A Review of the Literature Concerning the Identification of Gifted Individuals

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A REVIEW OF THE LITERATURE
CONCERNING THE IDENTIFICATION OF
GIFTED INDIVIDUALS

BY

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Introduction

The purpose of this paper is to delineate and evaluate problems encountered in identifying gifted students in our school population and to propose a multidimensional definition and method for identifying these students in the future. The three major problem areas that will be considered are (a) the use of imprecise and often conflicting definitions of "gifted", (b) the use of screening procedures and/or identification techniques which may be of limited value, and (c) the problem of identifying gifted students among the "disadvantaged" and "minority" groups.

It is felt that the traditional identification process has, in the past, failed to locate many gifted and talented children. An evaluation of intellectual ability is no longer acceptable as the sole criteria to qualify an individual as gifted (Martinson, 1974). Personality is a many-faceted concept and a multidimensional approach to identification of the gifted will more accurately locate and describe those who could eventually contribute so much to our society. Based on this concept of giftedness as encompassing more than just intellect, a proposal for a multidimensional definition is included. Terman's work has emphasized the importance of environmental effects on intellectual ability (Barbe, 1965) so that it is only logical that stress should be
placed on early identification of these individuals so that our educational system can best serve their potential growth. The sooner these gifted students are challenged and encouraged, the less likely it will be that they will become bored, disenchanted or unhappy with school, thus limiting their growth and possible future contributions to our society (Anderson, 1961).
Definition of the Gifted

Traditional Definition

In order to identify certain individuals in our population and label them as "gifted", a criteria, definition or description needs to be agreed upon. For many years "giftedness" has been defined post hoc: that is, after such things as fame and eminence have been attained. Definitions were based on the individual's past performance, productivity and eminence (Albert, 1975). Both Galton and Freud (Albert, 1975) held the nineteenth century viewpoint that creativity and talent were basically biological attributes or "natural" abilities and were spurred by an inner drive or motivation that shaped the "gifted" personality. They described these individuals as highly productive in their field over a relatively long period of time, and as having similar kinds of positive skills and personality traits (as do average individuals) but to a greater extent (Telford & Sawrey, 1972). Albert (1975) indicated that this kind of definition includes various traits which would describe the gifted person" "perceptiveness, ...continuity, endurance, productivity, and influence" (p. 150). This type of definition may identify "gifted"; however, the identification would be possible only after the individual
had reached eminence. This definition allows for no provision to locate children in order to encourage development and offer educational advantages to those who may not otherwise receive it.

With the advent of individual intelligence tests, another definition of gifted evolved (Newland, 1976). According to Terman (Newland, 1976) those individuals who attained scores of 140 and above on the Stanford-Binet Intelligence Test were considered gifted. Over the years varying IQ points have been chosen arbitrarily by different authorities in the field (Gowan, 1971). For example, Telford and Sawrey (1972) reported that the most popular score for identifying gifted is currently 130, although some researchers use 125 and 120 if the child has other areas of consistently high performance (Telford & Sawrey, 1972).

Another method of identification in some school systems is to choose the top \(x\) percent of the children who are tested with a specified intelligence test. For example, a school system may choose to serve those who score in the top two percent on the administered test. The individual scores of those students may range, in one socioeconomic group, as low as 110, or may not go below 140 in another group, depending on the socioeconomic factors of the community. Gallagher (Hewitt, 1974) reported that if 140 was used as a cut off score, there would be one-half to one percent of the population above that level in an average socioeconomic community. There would be two to three percent in an area which had a higher socioeconomic level.
Thus different school systems would be serving widely divergent individual capacities if this definition were used.

These definitions just discussed have objectivity as an advantage but utilization of a single score as a determinant eliminates other personality factors as criteria. Creativity, musical ability, artistic talent and leadership qualities are a few of the personality factors which are not considered. These attributes have also been shown to be integral parts of the total gifted individual and deserve consideration. Several sources such as Frierson (1969) and Martinson (1974) indicated that many studies have been made which reveal that the individual IQ test, notably the Stanford-Binet, is the best single measure for creative potential. Consequently it may tap more than just the intellectual ability.

Recent Multidimensional Definition

A newer concept of giftedness encompasses many other characteristics of a person. In most cases these characteristics can be observed behaviorally. The total person is considered. Both his intellective and his non-intellective attributes are assessed (Durr, 1960; Telford & Sawrey, 1972).

Intellective. The intellective aspect of the multidimensional definition is similar to the traditional definition in that it includes intellectual characteristics that are not affected by the learning processes. And it also adds physical characteristics which are inherent biologically.
In comparison to the average population, the gifted tend to learn more quickly and apply that learning to other situations more readily (Telford & Sawrey, 1972). They acquire symbols more easily and subsequently learn to read as preschoolers (Durr, 1960; Telford & Sawrey, 1972). They tend to score high on individual IQ tests, to use abstractions easily, to understand complex relationships and to have a high level of conceptualization, recall and reasoning ability (Keating, 1975; Telford & Sawrey, 1972). They are also highly verbal. As small children, they tend to speak in full sentences far ahead of their peers (Kirk, 1972). They have excellent memory and many times exhibit an unusually large vocabulary.

Burt's research (1961) stated that many highly gifted people work out problems with non-verbal means which he calls "synthetic, intuitive, or productive...rather than...the analytic, logical, or reproductive" (p. 135) type of thinking. Therefore, they may not excel on the analytical type of IQ tests. His research confirmed the importance of utilizing methods other than IQ tests for identification of our gifted.

"A gifted child is one who has the potential to develop creativity" (Gowan, 1971, p. 242). Aspects of creativity and originality which were found to be characteristic of the gifted are: uncommon, clever or unconventional responses and associations (Wilson, Guilford & Christensen, 1965). Also, Kirk (1964) and Lucito (1965) related that conformity-behavior is inversely
related to intelligence. The brighter children seem to be more task oriented and tend to ignore peer group conformity pressures. Because of such uncommon, unconventional or nonconformist behavior, Renz and Christoplos (1968) urged that particular caution be exercised in this area. They stressed the fact that the gifted's task proficiency, and their innovative behavior based on proficiency, must be channeled into society-preserving behavior. Otherwise, these tendencies may develop into risky law-breaking or society-destructive behavior. This should awaken a certainty in us all that positive identification and placement into appropriate programs is of prime importance in the early school grades.

The physical characteristics of the gifted have been examined and the results of several studies as reported by Telford and Sawrey (1972) and Kirk (1972) revealed superior scores on 34 physical ratings including height, weight and general bodily development. General health is better than average with fewer evident physical defects and fewer reported childhood diseases. Developmentally, milestones such as walking and talking are generally attained more quickly (Kirk, 1972) as is pubescence (Telford & Sawrey, 1972). One study cautioned that infant development at eight months, however, is not significantly different between gifted and average individuals (Willerman & Fiedler, 1974). Durr (1960) reported that the gifted score higher in mechanical facility than do their average peers.
In evaluating the ratio of boys to girls among the gifted, Terman found a slight advantage in the incidence of boys in his sample (Kirk, 1972). Subsequent studies have not found a significant preponderance of one or the other sex among this group that would corroborate Terman's findings (Telford & Sawrey, 1972).

Gifted individuals have measurably higher brain activity in response to sensory stimulation (Frierson, 1969). The higher the intelligence, as measured by one of the Otis tests of intelligence, the shorter the response time to flashes of light, and the more electrical activity in the brain.

**Non-intellective.** The non-intellective category of the multidimensional definition involves gifted characteristics which have been molded by the environment. Educational and social influences are examples of these characteristics. In the educational areas academic achievement is measurably more advanced than that of their peers. Durr (1960) reports that the gifted excel in reading, math and other intellectually oriented pursuits and generally receive a larger proportion of A's and B's in school. However, they do not excel to as great a degree in non-intellective areas such as home economics, shop, writing ability and art. Most gifted tend to like school but seem to be more critical of their texts and have higher expectations for their teachers (Durr, 1960).

Socially, the gifted seem to be popular with classmates and teachers alike. Telford and Sawrey (1972) report Johnson's
study which rates the gifted as above average in "courtesy, cooperation, willingness to take suggestions, and a sense of humor" (p. 113). Sociometric data indicate that the high-achieving gifted are chosen more often as workmates or playmates by their peers. However, when selecting their own friends, the gifted tend to choose from all intellectual levels (Kirk, 1964). Kirk (1964) reported that as intelligence increases over 165, popularity seems to decrease. Durr (1960) found that low-achieving gifted students were among the least liked in their classes. Jarecky (1965) noted that although the "socially gifted" are above average in intelligence, "high intelligence does not guarantee social giftedness" (p. 159).

It is currently recognized that gifted individuals are identified in larger numbers from among the socially and educationally advantaged classes of the population (Barbe, 1956; Kirk, 1972). Studies have shown also that the gifted students tend to have fathers in the professional occupations and have fewer siblings than the normal population (Barbe, 1956; Durr, 1960).

Welsh (1971) found that vocational interests among individuals with high verbal intelligence (as measured by Terman's Concept Mastery Test) was related to interest in the physical and biological sciences. They also showed a preference for occupations which stressed a rational and methodical approach to problems (as measured by the Strong Vocational Interest Blank).
Generally, in terms of personality, Anderson (1961), Milgram and Milgram (1976) and Newland (1976) cited studies which seem to prove the gifted are more stable emotionally than the average student. However, Chambers and Dusseault (1972) reported in their findings with college-age gifted that they appear to be "somewhat less well-adjusted than average college students" (p. 528). These results cast doubt on the traditional assumptions that gifted individuals are well adjusted socially. Malone (1975) also emphasized "correlation between social and emotional maladjustment with those high ability persons who are not given opportunities to develop their gifts" (p. 161). This study indicated that early identification and proper educational opportunities might result in a decrease in emotional maladjustment among the gifted.

In a study of the temperament of the gifted, Bonsall and Stefflre (1965) concluded that it is a fallacy to believe in superior adjustment among the gifted. They found no significant differences between gifted and average students in the following temperament traits: sociability, friendliness and cooperation. They also noted that restraint and thoughtfulness seem to be characteristics of most gifted individuals.

