an emphasis on the provision of hands-on and up-to-date printed materials for student use.

C. MULTIPLE STRATEGIES

The strategies listed below work well within this atmosphere and provide opportunities for individualizing the social studies curriculum and making it based in real experiences for gifted students:

- Simulations focusing on solving social problems
- Work on real local, state or national problems
- Case studies
- Active student involvement in decision-making
- Field-based experiences
- Leadership and management training and experiences
- Individualized pacing
- Self-directed studies
- Research
- Community resources
- Mentorships
- Affective experiences
- Debate

VI. EVALUATION IN SOCIAL STUDIES

The goal that gifted students become self-directed learners dictates that evaluation techniques be expanded to meet that goal. This will require that current methods (pre-tests, post-tests, demonstrations, and standardized tests) be supplemented with alternate forms of teacher, student, and peer evaluation.

Appropriate evaluation for gifted students' projects will emphasize individual progress as measured on pre-determined criteria. All of the aspects of evaluation, the evaluator, what is to be evaluated, the criteria, and the procedures for evaluation apply in the study of science as well as other content areas for the gifted. (See section II.F. Student Evaluation, below.)

In addition, however, the following evaluation criteria should also be kept in mind in a course or unit focusing on social studies.

Process and individual progress evaluation

- Risk-taking**, the willingness to be wrong, and the capacity to accept others' views are critical cognitive and social skills that should be emphasized and evaluated in social studies.
- The affective goals of a gifted program should be emphasized and may be appropriately evaluated in social studies.
- The capacity to **generate creative solutions to social problems** is essential to the development of a professional social scientist's creative thinking, and is therefore a useful process criterion.
- The ability to analyze the **social and ethical consequences** of political decisions or new technologies is a major responsibility of social scientists. Progress toward this goal may be part of student evaluation.

Product evaluation

- The criteria students should strive for are those used in the profession, which may include comprehensiveness of a perspective or analysis, and its relation to multiple disciplines.

D. TEACHING REQUIRED OR BASIC SKILLS

In dealing with required or basic skills in either the regular classroom, or in a content-specific gifted program option, a three pronged approach is most effective for the gifted.

1. Diagnostic testing

Gifted students should be regularly pre-tested, or given diagnostic testing, using either commercially prepared pre-tests or tests the teacher planned to use at the end of a unit to determine which skills or competencies a student has acquired. Test results should indicate which of these four curriculum modifications is appropriate:

(a) Students should be **excused** from spending time on skills or competencies in which they have demonstrated proficiency. Time freed this way should be spend on activities of the students' choice, not on extra teacher-determined work, although the student may be asked to apply his or her skills in a self-selected activity.

(b) **Remediation** may be necessary for students functioning far below minum levels, but this should not be more of the same. Ideally, gifted students should have skills or competencies integrated into a topic or project that interests them, so their distinctive motivation will be stimulated.

(c) Students functioning two or more grade levels above in specific skill area may be offered the option of **continuous progress** by going to a higher level class in that subject area.

(d) Students functioning three or more grade levels above their own in all skill areas may be allowed the option of **skipping a grade**, especially if there are signs that a student is bored, and not getting along with age-mates who are not ability peers.

2. Grouping

An extremely effective grouping for basic skills is by learning style, or preferred learning modality, rather than just by achievement test scores. Options (c) and (d) in (1) above should also be considered as grouping possibilities, depending on student preference and learning style.

3. Means, not end

Gifted students, as well as most students, are more motivated, learn skills more quickly, and transfer them into application more readily, if skills are integrated into a meaningful activity or project they are interested in. Therefore, the most effective way to teach skills is as a means, not an end. Specific examples of these are included in the various content area modifications discussed in Section C above, but see especially, English/language arts (Part II.C.2).

E. STUDENT PRODUCTS AND PROJECTS

Students should be allowed to have a range of **choices** in doing products and projects . This is not only to motivate students by offering them options, but so that students explore a wide **range of media**, so they can find their best and distinctive medium of expression. To encourage such exploration, teachers should suggest, or offer examples of media for, products in each of these categories:

- verbal: written and oral;
- non-verbal, ie., visual, kinesthetic;
- multi-media: audio and video cassettes, computers, painting, dance, mime, etc. ;
- interdisciplinary as well as those specific to each discipline.

To assist teachers in applying the process skills and strategies to the curriculum, the four following pages are charts for each of the process areas, designating strategies and products specific to each area that are appropriate for gifted students.

The charts list many appropriate products and projects indicating :

- the type of **medium**
 - auditory/oral
 - written
 - spatial/visual
 - kinesthetic
- the **process skills** applied
 - critical or creative thinking
 - independent learning
 - communication
 - affective
- the **content** areas addressed
 - interdisciplinary
 - language arts
 - math
 - science

In addition, some of the content areas in II.C., above, (see especially Language arts/English and Math) have charts including product suggestions.