Gifted individuals were found to exhibit identifiable approach responses when motivated to learn. This tends to generate creative behavior. Gensley (1975) listed these responses
as: curiosity, courage, imagination and intuition. Payne, Halpin, Ellett and Dale's study (1976) tended to support a stereotypical view of the creative individual as artistic, sensitive and independent. And McIntosh (1966) revealed that even with their abundant positive talents, gifted seem to have self concepts that are not significantly different than those of an average population.

Proposal for a New Definition for Gifted

All of the information presented above is designed to give the reader an overall view of gifted individuals but a general guideline issued by the U. S. Office of Education may be of help in encapsulating the salient data. The following is quoted from Martinson (1974, p. 14):

Gifted and talented children are those identified by professionally qualified persons who, by virtue of outstanding abilities, are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contribution to self and society.

This broad guideline simply indicates "outstanding abilities" and "high performance" as criteria for giftedness. Therefore, our search for gifted individuals must seek out not only those who are intellectually gifted, but also those whose talents are in science, math, leadership, art, music or any other...
creative endeavor. Feldman and Bratton (1972) examined a group of fifth graders on 18 different criteria including IQ tests, teacher nomination, achievement measures, art and music grades, and creativity measures. They discovered that 92% of the students were selected by more than one measure, using the individual IQ score as the criterion. This study also recommended that since many facets of a person may reveal special ability, a multidimensional approach to identification is needed.

Martinson (1974) suggested that a good multidimensional definition for the gifted and talented would "include those with high general intellectual ability, those who manifest creative or productive thinking, those with specific academic aptitude, and/or those with ability in visual or performing arts" (p. 14). This description delineates the qualitative, or the major areas of proficiency, of the gifted and leaves open the quantitative evaluation that is determined by individual school districts. It is with this viewpoint that the balance of this paper is written.
Methods for Screening and Identification

The ultimate goal in identifying the gifted is to gather the most information possible about the individual through a variety of methods. These data would include personality characteristics as well as intellectual ability. Because of the expense involved in administering individual assessments to all students of a school population, "screening" measures have been developed to suggest possible gifted candidates. These measures narrow the field for the psychologist. It becomes more economically feasible then for individual intelligence tests to be administered to this smaller population.

Screening Procedures

Various screening procedures currently in use include: teacher, parent, peer and "expert" nomination; group intelligence, achievement and aptitude tests; and creativity measures. Each of these has some utility, yet none has been found to be without its limitations. Screening should be considered only as a first step toward identification and should be followed with an individual assessment conducted by a psychologist.

Teacher nomination. It would seem likely that a very good source of information about students would be the teachers who deal with them daily. The classroom teacher is in a position
to observe the behaviors exhibited by the children and to make recommendations based on these observations. Unfortunately, the results of most studies do not seem to support the efficacy of this method when used in isolation with an individual intellectual assessment as the criterion.

All 740 new kindergarten children were administered an individual intelligence test at the beginning of a school year in Jacob's (1970) study. Those who scored over 125 were considered to be gifted. After five months of school, teachers were asked for their recommendations. Of the nineteen students suggested, none was proved to be gifted and none of the students previously identified were nominated. In this case both the false negative rate (how many gifted are overlooked) and the false positive rate (how many who are nominated who are not gifted) was very high. After a period of seven months Jacobs retested these subjects previously identified as gifted and discovered that their average IQ score was lower than the first testing. This seems to suggest that gifted students overlooked by teachers not only fail to develop to their potential, but some "lose" that potential. This finding has been disputed by Graves (1973) who attributed the loss in IQ points to regression toward the mean and discounted Jacob's study as misleading.

Teacher effectiveness in gifted identification on the elementary level was reported to be low in the following studies. Jacobs (1971) reported a 9.5% effectiveness or false negative
rate and a 4.4% efficiency or false positive rate of teacher nomination of gifted on the kindergarten level. Somewhat better results were obtained in Pohl's study (Gear, 1976) which indicated that first grade teacher nomination effectiveness was 61.2% and efficiency was 57%. These figures do not seem to support the use of teacher nomination. It must be realized that these figures show that teacher nomination fails to identify four out of ten gifted students. Terman expressed his dissatisfaction with teacher identification by saying that "if you wanted to know who was the brightest child in a classroom, your best single chance of finding out was not to ask the teacher, but to take the name of the youngest child in the room" (Gear, 1976, p. 480-481).

Other studies, however, have reported improved effectiveness and efficiency ratings of teacher nomination improve when the teacher judgment is combined with a structural guideline for "giftedness". (Examples of several of these guidelines are included in the final section of this paper.)

Some teachers evidence significant misconceptions in identifying gifted individuals (Gallagher, 1959; Raveton, Farless, Wlekłinski, Donham, & Spencer, 1975; Sussman & Justman, 1975). To alleviate this problem, two methods have been suggested to provide guidance for teacher nomination. First, teacher training sessions (Gear, 1976; Kaufman, 1973; Wilson, 1963) were found to improve teacher judgments of gifted potential to a substantial degree. An 86% effectiveness was reported by Gear (1976) after teachers
attended an in-service workshop on the subject.

Secondly, use of a structured behavior check list has proven to be a particularly useful guidance tool (Martinson, 1974). Rensulli, Hartman and Callahan (1971) reported the efficacious use of the Scale for Rating Behavioral Characteristics of Superior Students (SRBCSS). They pointed out that this method delineates students' strengths and weaknesses so that a successful individual program can be designed for them.

The Kaufman Critical Observation Scale (K-COS) is another available structured guideline. It was reported to be a very successful screening device for gifted kindergarten children (Kaufman, 1973). Similarly, efficiency was doubled in another study with kindergarten children when a checklist was introduced (Kirk, 1972). Kirk also reported Kough and DeHaan's development of a Teacher's Guidance Handbook which can be used effectively to identify gifted among the maladjusted or handicapped population.

Scales such as those just mentioned are of definite value, but limitations must also be noted. In order for a checklist to be helpful, teachers need an understanding of the checklist characteristics to be identified. These characteristics need to be the kind that can be readily identified in the classroom (Torrance, 1975a). Another consideration is that teachers tend to resent the time needed to fill out paperwork, so the checklists should be concise, straightforward and easy to complete. Only by this means can the probability of correct use and proper
identification be assured.

**Parent nomination.** The use of parent referral has many of the limitations of teacher referral. Parents may have the same misconceptions about gifted as do teachers. However, Jacobs (1971) found that, with guidance, parents tend to be more efficient than teachers in nominating their gifted sixth grade children. He also found that at the early school levels, the parents' effectiveness was much higher. They nominated substantially fewer children and were more accurate in their choices. This is corroborated in another study (Ciha, Harris, & Hoffman, 1974). They reported a 67% parent effectiveness rating in nomination of their gifted children.

Many of the checklists used by teachers can be adapted for use with parents. For example, the new Behavioral Identification of Giftedness questionnaire (BIG) works in conjunction with a computer program. It has been reported to have a 100% efficiency on identification of giftedness (Malone & Moonan, 1975). The fifty-item questionnaire was completed by parents registering their kindergarten children in a San Diego pilot study, but this study does not elaborate on the style or content of the items. This computerized behavioral checklist shows definite promise and is expected to be reduced to less than ten items in the near future.

Parents can often provide information on these checklists about their child that cannot be readily observed in the school setting. However, it is extremely difficult for parents to be
completely objective (Martinson, 1974). According to Ciha et al. (1974) and Martinson (1974) caution that parental pride may tend to exaggerate a child's abilities. On the whole, if a parent-rating seems to be a more valuable source of information in identifying the gifted than a teacher-rating (Martinson, 1974), and intensive effort should be made to use this source to advantage in the future.

**Peer nomination.** Another source of information about the gifted individual is classmates or peers. Informal questionnaires of a sociometric nature could ask for names of those students who are the best "helpers" in academic tasks or who are "good" at art, music, etc. (Martinson, 1974). Odell (1975) suggested the following as a list of questions to give students about their peers:

1. most creative and original classmate(s), or
2. classmate(s) with most leadership, or
3. most scientifically oriented classmate(s), or
4. classmate(s) who does the best critical thinking, or
5. etc. (p. 17)

"The Guess Who" technique, as reported by Granzin and Granzin (1975), has been a successful way of screening children on non-intellectual gifted attributes. Additionally, it was noted that those children with higher IQs were more effective in identifying the gifted than their lesser endowed peers. They also caution that sociometric information obtained from
below the fourth grade level may not be as useful due to the possible inaccurate perceptions of gifted behavior by other children.

Martinson (1974) pointed out that children rarely like to be singled out as "different". Many times they effectively hide their talents thereby precluding any kind of nomination by teachers or peers.

Special aptitude tests. In several areas of special ability, tests have been designed to measure more objectively the talent that could be pointed out by experts. Excellent reviews listing examples of tests in artistic, dramatic, musical, rhythmic, leadership and mechanical abilities can be found in Havinghurst, Stivers and DeHaan (1955), Lazow and Nelson (1974) and F. T. Wilson (1965). Their results seem to indicate that, although the intellectually gifted often have gifts in these special ability areas, it must be recognized that there are individuals who could be singled out as gifted in one or more of these areas who are not intellectually gifted. Thus, results garnered in this way should be used in combination with other criteria for giftedness.

Group intelligence and achievement tests. Group intelligence and achievement tests have been used consistently to screen for gifted individuals over the years. Compared with the other screening measures previously discussed, the group IQ test is probably the most effective single predictor with
achievement test running a close second (Kaufman, 1973; Lazow & Nelson, 1974; Martinson, 1974; Pegnato, 1965). This effectiveness was reported to be approximately 92% by Pegnato (1965) if the criterion IQ score is 115. There is wastefulness in terms of efficiency which is only 18% when using the 115 IQ criteria. It is important to realize that identification should not be made based solely on this data. Martin (1974) made the point that when used in combination, group intelligence and achievement tests are probably the best predictors of giftedness available.

There are limitations in the use of these tests. By their nature, they are constructed for the majority of the population within a specific age and grade range. When administering these tests to the special population of the gifted, it must be noted that these individuals are significantly above the mean and therefore only the very few of the highest level items on the test would be discriminative. Barbe (1965) stated that authors of these tests readily admit the scores are less reliable at the extremes of the upper limits. This is a "ceiling" problem in that the tests used do not extend far enough to measure the individual's full ability. The effective test length for the gifted is very short (Keating, 1975). Martinson (1974) reported that in order for a student to appear gifted on these tests, he would have to have approximately 100% accuracy on all test items. As a result, there may
be as much as thirty points difference between a child's group and individual IQ scores. If a group IQ score of 125 is used, about half of the gifted are not included (Kincaid, 1969; Lessinger, 1965; Martinson, 1974; Pegnato, 1965).

Another criticism of the use of group intelligence and achievement tests has been the fact that they stress verbal abilities and may inadvertently place children from certain groups at a disadvantage (Barbe, 1965; Martinson, 1974). (This concept of "culture-fairness" will be discussed at length in another section of this paper.) Lazow and Nelson (1974) and Swiss and Olsen (1976) stressed that some gifted are under-achievers or poor readers or emotionally troubled and thus do not appear gifted on these group tests. Approximately 20% of the gifted would be overlooked if just a group achievement measure were used as a criteria (Pegnato, 1965).

A suggestion has been made for dealing with the "ceiling" and non-discriminative problems of group testing by Keating (1975). Because gifted individuals have mental ages far above their chronological ages, it seems appropriate to use tests designed for older individuals. For example, when testing ninth-grade students who are gifted, it would be appropriate to use the Scholastic Aptitude Test which is normally administered to 11th and 12th graders. Martinson (1974) recommended the development of specially-designed high-level achievement tests to be used solely with the gifted.
Another limitation of group IQ and achievement tests in locating the gifted is that "giftedness" involves more than just intellectual ability and achievement. Creativity is a component of giftedness that has been recognized increasingly over the last twenty years (Barbe, 1965; Guilford, 1950; Telford & Sawrey, 1972). It is rarely or poorly measured by group techniques and Anderson (1961) reported that in using the Otis Test, the California Test of Mental Maturity or the Metropolitan Test, about 70% of the highly creative children would not be identified.

Barbe (1965) stated that:

If by gifted children we mean those youngsters who give promise of creativity of a high order, it is doubtful if the typical intelligence test is suitable for use in identifying them. For creativity posits originality, and originality implies successful management, control and organization of new materials or experiences. Intelligence tests contain overlearned materials which...call for stable predictable response, not original creative reaction (p. 125).

Generally, there seems to be a very low correlation between creativity and an intelligence test score (Guilford, 1975). "Unfortunately, the gradually accumulating evidence increasingly suggests that these tests suffer from the same shortcomings: at best they account for only a minor portion
of the variation in creative performance" (Taylor, 1965) p. 530).

Creativity measures. Tests to measure the creative aspect of giftedness have gained in importance in the last twenty years. With the advent of Guilford's work on creativity (Guilford, 1950) the realization that high intelligence alone was not sufficient as a measure of talent (or giftedness), fostered efforts to measure and predict creativity. There is as yet no universally accepted criteria for defining creativity (Khatena, 1973). Among the concepts that have led to the development of many creativity tests are the production of divergent thinking, innovative and original ideas, novel solutions to problems and unique associations (Khatena, 1973). Guilford (1975) felt that creativity is a broad aspect of personality which includes four concepts: originality, elaboration, flexibility and fluency. These same traits have been proven important in a study by Rossman (1976) who found that "fluency and 'motivated originality' factors are important for creativity" (p. 399).

The validity of the various creativity tests has been a controversial question. Unusual, novel and divergent answers produced by children may or may not be predictive of behavior as adults. Few long range studies have been undertaken but the two that follow seem to be well designed and controlled.

The first deals with individuals from a high socioeconomic background. They were originally tested on the Torrance Tests of Creative Thinking as high school students and retested
after seven and twelve year spans, Torrance (1975b) reported that the predictive validity of this test is moderately high, but cautions that had the study tested individuals with limited opportunities, that the results would not have been so favorable. He supposed that the limited environmental influences would limit the development of creativity in the individual.

The other study tested fifth grade children with the Wallace-Kogan tasks and retested them after five years. Kogan and Pankove (1975) felt that there is evidence for "long term stability of creativity measures" and "evidence suggesting that performance on creativity tasks...can be predictive of activities and accomplishments outside the classroom" (p. 31). This indicates that measures of creativity in the classroom can be predictive of later achievement.

The tasks involved in the Wallace-Kogan measures of creativity are scored on the basis of the frequency and uniqueness of associations that are produced to stimulus situations (Khatena, 1973). This type of test is open to the criticism that the items are too subjectively scored. The Torrance Test of Creative Thinking and the Thinking Creatively with Sounds and Words test are two tests of creativity which successfully quantify responses (Khatena, 1973). These tests are timed and use a guideline of statistical frequency for scoring responses from 0 to 5 and 0 to 4 respectively. Khatena (1973) also noted a need for a system to judge the quality of the responses rather
than just the frequency of the response.

An effort has been made to approach this ideal with the use of The Stimulus Preference Inventory (Schaefer, 1975). It is a battery of 54 incomplete similies which each have five alternative endings in a multiple choice format. It is structured so that the choices differ in degree of novelty. When scored for novelty, scores were found to have a significant positive relationship to creative or novel responses on the Thematic Apperception Test and portions of the Torrance battery (Schaefer, 1975).

In summary, there is still uncertainty about the degree to which any currently available sets of "creativity" tests are valid predictors of important creative performances. Nevertheless, there is no reason to doubt that they are measuring other intellectual processes and non-intellectual characteristics that are not closely related to those involved in scoring high on intelligence tests and that essentially a different "gifted" group of persons will be identified as high scorers on these new tests than those selected as "gifted" by high scores on intelligence tests (Taylor, 1965, p. 59).

Expert nomination. Students who are exceptionally talented often create products which can be easily distinguished from products of their peers. Schools often compile annual literary and art publications of students' works or conduct art and music
competitions which showcase these talents. From these opportunities, special teachers can nominate those who are gifted in their fields. Additionally, many talented students are enrolled in private instruction and/or submit entries into community contests and exhibitions. Solicitation of expert opinion from their teachers and/or contest judges would certainly be another useful screening measure. Martinson (1974) cited Barron's warning that "evaluation of creativity should be made by people who can distinguish eccentricity from originality and who understand the qualities of complexity and originality inherent in the creative act" (p. 61). Schools should make every effort to utilize any information that could be gathered from "expert" sources to help identify gifted students in these specialized areas. It should be noted though that this is another type of source that should be used only in combination with other less specialized techniques for identification.

**Individual tests of intelligence.** Individual assessment with intellectual measures has, to this date, been the most widely used standard for giftedness. Most studies that validate screening measures use some form of an individual IQ test for comparison. The Wechsler Intelligence Scale for Children-Revised and the Stanford-Binet are currently the most popular and seem to be more predictive of giftedness than any other technique. Yet each has limitations (Martinson, 1974).

One criticism is that individual intelligence tests
emphasize verbal abilities and tend to disregard other abilities. In order to be predictive of school achievement, however, assessment of verbal ability is necessary. Another criticism is that these tests are poor predictors of creativity (Taylor, 1965) and thus do not identify the talented in non-intellective areas. One exception may be the Stanford-Binet which Martinson (1974) cited as being highly predictive of creativity.

"Ceiling" problems are more evident with the Wechsler than the Binet. They provide the best assessment technique available to date for the gifted. However, these tests may provide a very limited opportunity for performance. Gifted individuals usually basal above their chronological age and even though Binet levels continue through Superior Adult III, many individuals will continue answering correctly, thus never obtaining a "ceiling". An effort has been made by Ogden (1975) to use a regression equation to plot a table of extrapolated IQ scores for the WISC-R. This table yields scores in the upper IQ ranges. The same ceiling problem seems to be true of the Wechsler Preschool and Primary Scale. Ruschival and Way (1971) reported that scores from this test are much lower than those obtained by the same students on the Binet. The Binet provides a longer effective test for the gifted than do the Wechsler scales. Martinson (1974) stated that it is also the best individual assessment of creativity available in the form of an intelligence test, however, this author found no corroborating studies to support this conclusion. One other
criticism of intellectual assessment on an individual basis is that these instruments are to be given by psychologists, thus incurring a greater cost to the school system.

One individual intelligence test which does not require administration by a psychologist is the Slosson Intelligence Test (SIT). It has been reported to be a valid and reliable tool for gifted identification with the modifications discussed below (Machen, 1972). It has a high correlation with the Binet but none of the studies deal exclusively with the gifted population and the upper intellectual limits. Machen (1972) noted that the mean SIT IQ score is at least 15 points higher than the WISC and suggests that children scoring above 140 be placed automatically in a gifted program. Those who score between 130 and 139 should be referred for psychological evaluation.

The case study. A case study is the cumulative record of available data on the individual. It should be a summary of the individual intellectual assessment, group IQ and achievement results, creativity measures and teacher recommendations. It should also include information about the student which would describe his special talents, interests and abilities, psychological traits and relationships with people. Special mention should be made of his health, nutrition, home background and opportunities for success (Martinson, 1974). It should be as complete as possible, with contributions from various sources so that the psychologist can be in a better position to recommend
placement and programs for the individual that are appropriate.

In summary, the following is presented as a suggested battery for identifying gifted students. This author suggests that they are placed in order of predictive importance which is in agreement with the U. S. Office of Education Report (1972).

1. Individual intelligence test scores
2. Previously demonstrated accomplishments
3. Teacher nomination
4. Creativity test scores
5. Group achievement test scores
6. Group intelligence test scores
7. Case study.
Identification of the Gifted in the Disadvantaged Population

Who are the Culturally Disadvantaged? Anyone living in a culture, subculture, or family to acquire the basic skills, value systems, attitudes, and ways of life of that society and family may find himself culturally disadvantaged when he is either required or elects to live and compete in a markedly divergent culture. The population of the culturally disadvantaged has diverse origins. Some of the subgroups making up this segment of the population are ethnic minorities, people from isolated rural areas, migrant laborers, people inhabiting some self-contained urban villages, and most of the big, heterogeneous, poverty-stricken groups of people living in the slums of our cities (Telford & Sawrey, 1972, p. 428).

It has been suggested that priority be placed on identifying the gifted segment of our population to maximize their potential and contribution to society. It is of increasing concern to educators that proportionately fewer gifted individuals have been identified from among the disadvantaged population (Newland, 1976). Steps are being taken to investigate new procedures to remedy this situation. Research has been increasing in this area recently and although much of it is contradictory
and inconclusive, there is a basis here for suggestions to remediate the problem. Multidimensional approaches have been suggested so that fewer of these individuals will be overlooked since these individuals consistently have lower scores on group and individual IQ tests (Bruch, 1975; Sato, 1974).