D. TEACHING REQUIRED OR BASIC SKILLS

In dealing with required or basic skills in either the regular classroom, or in a content-specific gifted program option, a three pronged approach is most effective for the gifted.

1. Diagnostic testing

Gifted students should be regularly pre-tested, or given diagnostic testing, using either commercially prepared pre-tests or tests the teacher planned to use at the end of a unit to determine which skills or competencies a student has acquired. Test results should indicate which of these four curriculum modifications is appropriate:

(a) Students should be **excused** from spending time on skills or competencies in which they have demonstrated proficiency. Time freed this way should be spend on activities of the students' choice, not on extra teacher-determined work, although the student may be asked to apply his or her skills in a self-selected activity.

(b) **Remediation** may be necessary for students functioning far below minum levels, but this should not be more of the same. Ideally, gifted students should have skills or competencies integrated into a topic or project that interests them, so their distinctive motivation will be stimulated.

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(d) Students functioning three or more grade levels above their own in all skill areas may be allowed the option of **skipping a grade**, especially if there are signs that a student is bored, and not getting along with age-mates who are not ability peers.

2. Grouping

An extremely effective grouping for basic skills is by learning style, or preferred learning modality, rather than just by achievement test scores. Options (c) and (d) in (1) above should also be considered as grouping possibilities, depending on student preference and learning style.

3. Means, not end

Gifted students, as well as most students, are more motivated, learn skills more quickly, and transfer them into application more readily, if skills are integrated into a meaningful activity or project they are interested in. Therefore, the most effective way to teach skills is as a means, not an end. Specific examples of these are included in the various content area modifications discussed in Section C above, but see especially, English/language arts (Part II.C.2).

E. STUDENT PRODUCTS AND PROJECTS

Students should be allowed to have a range of **choices** in doing products and projects . This is not only to motivate students by offering them options, but so that students explore a wide **range of media**, so they can find their best and distinctive medium of expression. To encourage such exploration, teachers should suggest, or offer examples of media for, products in each of these categories:

- verbal: written and oral;
- non-verbal, ie., visual, kinesthetic;
- multi-media: audio and video cassettes, computers, painting, dance, mime, etc. ;
- interdisciplinary as well as those specific to each discipline.

To assist teachers in applying the process skills and strategies to the curriculum, the four following pages are charts for each of the process areas, designating strategies and products specific to each area that are appropriate for gifted students.

The charts list many appropriate products and projects indicating :

- the type of **medium**
 - auditory/oral
 - written
 - spatial/visual
 - kinesthetic
- the **process skills** applied
 - critical or creative thinking
 - independent learning
 - communication
 - affective
- the **content areas** addressed
 - interdisciplinary
 - language arts
 - math
 - science

In addition, some of the content areas in II.C., above, (see especially Language arts/English and Math) have charts including product suggestions.

F. STUDENT EVALUATION

1. Principles of Evaluation

Typical school-directed evaluations, such as pre-tests, post-tests, demonstrations and analysis of products, are done on a continuing basis. This kind of assessment determines the achievement of basic knowledge, but rarely goes beyond recall level of cognition. Evaluation of gifted students, however, must be consistent with the major process objectives of gifted education:

- higher level critical and creative thinking;
- independent learning;
- advanced communication skills;
- higher level emotional and social skills (Maslow, Richert);
- advanced ethical development (Kohlberg, Level III).

In addition, the Hippocratic principle of **do not harm**, must be the determiner of decisions about evaluation methods and procedures.

This will require that current methods (pre-tests, post-tests, demonstrations, and standardized tests) be modified in these ways:

1. the emphasis in evaluation;
2. the learning environment (the context of evaluation);
3. who is involved in evaluation (the evaluators);
4. what aspects of student learning is to be evaluated (which must be related to the curriculum objectives);
5. the evaluation criteria to be applied;
6. the procedures to be used.

2. FOCUS OF STUDENT EVALUATION

One curriculum objective is to have students learn to evaluate themselves. Student self-evaluation will foster higher level critical thinking skills, the highest levels of emotional and social skills, and self-direction in learning which is necessary for the maximum development of gifted potential.

It is the role of the teacher to teach the gifted to learn to evaluate their projects and their individual progress, rather than just relying on the judgments of adults or others.

Evaluation should emphasize individual progress rather than competitive ratings that are based on external standards or norms.

3. LEARNING ENVIRONMENT

An atmosphere that is consistent with the goals of evaluation in gifted education should support the following:

- Open-mindedness that allows for the expression and critiquing of diverse views is essential for the development of critical thinking skills.
- Evaluation criteria that include originality and divergence are crucial for fostering creativity.
- Respect for differences, acceptance of limitations, and stress on cooperation as well as competition are required for the nurturing of emotional and social potential.
- Opportunities for self-evaluation and decision-making about their own learning will develop all aspects of gifted potential.