Two major factions of the disadvantaged population can be delineated. First, the individual from an impoverished environment and secondly, the individual from a culturally different environment. These two categories are not mutually exclusive, yet it must be recognized that there are many individuals who would fall into only one of these groups.

Impoverished Environment

The individual from an impoverished environment may lack adequate food, shelter, encouragement or opportunities for attainment of his potential. He may be a part of a migrant family, have parents who do not have educational aspirations for their children, or he may be part of a poor family economically.

Children who are brought up in a migrant family must be considered as coming from an impoverished environment. The frequent moves attendant to harvesting crops hampers educational achievement. The child may be out of school for several weeks at a time and the constant interruption of schooling contributes to a very unstable learning environment. It would be rare if
a gifted child were identified from a transient family if only because the child were not in one place long enough to be noticed and evaluated (Martinson, 1974).

An impoverished environment could also be considered one in which the child gets little or no intellectual stimulation or encouragement from their parents. Parental attitudes have been found to have a great impact on the achievement of their children. If parents do not value education, the children will not be encouraged in school achievement. Neither will they be exposed to good books and intellectual stimulation in the home. Impoverishment in terms of a lack of intellectual exercise and encouragement severely limits the child's opportunities for attaining individual potential, especially in the gifted population (Frierson, 1965).

Similar findings reveal that the educational status of the parent seems to be significantly related to their children's performance in intelligence tests (Martinson, 1974). The more education the parent has, the higher the child's score.

The economic level of the family of gifted individuals has been extensively studied. It would not be surprising to find that the self-concept of low socioeconomic gifted students would be lower than that of higher socioeconomic gifted students. However, it was found that individuals in these two groups are more alike than different in terms of self-concept and other personality traits (Frierson, 1965; Johnson, 1966). Gruber and
Kirkendall (1973) reported that "both high and low achieving gifted students from disadvantaged environment seem to project more desirable personality scores as compared with students from a 'more normal' environment. It appears that living under adverse conditions may elicit the development of certain positive behavior traits" (Gruber & Kirkendall, 1973, p. 140). This is conjecture, however, and applicable only to the identified gifted population with which they were working. It is possible that disadvantaged gifted students who had negative personality traits were never properly identified.

Interests and activities of lower socioeconomic status gifted children differ from those of the higher status gifted. The latter prefer indoor play, hobbies, reading and have college aspirations. The lower status gifted group prefer to watch more TV, enjoy competitive sports more and do not like school as well (Frierson, 1965).

Social class or economic level was also found to influence originality. Aldous (1973) suggested that the lower class parents enforce conformity and obedience and thus limit their children from developing originality. Also, Frierson (1964) noted that upper class gifted individuals score better on creativity measures than do their disadvantaged peers. Both studies suggest a socioeconomic basis for differences in scores of originality and creativity.
Poor health and nutrition are also problems for children in a family which is disadvantaged economically. Each serves a major function in the development and nurturance of intellectual ability. They cannot be ignored as factors which may be affecting the number of gifted individuals who are identified from the disadvantaged population (Martinson, 1974).

**Culturally Different**

Culturally different individuals are not of inferior abilities simply because of differing cultural or ethnic background. The largest groups in America which are experiencing cultural disadvantage due to culturally different lifestyles are the Negroes, Puerto Ricans, Mexican-Americans and the Indians. In certain communities individuals of Asiatic or Italian origin are also culturally disadvantaged but these two segment of subcultural population seem to be assimilating into the dominant culture more rapidly and easily (Martinson, 1974). Recent studies have reviewed Jenkin's work concerning the relative incidence of giftedness among racial minorities. It is probable that the reasons for the lower percentage of higher intelligence people among these groups is due more to the economic and social aspects of their environment than their racial heritage (Adler, 1967; Martinson, 1974).

The individual from a culturally different background may encounter problems with language and communication or problems attendant to differences in cultural standards. It is of value
to consider the role of language in discussing the problems of cultural disadvantage. Those children who were reared from birth as bilingual do not seem to have as many problems as those who are introduced to a new language upon entering school (Martinson, 1974). Chen and Goon (1976) reported on Asiatic disadvantaged bilingual students who did not experience appreciable trouble in school as a result of language.

Unfortunately for individuals who are bilingual or speak a dialect peculiar to one segment of our nation, our assessment measures are primarily verbal and use "standard English". No doubt poor performance on these tests could be attributed simply to communication problems instead of intellectual ability (Martinson, 1974). Poor scholastic performance may in turn be related to similar problems in communication (Jaramillo, 1974).

Telford and Sawrey (1972) pointed out that the purpose of speech in a lower class community serves a different function than in a higher class one. "For the lower class individual, language serves to control others and to express feelings more than to convey information" (p. 448). Thus, elaboration of ideas and precisely informative statements are foreign to this group of people. It is no wonder that their responses to verbal items on an intelligence test are considered to have poverty of content. They are unused to using language in this way.

"Early linguistic patterns are more resistant to change
by ordinary educational experiences than are general perceptual and orientational processes...many lines of evidence indicate that language is the area most sensitive to the impact of the multiplicity of problems associated with experiential deprivation and cultural disadvantage" (Telford & Sawrey, 1972, p. 451).

In addition to unfamiliar "standard English" linguistic patterns, the culturally disadvantaged child is confronted with unfamiliar "Anglocentric" cultural values on intelligence tests (Gonzalez, 1974). Minority cultures have their own system of values and attitudes, many of which may be part of the dominant culture. On the other hand, there may be no values in common between the two cultures. Gonzalez reported of two tests, one based on Chicano values and the other based on Negro values. When administered to members of the dominant culture, they illustrate the problems involved in trying to succeed on test items for which there has been no previous exposure. (To date there has not been a concerted effort to devise a culture-specific test for Asiatic or Native Americans.) The point is made that it would not be of value to substitute either of these tests for individual IQ assessment. However, Gonzalez advocates the use of both types of measures to obtain an overall picture of the student.
Telford and Sawrey (1972) intensively studied the cultural aspects of various disadvantaged groups. Their conclusion is that generally "the typical child with a culturally disadvantaged background has handicaps which...originate in his home and subculture" (p. 443). The greatest problem is that their subcultural values are placed on manipulation of people and objects rather than communication of ideas or understanding of concepts (Telford & Sawrey, 1972).

The Issue of Culture-Fair Assessment

In dealing with culture-fair identification methods of the disadvantaged gifted, a brief warning should be noted. Not only are test instruments culturally biased, unfortunately, many teachers, administrators and evaluators are biased. It is important that teachers who have contact with this special group of students should be aware of behavioral messages that might be interpreted as prejudicial (Torrance, 1973) and harmful to the students. S. H. Wilson (1973) also showed that teacher personality variables did affect self-concepts of disadvantaged students. It would not be surprising if highly prejudicial teachers did not refer students for giftedness from the disadvantaged population.

As has been previously mentioned, the disadvantaged rarely do as well as they could on tests which are designed for the dominant culture. It could be argued that since dominant-
culture characteristics are needed for success in that culture, that the tests simply are predictive of potential for adaptability (Fishman, Deutsch, Kogan, North & Whiteman, 1967).

It may be that fewer gifted individuals from American subcultures have been identified simply because the construct of giftedness seems to be "defined in a social context...and differs from culture to culture" (Bernal, 1974, p. 262).

Certain skills and behaviors are reinforced in some cultures and not valued at all in others. For example, Sattler (1974) suggested that the following traditionally held values of Peublo Indians would hamper their test performance:

1. a desire for harmony with nature instead of a mastery over nature;
2. a present time orientation rather than future time orientation;
3. an explanation of natural phenomena by mythology and sorcery rather than by science, together with fear of the supernatural;
4. an aspiration to follow in the ways of old people, and to cooperate and maintain the status quo rather than to compete and climb the ladder of success;
5. a choice of anonymity and submissiveness over individuality and aggression; and
6. a desire to satisfy present needs and to share, in
place of working to "get ahead" and saving for the future (Sattler, 1974, p. 41-42).

These values would preclude the Indian child from having the motivation or desire to compete and do well (Sattler, 1974) in an intellectual assessment situation. It has been suggested that the white, middle class American values which would help test performance are: "a desire to do well, ... able to attend carefully to directions, and have a sense of time and competition" (Sattler, 1974, p. 42).

No wonder there is controversy and confusion about using biased identification techniques with subcultural groups. Fishman et al. (1967) suggested that it is a breech of professional ethics to misuse tests with the minority student. They also suggest that interpretations of results should be made not upon some published norm on the test but rather upon other comparisons:

In testing the minority group child it is sometimes appropriate to compare his performance with that of advantaged children to determine the magnitude of the deprivation to be overcome. At other times it is appropriate to compare his test performance with that of other disadvantaged children—to determine his relative deprivation in comparison with others who
have also been denied good homes, good neighborhoods, good
diets, good schools and good teachers. In most instances
it is especially appropriate to compare the child's test
performance with his previous test performance (Fishman
et al., 1967, p. 168).

Minority group children also are handicapped by a lack of
experience with the testing situation and thus score poorly
(Fishman et al., 1967; Martinson, 1974). They may be afraid
of the strange procedure and the examiner, they may have no
real motivation to do their best in the intellectual realm
(Fishman et al., 1967) or they may be unfamiliar with problem-
solving situations (Martinson, 1974).

The most important problem is with the tests themselves
(Malone, 1974; Torrance, 1971). Minority students' mean score
on the WISC and the Wide Range Achievement Test are signifi-
cantly below those of children who are middle-class whites
(Ellison, 1972; Ratteray, 1974). Efforts to find instruments
which are not as culturally biased have been concentrated away
from the verbal intelligence tests which have already proven
biased (Bernal, 1974; Fitz-Gibbon, 1974). One study by Fitz-
Gibbon (1974) chose scores in the upper two percent on the
WISC Performance Scale as the gifted criterion, then admin-
istered the California Test of Mental Maturity (CTMM), the
Raven Standard Progressive Matrices (SPM), which purports to
be culture-fair, and the California Achievement Test (CAT). The findings showed that the SPM is a quick, reliable, efficient and inexpensive technique to identify gifted culturally disadvantaged youngsters. (Since the CTMM and the CAT are basically measures of verbal and achievement abilities which, according to Rosenberg (1967), reflect middle class bias, their predictive validity is not as high.) A contradiction to this finding was noted by Martinson (1974) who stated that the Raven Standard Progressive Matrices and the Peabody Picture Vocabulary Test were culturally biased in favor of high socioeconomic groups. When compared to the Stanford-Binet, Sattler (1974) reported that the Progressive Matrices has more ethnic bias. Sattler also stated that the Peabody Picture Vocabulary Test yielded lower scores with ethnic minority students. This may be "a reflection of their verbal and experiential difficulties" (Sattler, 1974, p. 240). It was found, however, that randomizing the level of difficulty of PPVT questions leads to higher scores when used with preschool Negro children (Sattler, 1974).