4. EVALUATORS

As students develop projects, appropriate evaluation, including teacher, peer, and self-evaluation should begin.

a. Self

Rather than depending on test scores or adults, gifted students should become more responsible for their own progress through self-evaluation. Teachers of gifted students should prepare students by structuring an evaluation process either through a check-list developed with students, or predetermined criteria for judging.

b. Peer

Participating in peer evaluation of **products**(not students) develops these abilities:

- application of evaluation criteria;
- offering constructive criticism;
- accepting the limitations of others and one's self;
- becoming an independent learner.

c. Teacher

The purpose of teacher evaluation is not to give the final word, but to help students test their judgments of their own progress and products.

d. Professional

Occasionally on the elementary level, and regularly on the secondary level, professionals in the field or medium used by students in their products should participate in evaluation. The purpose is not for professionals to give grades, but to teach students appropriate evaluation criteria and how to apply them.

5. WHAT IS TO BE EVALUATED

These aspects of students' learning related to appropriate objectives for gifted education may be evaluated:

- products;
- process skills used in class, in peer interactions and in products;
- emotional development;
- individual, rather than just comparative progress.

6. EVALUATION CRITERIA

Appropriate evaluation for gifted students' projects will emphasize individual progress as measured on pre-determined criteria. These criteria should eventually be related to the criteria used in professional fields in order to give students a realistic framework for evaluation.

The emphasis of the criteria should be on:

- individual progress, rather than just comparative judgments;
- originality rather than just on conformity to teacher expectations;
- the process of learning rather than just on the outcome, or the product.

The criteria will vary depending on what is evaluated. Teachers and students should discuss and come to agreement about which of the following criteria will be used to evaluate products, process, or individual progress.

1. Creativity

- Originality (how unusual)
- Elaboration (how detailed, complete, or effective)
- Flexibility (how different media, or information is related)
- Fluency (how many, or how much--this is the least important)

2. Critical thinking

- clarity of expression

- clarity of analysis
- appropriateness of evaluation
- appropriateness of form and style to the medium of expression and for the intended audience

3. **Appropriate level of material** (vocabulary, complexity, etc.)

4. **Independence or cooperation** (depending on the agreed upon criteria)

5. **Individual progress**

It is useful to get baseline data, or a "pre-assessment" on students by evaluating a product at the beginning of the year. These may be compared to a post-assessment of a similar sample at the end of the year in order to measure individual progress.

6. **Professional standards** (as they apply to student products)

Different media, or different products (a research paper, a poem, a play, a computer program, a business letter, etc.) require different criteria. Students should be taught and encouraged to use these diverse criteria.

Gifted students should learn the criteria used for evaluation in professional fields (non-academic), because that is eventually how their work will be judged. After understanding real world standards, students should evaluate their growth toward them, rather than having the standards stringently applied to their work.

7. EVALUATION PROCEDURES

a. Teaching evaluation

Essential elements for teaching students evaluation should include:

- developing criteria with students;
- developing methods for making assessment (checklists);
- deciding who will be involved in the assessment;
- applying criteria as consistently as possible.

b. Grading

If grades are to be assigned, they should reflect both quality as perceived by others, and self-evaluation. Students should not be penalized because they are in some form of homogeneous grouping. Their work should earn them grades that are no lower than what they would get for the same work in a heterogeneous class.

c. Methods

It is recommended that several of the following methods or indicators of performance may be used for evaluating student progress in relation to specific criteria.

- personal journals
- checklists (for product or process evaluation)
- demonstrations
- peer teaching
- observations by trained professionals
- rating scales for products (not students)
- classroom discussions
- open-ended questions
- essays (oral and written)
- objective tests (when applicable to higher level objectives)

PART IV. STAFF DEVELOPMENT

The implementation of an effective gifted program requires staff to be prepared to carry out their various responsibilities. Therefore a staff development plan is essential. Long-range, all staff members, including administrators, need some training in:

- identification and characteristics of the gifted;
- the academic and psychological needs of the gifted;
- how to meet those needs in heterogeneous grouping.

The sections in Part II above, especially those which are asterisked below should be helpful in designing staff development for these groups.

- A. GENERAL PRINCIPLES
- B. PROCESS SKILLS FOR ALL PROGRAM OPTIONS
- C. CONTENT MODIFICATIONS
 - 1. General principles
 - 2. English/Language Arts
 - 3. Math
 - 4. Science
 - 5. Social Studies
- D. TEACHING REQUIRED SKILLS
- E. PRODUCTS AND PROJECTS
- F. STUDENT EVALUATION
- G. SAMPLE INTERDISCIPLINARY UNITS

Teachers responsible for the gifted when they are grouped homogeneously in various program options need intensive training. Training should focus on all seven areas of Part II, with special emphasis on the asterisked sections below.