Tests which yield lower results for cultural and ethnic minority groups than for advantaged whites seem to abound (Sattler, 1974). One other is the Columbia Mental Maturity Scale (CMMS), Third Edition, which can be used with children who have difficulty with oral communication. It attempts to
evaluate intelligence by using nonverbal means. However, its usefulness may be limited with ethnic groups because one study found that Negro kindergarten children obtained lower IQ scores on the CMMS than on the Binet (Sattler, 1974).

The Leiter International Performance Scale is another test which is useful with children who have language difficulties. Its culture fairness has not been established (Sattler, 1974) but one study found lower Leiter IQ's than Binet IQ's when administered to Negro preschoolers. It was suggested that the Leiter administration procedures may not be very reassuring to these children (Sattler, 1974)

It seems that nonverbal tests are not any more culture-fair than verbal tests. Sattler (1974) cited many studies which indicate that the Performance Scale of the Wechsler Intelligence Scale for children is at least as difficult, if not more so, than the Verbal Scale when testing Negro children. Those tests on the WISC and on the Binet which may have very "little socioeconomic bias include Digit Span, Block Design, and Mazes" (Sattler, 1974, p. 33).

The Stanford-Binet may have varying levels of culture-fairness, depending on Year level (Sattler, 1974). Each Binet year level contains items of different types of content compared to the level proceeding or following it. Theoretically, a child could discontinue on a more culturally biased year level and not have the opportunity to succeed on higher, less biased
year levels.

The Johns Hopkins Perceptual Test (JHPT) has been suggested by Rosenberg (1967) to be a culturally fair, short, preschool intelligence test. It was found to correlate positively with unspecified standardized intelligence tests when administered to middle socioeconomic status subjects. With low socioeconomic status subjects the correlations drop. Rosenberg states that there is no difference between the performance of the two socioeconomic groups on the JHPT, thus it is culture-fair. It would be of help to see more research on these findings and this test before definite conclusions are drawn.

Other efforts to find culture-fair tests have concentrated on Piagetian conservation tasks (Bernal, 1974; Rader, 1975) which requires the perception that quantity does not vary when only the shape of a container is changed. Lovell (1971) stated several studies which indicate that cultural isolation or lowered socioeconomic status retards perceptual development. However, Rader (1975) and Bernal (1974) both used techniques based on the concept that Piagetian developmental assessment would be more culture-fair than individual intelligence tests. Rader's study concluded that the Concept Assessment Kit (CAK), which measured Piagetian conservation skills, identifies gifted students' as accurately as does teacher nomination. (It must be remembered that teacher nomination is only about 50% effective.)
Bernal (1974) used the Cartoon Conservation Scales (CCS) with a Chicano population as a criteria for giftedness, because it has been standardized on that population. He notes that conservation tasks are not normally used as a criteria for giftedness because of a ceiling problem. The conservation skills are normally fully developed by eight years of age (Rader, 1975) so that using this with anyone older than about six years of age may not be discriminative. Martinson (1974) noted that studies in this area are fragmentary and contradictory. More research is needed before conclusive use is made of this method.

Torrance (1970) felt that the disadvantaged gifted exhibit certain "creative positives" which are important to note:

1. Ability to express feelings
2. Ability to improvise with commonplace materials
3. Articulate in role playing, creative activities
4. Enjoyment and ability in art, drawing painting, etc.
5. Enjoyment and ability in creative dramatics, dance, etc.
6. Enjoyment and ability in music
7. Expressiveness in speech
8. Fluency and flexibility in nonverbal media
9. Enjoyment and skills in group learning, problem solving
10. Responsiveness to the concrete
11. Responsiveness to the kinesthetic
12. Expressiveness of gestures, "body language," etc.
13. Humor
14. Richness of imagery in informal language, brainstorming
15. Originality of ideas in problem solving, brainstorming
16. Problem-centeredness
17. Emotional responsiveness
18. Quickness of warm-up (p. 201)

The Torrance Test of Creative Thinking has included many of these assets in an objective format and is considered culturally fair (Martinson, 1972; Torrance, 1971). Torrance (1971) cited several studies that indicate that Negroes excel on some subtests while whites excel on others but there is no significant difference when the total battery scores are compared. Similar results were found when socioeconomic status was compared. Torrance warns that although the test is predictive of adult achievement of advantaged gifted subjects, that unless opportunities are afforded the disadvantaged gifted child, there will be no evidence of their creativity in later years. The Torrance subtests seem to be a useful identification technique with the disadvantaged gifted population.

Bruch has suggested that the disadvantaged have specific intellectual strengths (Cox, 1974). They are: "visual and auditory figural content, memory operations, convergent production, classes products, units products, and systems products" (Cox, 1974, p. 199). Based on these strengths, Bruch (1971) chose to create an Abbreviated Binet for Disadvantaged (ABDA) which would favor Blacks. It consists of four items (out of
the original seven) on each age level of the Binet from Year II through Year XIV which were passed successfully by a group of 1,800 southeastern Blacks. Analysis of the items passed along with the items chosen by Bruch supported the hypotheses that the previously mentioned intellectual facets were indeed strengths for this type of population. Validation studies are reportedly in progress on what seems to be a promising identification procedure for Black disadvantaged gifted.

In considering cultural factors, it was hypothesized that the extent to which a variety of creative products are developed depends on the extent to which cultural influences permit the development of both freedom between the individual and his environment and freedom within the individual" (Stein, 1953, p. 322).

Forces now seem to be mobilized to search out the disadvantaged creative gifted and thus help to develop their potential.
Summary and Recommendations

It is suggested that a valuable asset for our society is not being developed to its full potential. That asset is the segment of our population who are gifted. Many gifted who manage to remain unidentified may languish instead of flourishing. It is a loss for both the individual and the society. The purpose of this paper is to review the literature concerning the identification of the gifted and to propose a solution. The solution utilizes a multidimensional definition and approach to identification.

Summary

The three important problems attendant to identification of the gifted are: (a) various definitions of the gifted have been proposed with differing criteria and methods of identification, (b) a wide variety of screening and identification techniques have been used with less than optimal success when used as single predictors and (c) locating the gifted among the disadvantaged population requires thorough, yet flexible, techniques because of the limitations of the traditional assessment techniques with those groups.

Definitions. Definitions of the gifted have varied. Traditionally, the gifted were identified post hoc, or after they had attained greatness. This type of definition is one that is
virtually useless for educational purposes.

Other definitions of the gifted have been based solely on a score obtained from an intelligence test. For example, many authorities have suggested using a score of 130 or above to indicate the belief that only the intellectually superior are considered to be in the gifted category.

Recent work with creativity and other personality factors has overwhelmingly shown that the gifted individual is a multifaceted, unique person with many talents. A multidimensional assessment technique is, therefore, the best method for complete description and identification. In summary, the gifted characteristically are not only those who have intellectual capacity but also who are superior physically and educationally. They generally come from socially advantaged environments and most are socially popular. Emotional adjustment of gifted individuals varies and no particular pattern has evolved that studies can measure.

Techniques. Identification techniques and procedures which have been used in the past are many times inefficient or ineffective or both. Various techniques available for use with the gifted include both screening measures and identification techniques. Screening measures include teacher, parent, peer and "expert" nomination and group achievement, intelligence, creativity and special aptitude tests.

Nomination by teachers, parents, peers and experts have
proven to be somewhat helpful. Although teacher nomination has a poor effectiveness and efficiency rating, it is the most readily available source of information about school children. Guidance for teachers in the form of checklists and in-service training has improved their effectiveness to the point where their nominations are useful (Gear, 1976; Kaufman, 1973; Wilson, 1963). Similar results were found when parents were given a structured format for information on their child (Ciha, et al., 1974; Jacobs, 1971). Parents are a source of information which should not be overlooked in that they have information about their child which may not be readily observed in the school setting. Peer and "expert" nomination are also good sources of information which can help screen for giftedness. It must be noted, however, that peer nomination is not generally useful in the age range prior to the fourth grade (Granzin, 1975). Community sources can often refer those talented in creative, artistic or musical endeavors. This "expert" opinion could be actively solicited in the future and could be a definite asset to preliminary screening for gifted individuals.

Group achievement and intelligence tests are not generally very effective predictors of giftedness. They are useful, however, when used in combination and seem to be a better technique than those previously mentioned. These tests suffer from various problems which include inappropriately low ceilings and poor predictive validity with special populations (such as unmotivated
or disadvantaged children). Creativity and special aptitude tests (such as music, art or math) are valuable screening tools which may nominate gifted individuals not otherwise identified.

The final identification procedure is the individual intellectual assessment by a psychologist and the resultant compilation of all available data into a case study. An individual intellectual assessment with the Stanford-Binet has proven to be the best for the gifted population. The case study ideally presents an organized and complete picture of the individual and includes all results from screening measures in addition to pertinent health data and previous personal accomplishments. These are crucial also for gifted individuals in the disadvantaged population.

To maximize the effect of identification of gifted individuals, it should occur at the earliest possible educational opportunity. The first few years of school have a great effect on the students' outlook on education. If a gifted child is not encouraged and challenged, the child may learn to hide his talents, learn to dislike the educational system or learn to channel his energies into unacceptable societal behaviors. Each of these alternatives yields a situation which fosters an undeveloped potentiality which is an incalculable loss to the individual and the society.

Early identification should not become a terminating procedure. It should be a continuous process throughout every year
of each individual's educational experience. Since the procedure is multidimensional and continuous, better educational plans can be formulated to meet the unique personal needs of the individual. The multidimensional aspect of the procedure insures that non-intellective, in addition to intellective, aspects are identified. Important to include, in addition to an intellectual assessment, are physical and developmental factors and educational and sociemotional factors of the individual.

The disadvantaged. One other issue of major concern is that a concerted effort needs to be made in order to locate gifted individuals in the disadvantaged population. Our instruments and procedures are inadequate in this area and have in the past underidentified the gifted from this group.

Disadvantaged youngsters may come from an impoverished environment or may come from a culturally different environment. These two subcategories of the disadvantaged have different attendant problems.

Children from an impoverished environment lack the "support" that most advantaged children have. They may be from a transient family and may lack the support of a stable environment. Or his parents may devalue the usefulness of education thus limiting support and encouragement for intellectual stimulation and development at home. The child may come from an environment that is impoverished economically which may limit the amount and quality of nourishment and physical support which certainly
affects a child's development.

Children from a culturally different environment face other problems. They may speak English only as a second language and face communication problems in school. This would certainly inhibit the development of reading and accumulation of an English vocabulary. Communication problems are also evident among children reared in subcultures which have their own "lingo". Also, these children may have subcultural values which conflict with the values of the greater culture.

All of these aforementioned disadvantages prove to limit the chances of identifying individuals among this population as gifted. Not only are they rarely nominated by teachers or group tests, they often are handicapped in their performance on individual intellectual assessments due to the culture-bound nature of the tests.

Every effort needs to be expended to locate this source of potential giftedness. Flexibility of procedures used to identify the disadvantaged gifted will aid in the search. Examiners need to be knowledgable concerning various types of subcultures and environmental limitations. With this information he can interpret scores in a more meaningful way. Although it is almost a standard procedure to use a cut-off score for giftedness, this would be inadvisable in the case of a disadvantaged individual. A case study is crucially important when working with this population and will aid in the test score interpretation.
(See Appendix A for suggested procedures for locating the disadvantaged gifted and a guideline for determining disadvantage.)

Recommendations

Flexibility for identification procedures is of prime consideration. Because no two individuals are alike, no one procedure can be consistently useful. There is a wide variety of measures from which to choose. For example, The Division for Exceptional Children, Gifted and Talented Section, has compiled a suggested list of screening and identification measures (See Appendix B) which have proved useful (Watson & Tongue, 1975).

The following is a suggested battery for screening and identification of gifted students. This author recognizes the expense involved in many individual intellectual assessments, so recommends the use of as many screening measures as possible to increase the effectiveness and efficiency of the process.

Screening. Nomination of gifted individuals can be inexpensively gathered through the use of teachers, guidance personnel, parents, peers and "expert" judgments.

1. Teacher nomination should be solicited after in-service training on "giftedness" and "creativity" using a checklist appropriate to the student's grade-level. Appendix C contains checklists which are appropriate for the different grade levels. Included in Appendix D is an excellent descriptive guideline for identifying creativity which could be useful as a basis for a teacher in-service training program on creativity.
2. From teachers and guidance counselors solicit nominees who are achieving two years or more above their chronological age according to results on a group achievement test such as the Metropolitan Achievement Test. Use should be made of the information compiled in the student's permanent record. Different school systems administer different group tests at various yearly intervals and most students will have been tested within the previous two years.

3. Nominate those who have a 125 IQ or above on a group IQ test such as the Otis-Lennon. These nominees can also be suggested by teachers and guidance personnel based on information in the student's permanent file.

4. Solicit parent nomination through the use of a "questionnaire". Appendix E contains a lengthy, but valuable, questionnaire which could be requested of the parents by teachers or school administrators.

5. Solicit peer nomination through the use of a "Student's Classroom Inventory". Appendix F contains a suggested format for obtaining this information.

6. Solicit "expert" nomination from special teachers (music, art, drama) and community resources.

7. Teachers or guidance personnel should nominate those who do well on a creativity test such as the Torrance Tests or special aptitude tests in such areas as music, art and mathematics.

Identification. Formal identification procedures can be
recommended after examining the list of students who have been nominated by two or more of the foregoing methods.

1. Conduct a clinical interview. Gather information from the student about his interests and hobbies (See Appendix G for an appropriate interest survey), home background and school accomplishments. This can be conducted by a trained counselor or a school psychologist.

2. Assess academic achievement with an instrument such as the Wide Range Achievement Test which can be administered quickly and individually by a trained evaluator, usually a psychologist.

3. The school psychologist should assess individual intellectual ability with the Stanford-Binet Intelligence Test. It is purported to be the best single identifier of gifted individuals. The psychologist should be flexible concerning the use of a "cut-off" score. Generally, the use of 130 and above as the guideline will be appropriate for all but the disadvantaged. It is recommended that a score over 115 may be used to nominate gifted in the disadvantaged population.

4. Gather all available data into a case study format. Solicit teacher and medical opinions concerning the child's health (See Appendix H for suggested formats).

After the formal identification procedures are complete, the case study should be presented to a committee to review the data. The committee should ideally consist of the student's parents, teachers, school administrators, psychologist and any
other individuals who can share pertinent information about the child. The case study should be reviewed and a consensus of opinion based on all data should determine placement of the child as gifted. Flexibility is the key in examining all criteria, but generally, the individual should be recommended as gifted at least by the psychologist and one other individual close to the student.

The foregoing is a comprehensive multidimensional plan for identification of the gifted in both the normal and disadvantaged population. Careful interpretation of the case study will certainly increase the efficiency and effectiveness of gifted identification. Hopefully all gifted students can thus be located and presented with opportunities and advantages which will maximize their potentialities.
Appendix A
Suggested Procedures in a Search for the "Disadvantaged Gifted"

Each school should seek the cooperation and involve the active participation of its staff, faculty, and community resource personnel in developing guidelines and identification procedures. Here are suggested ways to begin this project:

...Present the project to the faculty. Experience seems to indicate that this presentation by a representative from the area counseling and psychological services staff can best be made to small groups, such as faculty meetings by conference periods.

...Prepare a local search sheet on which teachers may recommend possible candidates.

...Set up a school screening committee of about six members to help define "gifted potential" criteria relevant to the particular school and its environment. This committee will screen all candidates suggested by the faculty and make final recommendations for those who seem most qualified for intensive psychometric evaluation.

...Select a local school coordinator who can work with the principal, head counselor, and psychometrist to carry through both identification procedures and curricular programming for these young pupils.

...Suggest identification within one grade level only at this time. Seventh grade is recommended for the initial identification project.

...Request assistance from the Coordinator, Programs for the Gifted, and Field Service Center Teacher Consultants, Programs for Gifted, in developing the new program.

...Explore resource possibilities the school may have which could be used in setting up "new" modified curricula for those identified. Physical facilities should be considered. However, teachers with special abilities, sensitivity, and creativeness are essential for a successful program, and they must be carefully selected.

...Plan for specific innovative classes in the school's master schedule which will challenge these pupils' unique abilities and needs.

...Investigate the possibility of involving local college and university personnel with the project, specifically for assistance in development of new curricula and other participation.

Note. From J. D. Ratteray, The testing of cultural groups, 1974.
Identification of Educationally Disadvantaged Pupils
Los Angeles Unified School District

In the identification of gifted pupils under provisions of California Administrative Code, Title 5, Section 3822, the Identification and Placement Committee considers evidence in three areas:

1. **Educationally Disadvantaged** -- "The report of the committee shall specify the disadvantage or disadvantages to which the pupil is subject." These are based on "all available and pertinent evidence of a child's language, cultural, economic, or environmental handicaps that have in the past and may in the future interfere with his success in school, restrict the development of intellectual and creative ability, and prevent full development of his potential."

Specification of disadvantages which may qualify a pupil are suggested as follows:

**Environmental Handicaps**
- Attendance at schools which are overcrowded, on half-day double sessions, etc.
- Transiency in elementary school years— at least three moves
- A home situation affording little enrichment or stimulation

**Parental attitude toward education demonstrating rejection, indifference, or overconcern**

**Language Handicaps**
- Little educational opportunities in dominant culture language
- Bilingualism at a depressed functional level in both languages
- Lack of verbal intellectual stimulation due to limited language facility
- Dialectal differences affecting learning — acting as a barrier to social mobility

**Cultural Handicaps**
- Inability to function meaningfully in the dominant culture because of limited exposure to that culture
- Subculture standards conflicting with dominant culture involving peers, parents, and community
- Lower self-esteem patterns resulting from self-comparison with dominant culture standards
- Lack of cultural experiences stimulating intellectual growth
Economic Handicaps

Residence in a depressed economic area or in one with high concentration of poverty
Low family income -- dependent on outside help
Large family living at subsistence level
Pupil employment necessary to maintain family's economic position
Inability to afford books and other reading materials or to provide varied experiences outside the home.

2. Underachieving Scholastically -- "By comparing the pupil's general intellectual capacity with his achievement on the basis of all pertinent information related to cultural disadvantage," it is the judgment of the committee, all concurring, "that the pupil could achieve at the upper two percent (2%) level were it not for his cultural disadvantage."

The following criteria are used to evaluate a pupil's achievement in relation to his potential:

- Group achievement test scores
- Cooperative Primary Reading Test
- Stanford Reading Test
- California Achievement Test

(Stanines below 9 and particularly those below 7 would indicate lower achievement than would be expected of a gifted pupil.)

Teacher-made tests that would show a relative lack of academic progress, in comparison to what gifted pupils would be expected to achieve.

Teacher observation and evaluation of daily work showing a relative lack of quality and depth in the pupil's response to academic learning areas

Report card marks and cumulative record entries showing a tendency toward average or poorer achievement in academic areas, or an inconsistent pattern of achievement.
Parental evaluation of achievement, expressing opinions that the pupil is not achieving his full potential

Pupil self-evaluation, indicating a desire to achieve at a higher level in academic areas

Psychologist evaluations of all data gathered from above sources, supplemented with an individual evaluation of the pupil.

This evaluation of the pupil's achievement and academic potential may be accomplished in various ways:

...through the use of tests
  Wide Range Achievement Test
  Gilmore and Gray Oral Reading Tests
  Peabody Picture Vocabulary Test
  Raven Progressive Matrices

...by rescoring of the Binet as developed by Dr. Kay Bruch (Creative Binet)

...through analysis of scoring patterns on the various Wechsler tests, especially in performance areas

...through the use of supplementary performance tests
  Columbia Mental Maturity Test
  Goodenough-Harris
  Kohs Blocks
  Grace Arthur

...by innovative instruments developed by the individual psychologist to evaluate such characteristics as originality, creativity, and verbal fluency.