- A. GENERAL PRINCIPLES
- B. PROCESS SKILLS FOR ALL PROGRAM OPTIONS
- C. CONTENT MODIFICATIONS
 - 1. General principles
 - 2. English/Language Arts
 - 3. Math
 - 4. Science
 - 5. Social Studies
- D. TEACHING REQUIRED SKILLS
- E. PRODUCTS AND PROJECTS
- F. STUDENT EVALUATION

PART V. NATIONAL RESOURCES

National Clearinghouse for Gifted Education Resources

E. Susanne Richert, Director

700 Holly Dell Court

Sewell, N.J. 08080

609-582-7000

National Association for Gifted Children

4175 Lovell Rd. Box 30, Suite 140

Circle Pines, MN 55014

ERIC Clearinghouse on the Gifted and Talented and The Association for the Gifted

The Council for Exceptional Children

1920 Association Dr.

Reston, VA 22091

National Coalition for Gifted Education Associations

George Fichter, Director

Ohio Dept. of Education

933 High St.

Worthington, OH 43085

Gifted Education Resource Center

John Feldhusen, Director

Purdue University SCC-6

West Lafayette, IN 47907

Torrance Center for Creative Studies

Mary Frasier, Director

Dept. of Ed. Psychology

422 Aderhold Hall

University of Georgia

Athens, GA 30602

The SOL Institute

Mary Meeker, Director

343 Richmond St.

El Segundo, CA 90245

National/State Leadership Training Institute on the Gifted and Talented

Irving Sato, Director

Civic Center Tower Bldg.

316 W.2nd St. Suite PH-C

Los Angeles, CA 90012

Creative Education Foundation, Inc.

State University College at Buffalo

Chase Hall 1300 Elmwood Ave.

Buffalo, NY 14222

PART VII. NATIONAL JOURNALS/ PUBLICATIONS

Gifted Child Quarterly,
a publication of NAGC
4175 Lovell Rd.
Box 30, Suite 140
Circle Pines, MN 55014

Roeper Review, A Journal of Gifted Education
2190 N. Woodward
Bloomfield Hills, MI 48013

Journal for the Education of the Gifted,
a publication of TAG
1920 Association Dr.
Reston, VA 22091

Journal of Creative Behavior
State College at Buffalo
1300 Elmwood Ave.
Buffalo, NY 14222