3. Mentally Gifted -- The Code specifies that a pupil must qualify in one of these areas:

"Precocious development and maturation in the preschool or primary period"

"Outstanding scholastic accomplishment at any point in school career"

"Unusual resourcefulness in coping with responsibilities, opportunities, deprivations, problems, frustrations, obstacles, lack of structure and direction, or overly structured settings."
"Outstanding achievements, skills, or creative products."

"Scores at or above 98% on non-verbal (performance) scores of individual intelligence tests approved by the Superintendent of Public Instruction."

Some of the observable characteristics which may indicate giftedness are as follows:

Shows independence of action
Takes initiative readily
Demonstrates fluency in verbal and non-verbal communication
Shows imagination in thinking
Is flexible in approach to problems
Demonstrates abstract thinking
Learns quickly through his experience
Retains and uses ideas and information well
Shows curiosity and a desire to learn in daily work and activities
Gives evidence of originality and creativity in patterns of thinking
Responds well in visual media
Shows leadership ability in his peer group
Exhibits responsible social behavior
Has varied interests
Is able to generalize learning to other areas.

Appendix B
While the Division for Exceptional Children, Gifted and Talented Section does not recommend specific tests, listed are tests which may be considered part of the screening program for identification of gifted and talented students.

Cognitive Tests for Measuring Thinking

I. Convergent Thinking
   A. Achievement Tests
      California Test of Basic Skills (grades 1-8)
      Iowa Tests of Basic Skills
      Metropolitan Achievement Test (grades 1-12)
      SRA Achievement Tests (grades 1-9)
      Stanford Achievement Tests (grades 1-9)
   B. Intelligence Tests
      Stanford-Binet Intelligence Scale (grades 1-12)
      Wechsler Intelligence Scale for Children (WISC) (age 5-15)
      Wechsler Adult Intelligence Scale (age 16)
      Peabody Picture Vocabulary Test (grades K-12)
      California Tests of Mental Maturity (grades 4-12)

II. Divergent Thinking
   A. Creativity Tests
      Torrance Tests of Creative Thinking--Verbal (grades 4-12)
      Torrance Tests of Creative Thinking--Figural (grades 1-12)
      Guilford's Test of Creativity--Verbal, Figural (grades 7-12)

Affective Tests for Measuring Feeling

I. Convergent Tests
   A. Character and Personality
      Early School Personality Questionnaire (grades 1-3)
      Children's Personality Questionnaire (grades 3-6)
      Junior-Senior High Personality Questionnaire (grades 6-12)
      California Test of Personality (grades K-12)
      Piers-Harris Self Observation Scale
B. Self Concept
   "How Do You Really Feel About Yourself"
   Inventory (grades 4-12)
   Tennessee Self-Concept Scale (grades 5-12)
   Self Concept as a Learner-Elementary Scale (grades 3-12) and Secondary Scale (grades 7-12)
   California Test of Psychology (grades K-12)

II. Divergent Tests
   Barron-Welsh Art Scale of the Welsh Figure Preference Test (grades 1-12)
   Personality Rating Scale (grades K-12)

Tests of Cultural Differences
1. Biographical Inventory (secondary level) developed by Institute of Behavioral Research in Creativity, Salt Lake City, Utah.

2. A revised Biographical Inventory for middle grades (specifically 5-8) is being validated presently to develop keys for creativity but is not ready for distribution.

Appendix C
CHECKLIST FOR KINDERGARTEN

Directions: Please place an X in the space beside each question which BEST describes the pupil.

A. Language
1. The pupil is able to read. [ ] [ ]
2. The pupil understands his relationship in such words as up-down, top-bottom, big-little, far-near. [ ] [ ]

B. Psychomotor Abilities
1. The pupil exhibits coordination by being able to bounce a ball or tie his shoelaces. [ ] [ ]
2. The pupil can complete the missing parts of an incomplete familiar picture by drawing the parts in their proper perspective. [ ] [ ]

C. Mathematics
1. The pupil can repeat five digits forward and reversed. [ ] [ ]
2. The pupil recognizes and understands the value of coins (penny, nickel, dime and quarter). [ ] [ ]

D. Creativity
1. The pupil interprets stories or pictures in his own words. [ ] [ ]
2. The pupil displays curiosity by asking many questions or by other types of behavior. [ ] [ ]

E. General Characteristics
1. The pupil readily adapts to new situations; he is flexible in thought and action; he seems undisturbed when the normal routine is changed. [ ] [ ]
2. The pupil seeks new tasks and activities. [ ] [ ]
3. The pupil tends to dominate others and generally direct the activity in which he is involved. [ ] [ ]

CHECKLIST FOR FIRST GRADE PUPILS

Directions: Please place an X in the space beside each question which BEST describes the pupil.

1. The pupil reads two years above grade level
   YES   NO

2. The pupil recognizes the number and sequences of steps in a specified direction.
   YES   NO

3. The pupil forms sets and subsets.
   YES   NO

4. The pupil understands the concepts of place value.
   YES   NO

5. The pupil recognizes the properties of right angles.
   YES   NO

6. The pupil can create a short story from a familiar subject.
   YES   NO

7. The pupil interprets stories and pictures in his own words.
   YES   NO

8. The pupil questions critically.
   YES   NO

9. The pupil demonstrates flexibility in his thinking pattern and the ability to communicate to others.
   YES   NO

10. The pupil is self-confident with pupils his own age, and/or adults; seems comfortable when asked to show his work to class.
    YES   NO

11. The pupil has a well-developed vocabulary.
    YES   NO

12. The pupil has a vivid imagination and enjoys sharing his "stories" with others.
    YES   NO

CHECKLIST FOR GRAD 2-6

Directions: Please place an X in the space beside each question which BEST describes the pupil.

A. Learning Characteristics

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Has verbal behavior characterized by &quot;richness of expression, elaboration, and fluency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Possesses a large storehouse of information about a variety of topics beyond the usual interests of youngsters his age.</td>
<td></td>
<td></td>
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<tr>
<td>3. Has a ready grasp of underlying principles and can quickly make valid generalizations about events, people or things; looks for similarities and differences.</td>
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<tr>
<td>4. Tries to understand complicated material by separating it into respective parts; reasons things out for himself; sees logical and common sense answers.</td>
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</tbody>
</table>

B. Motivational Characteristics

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<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>1. Is easily bored with routine tasks.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Prefers to work independently; needs minimal direction from teachers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Has tendency to organize people, things and situations.</td>
<td></td>
<td></td>
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<tr>
<td>4. Is positive and zealous in his beliefs.</td>
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</tbody>
</table>

C. Leadership Characteristics

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Carries responsibility well; follows through with tasks and usually does them well.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Seems respected by his classmates.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Is self-confident with children his own age as well as adults; seems comfortable when asked to show his work to the class.</td>
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<td></td>
</tr>
<tr>
<td>4. Is shy, responding generally when called upon.</td>
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<tr>
<td>5. Is &quot;bossy&quot; with his peers.</td>
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</tbody>
</table>

Characteristics of Talented Pupils—Checklist
(Can be used at any grade level)

School ____________________________________________________________
Teacher __________________________________________________________

Directions: Place an X in the space beside each question which best describes the pupil

Pupil's Name ___________________________________________ Date __________________

Displays a great deal of curiosity about many things. _________
Generates ideas or solutions to problems and questions. _________
Sees many aspects of one thing; fantasizes, imagines, manipulates ideas, elaborates. _________
Applies ideas. _________
Is a high risk taker; is adventurous and speculative. _________
Displays a keen sense of humor. _________
Is sensitive to beauty; attends to aesthetic characteristics. _________
Predicts from present ideas. _________
Demonstrates unusual ability in painting/drawing. _________
Exhibits unusual ability in sculpturing or clay modeling. _________
Shows unusual ability in handicrafts. _________
Provides evidence of unusual ability in use of tools. _________
Shows unusual ability in instrumental music. _________
Demonstrates unusual ability in vocal music. _________
Indicates special interest in music appreciation. _________
Displays ability in role playing and drama. _________
Demonstrates ability to dramatize stories. _________
Shows ability in oral expression. _________
Demonstrates unusual ability in written expression: creating stories, plays, etc. _________
Shows evidence of independent reading for information and pleasure. _________
Demonstrates ability in dancing; toe, tap, creative. _________
Displays mechanical interest and unusual ability. _________
Shows unusual skill and coordination in his gross muscular movements such as ball playing, running. _________

**CHECKLIST FOR RECOMMENDING GIFTED AND CREATIVE STUDENTS (middle grades and up)**

<table>
<thead>
<tr>
<th>Student's Name</th>
<th>School</th>
<th>Grade</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher's Name</td>
<td>School Term</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**To the Teachers:** We need your help. We're looking for children in your classroom who you feel might be more able than their test scores indicate. The following list of characteristics, while by no means all inclusive, represents traits found in gifted and creative children. If any student in your class is described by at least twelve (12) of the items on this list, you may want to watch him more carefully for possible inclusion in the gifted program. Those items which are most applicable should be double checked. Will you help us by responding to the following checklist for the top students in your class. Supporting information and comments should be written on the back.

1. Is an avid reader.
2. Has received an award in science, art, literature.
3. Has avid interest in science or literature.
4. Very alert, rapid answers.
5. Is outstanding in math.
6. Has a wide range of interests.
7. Is very secure emotionally.
8. Is venturesome, anxious to do new things.
9. Tends to dominate peers or situations.
10. Readily makes money on various projects or activities.
11. Individualistic--likes to work by self.
12. Is sensitive to feelings of others--or to situations.
13. Has confidence in self.
15. Adept at visual art expression.
16. Resourceful--can solve problems by ingenious methods.
17. Creative in thoughts, new ideas, seeing associations, innovations, etc. (not artistically).
18. Body or facial gestures very expressive.
19. Impatient--quick to anger or anxious to complete a task.
20. Great desire to excel even to the point of cheating.
22. Tells very imaginative stories.
23. Frequently interrupts others when they are talking.
24. Frank in appraisal of adults.
25. Has mature sense of humor (puns, associations, etc.
27. Takes a close look at things.
28. Is eager to tell others about discoveries.
29. Can show relationships among apparently unrelated ideas.
30. Shows excitement in voice about discoveries.
31. Has a tendency to lose awareness of time.