G/C/T
Box 66654
Mobile, AL 36606

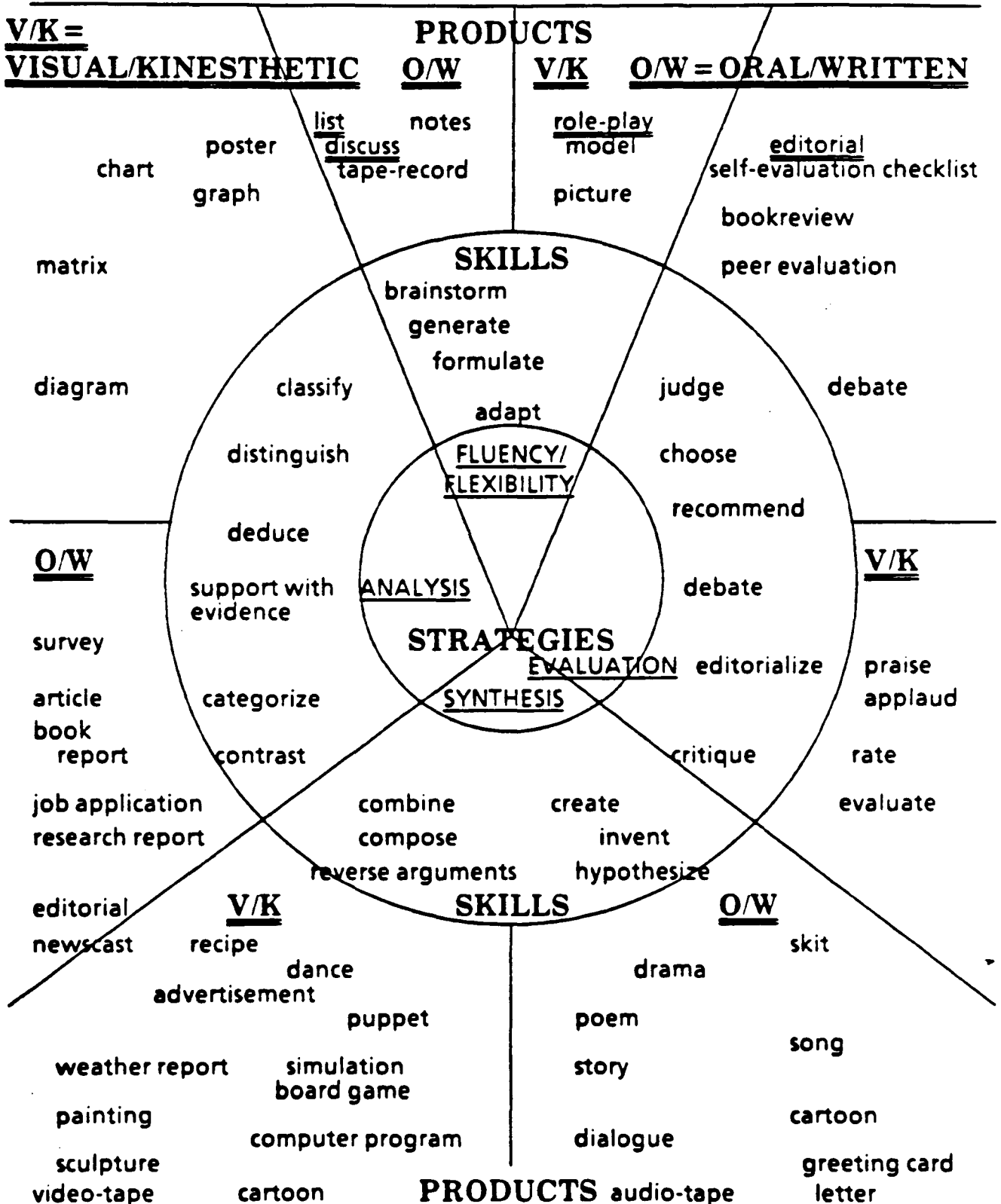
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- Curriculum for the gifted, Educational Information and Resource Center, Sewell, N.J. 1983.
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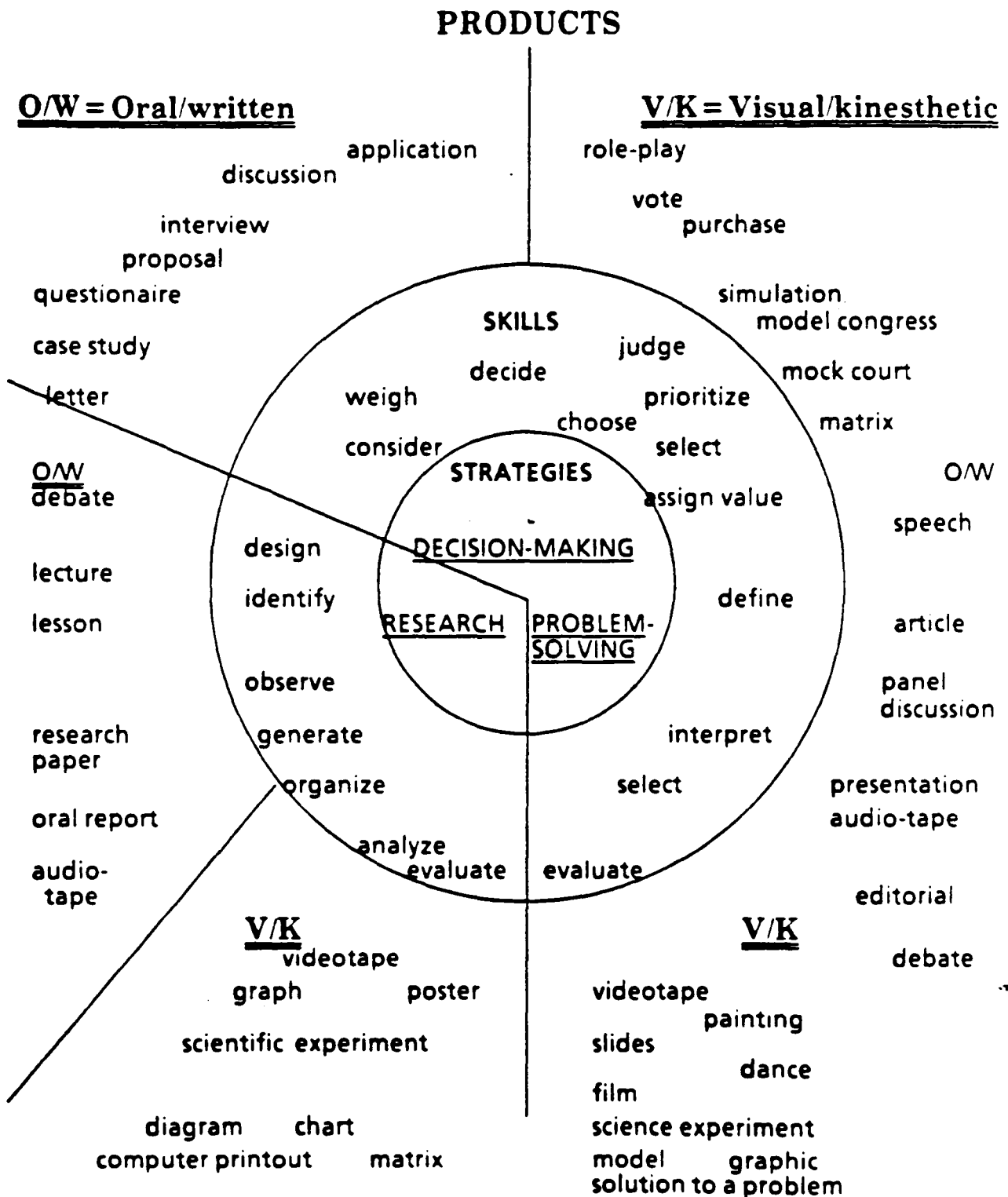
CHART OF PROGRAM PLANNING VARIABLES