Appendix D
1. View the work with extra wonder and see magic in it;
2. Are learning by experimenting, manipulating objects in many ways, and using stories to exercise their imaginations at preschool age;
3. Are able to be conforming or nonconforming as the situation demands;
4. Try to find answers to their question in their way;
5. Have extremely long attention spans and the ability to pursue an activity in which they are interested for extra long periods of time;
6. Can tolerate disorder and ambiguity;
7. Are able to organize themselves and ideas;
8. Tend to see familiar things and situations in unusual ways and in greater depth;
9. Often prefer to learn by creative ways rather than by being told by an authority;
10. Seem to learn considerably from fantasy as it aids in solving their problems of development;
11. Display a positive self-image;
12. Have an attraction toward the unconventional and toward complexity;
13. Seem to rely more on their own evaluations than on others;
14. Come from family backgrounds characterized by lack of overdependence of children on parents and stress of conformity by parents; strong feelings are expressed in the family; both fathers and mothers relate strongly and positively to the child even though the mother is ambivalent in her mothering feelings; more often than not the most creative child is the older sibling; fathers are usually engaged in occupations allowing for autonomy and independence;
15. Build a reputation for having wild or silly ideas, particularly the boys;
16. Display humor; playfulness, and relaxation in their creative products;
17. Wish to work alone at times;
18. Are high academic achievers provided they have a minimum IQ score of around 120;
19. Can integrate opposing impulses such as destructiveness and constructiveness;
20. Select fewer conventional occupations (e.g., lawyer, doctor, professor) and select more unconventional ones (e.g., adventurer, inventor, writer).

Appendix E
Parent Questionnaire*

All information on this form will be strictly confidential and will be used only for study purposes. Your responses will be used only in a group context and you will not be identified personally in any way. If you have a baby book for this child, will you please refer to it.

1. School__________________________ 2. Student___________

3. Sex (circle)  B G  4. Grade______________

5. Birthday________________________ 6. Age______________

7. City of birth_____________________ 8. Mother's age at birth of child

9. List ages for the following (in months)
   - Start of talking__________________
   - Bladder control________
   - Use of sentences______________
   - Bowel control________
   - First step unassisted_______
   - Tied shoes________
   - Sat without support__________
   - Rode tricycle__________
   - First tooth______________
   - Rode bicycle__________
   - First walked easily________
   - First learned to read________

10. Schools attended City & State Date

 ______________________________________
 ______________________________________
 ______________________________________

11. Describe early indication of superior ability:

 ______________________________________

12. Did the mother have health problems during pregnancy? Yes____ No____

13. Was the birth difficult? Yes____ No____

14. Has the child had any dietary problems? Yes____
    No____

15. Does the child have any speech problems? Yes____
    No____
16. Does the child complain about his health? Yes___ No___

17. Is the child poorly coordinated? Yes___ No___

18. Has the child had special problems with sleeping or rest? Yes___ No___

19. Does the child have any serious health problems at present? Yes___ No___

20. Has the child had any of the following? (Check)
   Allergy Yes___ No___
   Diabetes Yes___ No___
   Epilepsy Yes___ No___
   Heart disease Yes___ No___
   Rheumatic fever Yes___ No___
   Tuberculosis Yes___ No___
   Other illness Yes___ No___
   Operations Yes___ No___

21. Comments regarding any area marked Yes:_________

22. Child resides with (Check)
    Father (   ) Mother (   ) Other (   ) specify
    Occupation of:
    Father________________________________________
    Mother________________________________________
    Other adults in the home_________________________

23. Brothers and sisters:
    Names  Ages
    ____________________________  ______
    ____________________________  ______

24. Hobbies of:
    Father  Mother
    ____________________________  ____________________________
    ____________________________  ____________________________

25. Father's vocational goal for child (be specific)
    ____________________________

26. Child has own room (   ); shares with others
    _________(number).
27. Private lessons taken by child:

<table>
<thead>
<tr>
<th>Kind</th>
<th>How long taken</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

28. Trips child has taken:

<table>
<thead>
<tr>
<th>Place</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tbody>
</table>

29. Things the family does together


30. Child's recreational choices


31. Choice of playmates (ages, sex, numbers, etc.)


32. How does he get along with his playmates?


33. Preferences when he is alone


34. Child's membership in out-of-school clubs or groups


35. Child's reading interests (favorite books--types, titles)


36. Amount of child's reading per week


37. Child's hobbies and collections


38. Child's special talents or skills
39. Child's special problems or needs at home

40. How does the child get along with others in the home?

41. Child's home responsibilities

42. Does he have an allowance? Yes  No  Amount per week

43. Discuss the attitude of the child toward school

Does your attitude differ?  If so, in what way?

44. Child's school needs as you see them

45. Describe the child as you see him (personality, attitudes toward home, work, friends)

Name of informant  Relationship to child

Appendix F
Pupil Interest Survey

1. School ______________________ 2. Pupil ______________
3. Sex (circle) B G 4. Grade ______________
5. What are your favorite TV programs? ______________________
6. What are your favorite magazines? ______________________
7. What parts of the newspaper do you like to read best? ______________________
8. What are the best books you have read this year? ______________________
9. Of what clubs or organizations are you a member? ______________________
   Offices held: ______________________
   Honor or recognition received: ______________________
10. Special activities you take part in at school: ______________________
11. In which sports are you interested? ______________________
   Do you play? ______________________
12. Your favorite recreation: ______________________
13. List your hobbies: ______________________
   ______________________
14. Do you have other interests? Please list ______________
15. List any collections you have made and your age when you made them:

________________________________________________________________________

16. What is your favorite family recreation?

________________________________________________________________________

17. Have you taken any trips outside of the State? Where?

________________________________________________________________________

18. What kind of trips would you like to take if you could?

________________________________________________________________________

19. Do you have a job? What?

________________________________________________________________________

20. Vocational choice:

________________________________________________________________________

21. Parent's vocational choice for you:

________________________________________________________________________

22. What are your educational ambitions?

________________________________________________________________________

23. How do you plan to finance your education?

________________________________________________________________________

24. What are your favorite school subjects?

________________________________________________________________________

25. What subjects do you dislike?

________________________________________________________________________

26. What do you like best about school?

________________________________________________________________________

What do you like least?

________________________________________________________________________

Appendix G
You have talents. You are aware of some of the talents which your classmates have and some may be hidden. After you have written the names of each of your classmates in the first column, please write in the second column the talent which you feel each person has. If any of your classmates have a talent which is unknown to you or one which cannot be determined by you, place a check (✓) beside the name of that person in the third column.

<table>
<thead>
<tr>
<th>Name of Your Classmates</th>
<th>Talent He or She Has</th>
<th>Hidden Talent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>etc.</td>
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</tbody>
</table>

Appendix H
Health Report -- Medical Observations

1. County______________ 2. District______________

3. School______________ 4. Pupil______________

5. Sex (circle) B G 6. Grade______________

   Vision: R____ L_______ Corrected: R____ L_______

   Hearing: R____ L_______ Hearing defect:__________

Use check only to indicate areas needing attention. Absence of checks will indicate that no problems exist.

Comments

Nutrition________________________

Skin________________________

Eyes________________________

Ears________________________

Nose________________________

Teeth________________________

Throat________________________

Heart________________________

Lungs________________________

Abdomen_______________________

Genitalia_______________________

Orthopedic status________________

Posture_______________________

Neurological status________________

General physical status________________

General emotional status________________

Other________________________

Signature of physician_____________ Date________
<table>
<thead>
<tr>
<th>Health Report -- Teacher Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. County _________________________</td>
</tr>
<tr>
<td>2. District _______________________</td>
</tr>
<tr>
<td>3. School _________________________</td>
</tr>
<tr>
<td>4. Pupil _________________________</td>
</tr>
<tr>
<td>5. Sex (circle) B G</td>
</tr>
<tr>
<td>6. Grade _________________________</td>
</tr>
</tbody>
</table>

Use check only to indicate areas needing attention. Absence of checks will indicate that no problems exist.

<table>
<thead>
<tr>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has frequent absences due to illness ________________________________</td>
</tr>
<tr>
<td>Appears excessively thin ________________________________</td>
</tr>
<tr>
<td>Appears excessively fat ________________________________</td>
</tr>
<tr>
<td>Tires easily ________________________________</td>
</tr>
<tr>
<td>Has poor coordination ________________________________</td>
</tr>
<tr>
<td>Has poor posture ________________________________</td>
</tr>
<tr>
<td>Complains frequently of headaches ________________________________</td>
</tr>
<tr>
<td>Has frequent colds ________________________________</td>
</tr>
<tr>
<td>Has skin eruptions ________________________________</td>
</tr>
<tr>
<td>Has speech defect ________________________________</td>
</tr>
<tr>
<td>Complains frequently of upset stomach ________________________________</td>
</tr>
<tr>
<td>Has frequent styes ________________________________</td>
</tr>
<tr>
<td>Has crossed eyes ________________________________</td>
</tr>
<tr>
<td>Appears to have vision difficulty ________________________________</td>
</tr>
<tr>
<td>Has discharge from ears or cotton in ears ________________________________</td>
</tr>
<tr>
<td>Complains of earaches ________________________________</td>
</tr>
<tr>
<td>Appears to have hearing difficulty ________________________________</td>
</tr>
<tr>
<td>Is a persistent mouth breather ________________________________</td>
</tr>
<tr>
<td>Complains frequently of sore throat ________________________________</td>
</tr>
<tr>
<td>Complains of toothache ________________________________</td>
</tr>
<tr>
<td>Has unclean or decayed teeth ________________________________</td>
</tr>
<tr>
<td>Seem overly aggressive ________________________________</td>
</tr>
<tr>
<td>Frequently loses temper ________________________________</td>
</tr>
<tr>
<td>Appears nervous ________________________________</td>
</tr>
<tr>
<td>Appears shy or withdrawn ________________________________</td>
</tr>
<tr>
<td>Is inattentive ________________________________</td>
</tr>
<tr>
<td>Other ________________________________</td>
</tr>
</tbody>
</table>

Signature of teacher ______________________ Date ______

Bibliography


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