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I. CRITICAL/CREATIVE THINKING

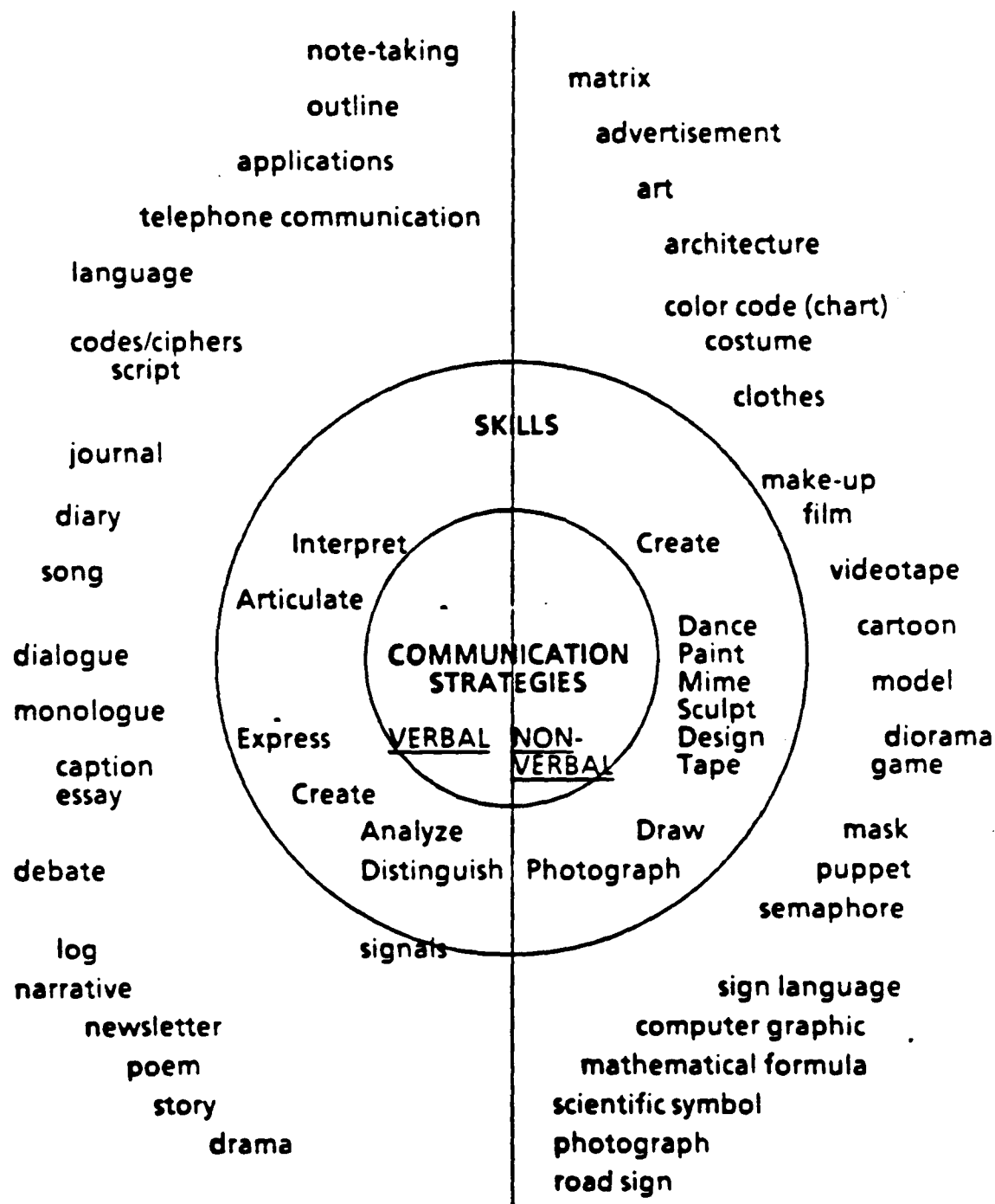


II. INDEPENDENT LEARNING

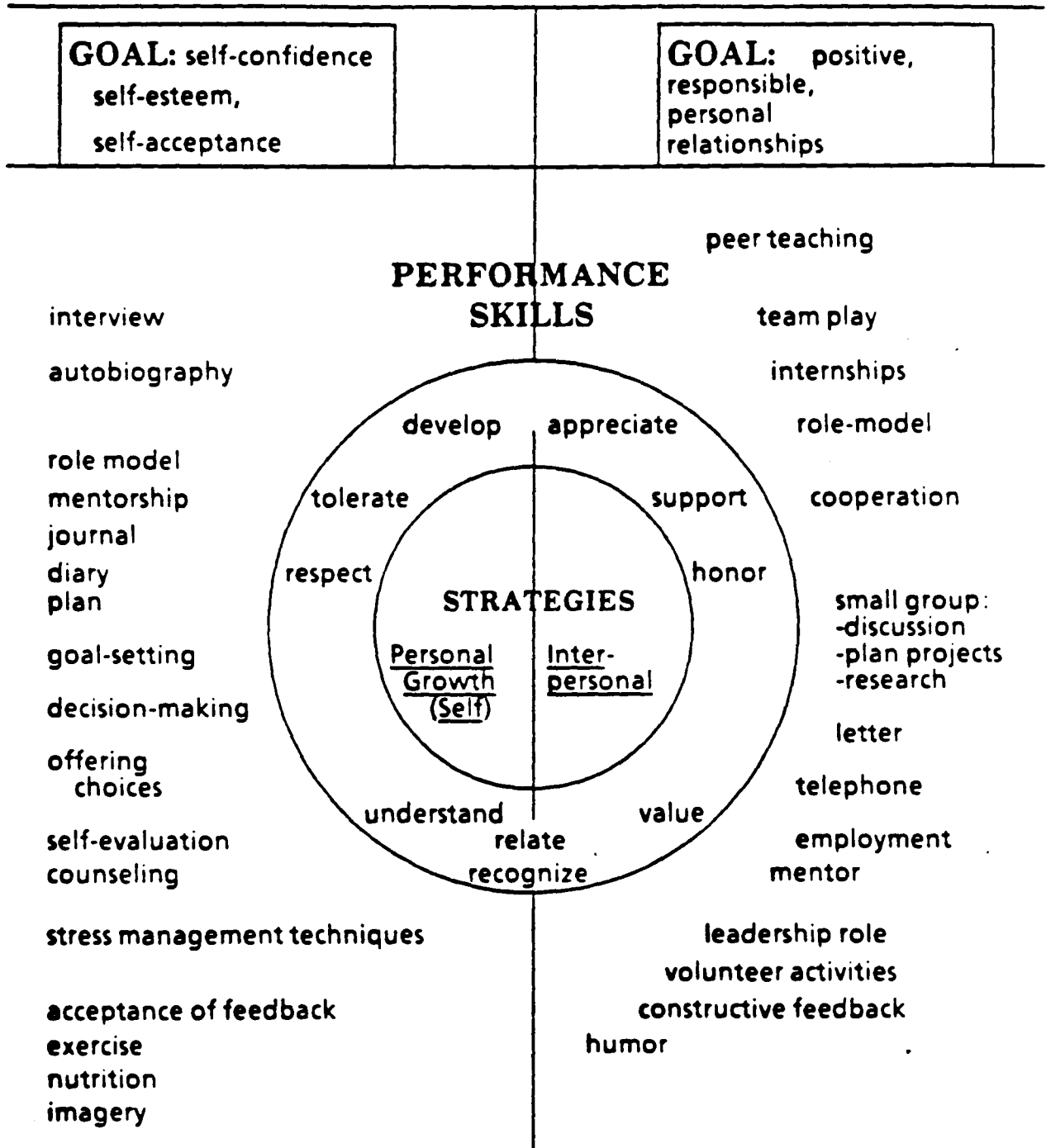


III. COMMUNICATION

PRODUCTS



IV. AFFECTIVE SKILLS

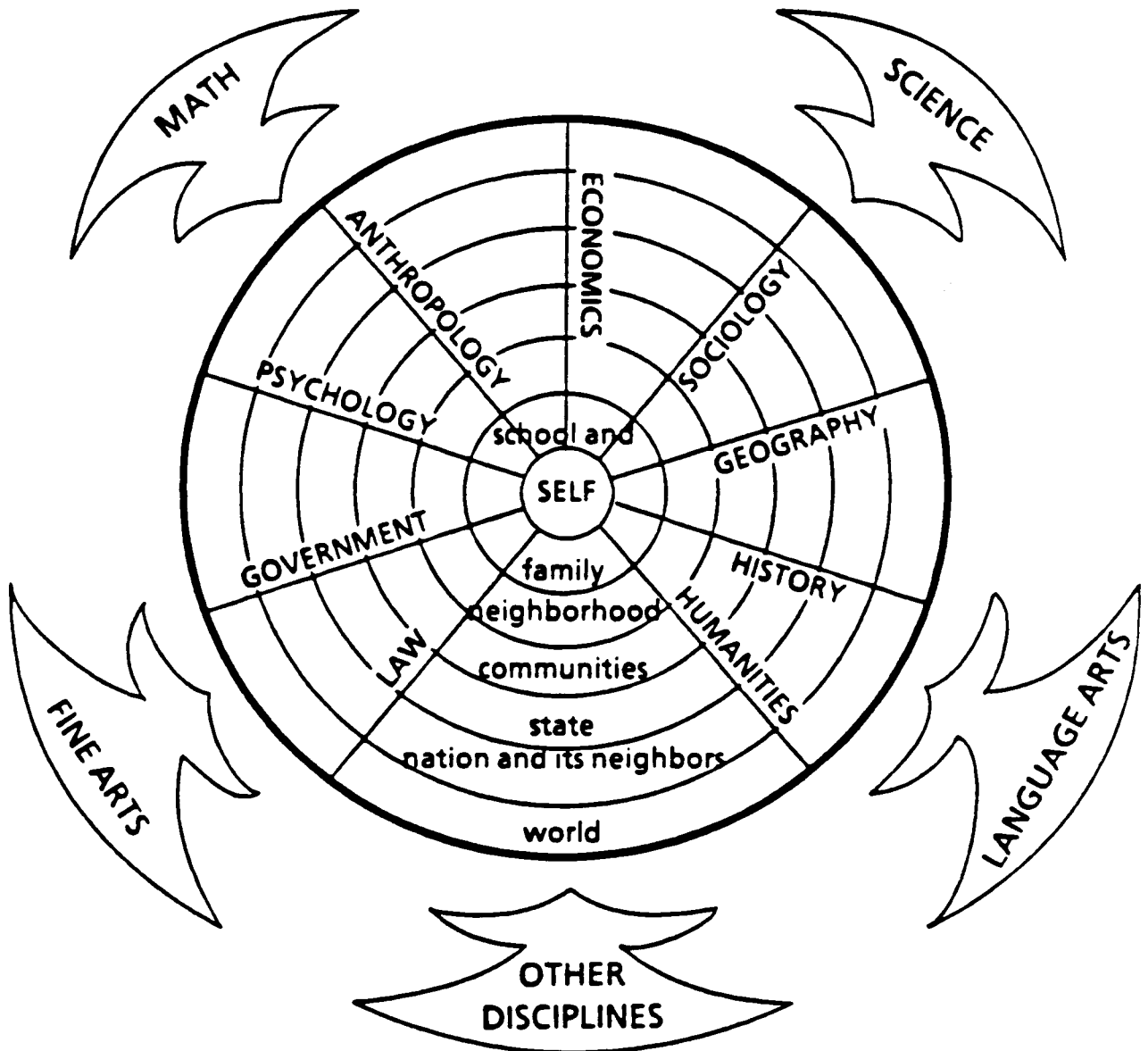


OUTLINE OF LANGUAGE ARTS PRODUCTS, SKILLS, AND AUDIENCES

MULTIPLE SKILLS	DIFFERENT PURPOSES	VARIOUS FORMS	DIVERSE AUDIENCES
• COGNITIVE	Record experiences Express ideas or opinions Ask questions, get information Catalogue information/ideas Organize tasks Analyze information Report/record information Demonstrate knowledge Teach others Edit own work Edit others' work Computer Literacy	Cluster outlines Sequential outlines Essays Essay tests Research projects Expository writing Dictionaries Checklists Business letters Computer programs Plan activities/work Minutes of meetings Speeches Announcements Editorials Directions News stories Interviewing	Teachers Acquaintances Experts Information Sources Employers
• CREATIVE THINKING	Creative problem solving	Titles for art Cartoons Poetry Satires/fables/myths Narratives Descriptions Plays Graphics "Occasional" cards Radio or TV announcements Advertisements TV scripts or screenplays Cassette recordings (audio/visual) Biographies Autobiographies "Book"	Editors Publishers
• AFFECTIVE • SELF-UNDERSTANDING • EMOTIONAL • INTERPERSONAL	Understanding others Expresses feelings Record experiences Solve personal problems Reinforce relationships Help others Make personal decisions	Greeting cards Personal letter Postcard Invitations "Thank you" notes	Self Peers Parents
• REQUIRED-SURVIVAL SKILLS	Identify own work Follow test directions Complete required forms (school, government, employment) Express complaints Influence others	Name on all work Address Test answers School forms Information forms Application forms Order forms Business letters Bank checks IRS forms	Government business school officials Groups Others

SOCIAL STUDIES...

as it relates to self and other disciplines



MATHEMATICS

Products and Strategies

