Goals, Methods and First Results from the Munich Longitudinal Study of Giftedness in West Germany

Kurt A. Heller
University of Munich
Federal Republic of Germany

The Budesministerium fur Bildung and Wissenschaft in Bonn (BMBW, Federal Ministry for Education and Science) has been supporting an educational psychological research project with the title "Forms of Giftedness in Children and Adolescents: Identification, Development and Performance Analysis" has been carried out since 1985 at the Ludwig-Maximilians University in Munich and is planned for a period of several years. The following goals have been set to date:

(1) The question of whether it makes more sense to speak of domain-specific talents or from general giftedness is to be examined. In the past, "giftedness" and "high intelligence" were namely often used to indicate the same thing. Now, the postulate is represented here that there are various forms of giftedness: among others, intellectual, creative, social, psychomotor-practical and musical giftedness.

(2) As far as it should be possible to determine different forms of giftedness, a comprehensive multidimensional psychodiagnostic test battery is to be developed which should make the identification of highly gifted students in the areas described above. This means that questionnaires and test scales are to

be developed and tried out with which children and adolescents from the age of 6 to 16 years can be tested to determine whether they are intellectually and/or creatively gifted, psychomotorically gifted etc. Furthermore, it is interesting to determine whether these children and adolescents are gifted in single domains (so-called singularly or one-sided gifted) or are gifted in all domains (so-called multiple or many-sided gifted). Measurement instruments of this type are necessary before educational measures especially for the gifted can be realized.

(3) If one views "giftedness" as a specific ability profile or a person which can be measured with tests and questionnaires, then it must be determined under which circumstances these abilities result in outstanding performances. Someone who is highly intelligent, does not automatically have good grades; there are also highly intelligent failures in school. Thus, one should determine which other personality characteristics (i.e., technical interest, success orientation, perseverance, learning strategies) and which qualities of the environment (i.e., achievement orientation in the family, relationships with teachers and other students) effect the achievement level. Recognitions of this nature are useful for the psychological counseling of the gifted and their parents.

(4) Gifted children and adolescents change during the course of their development. Talents can disappear when they are not nurtured, new interests can be stabilized given the right stimulation. The observation of the development of gifted children (and a control group of normally gifted children) is the fourth goal of the Munich Giftedness Project.

In order to achieve the four goals named, during 1986, several thousand children and adolescents have completed a comprehensive test battery. First, teachers of various types of schools (at six different grade levels) were requested to make a rough estimation of their students talents. Based on these estimations/ratings, 1000 students were selected per grade level who were considered particularly good in one or more of the following giftedness domains: intelligence, creativity, social abilities, psychomotor-practical abilities, music. These 6000 students were tested regarding their abilities and questioned about their achievements. Additional information was received from the teachers and parents of these students. The participation was volun-

tary for all involved and was carried out anonymously. Early in 1987 all of the students tested were given a report about their results in a sealed envelope.

Using the data collected, the following questions could be answered: (1) whether the five factors of giftedness named represent individual giftedness dimensions or not, (2) whether highly gifted students could be found in each of the giftedness areas and (3) whether the instruments used are appropriate for the identification of the gifted.

Before the previously collected information is presented in detail, the procedures will be presented with regard to time and organization. Beginning in early 1987 a group of highly gifted students was determined for each age level. This group was matched by a group of so-called moderately gifted. In addition, students were also selected who only showed moderate values in the giftedness dimensions but were particularly good in their academic and non-academic achievements. These students were the basis sample of the further testing which is being carried out from April to July (2000 students from grades 1 to 9) and from September to October 1987 (400 students from grade 11). The study includes approximately 150 schools in the federal states Bavaria, Baden-Wurttemburg and Berlin.

Aspects of development as well as the role of characteristics influencing achievement are especially emphasized in this research. In 1988 the tests are to be repeated with the same students in order to follow the development of the highly and moderately gifted longitudinally.

The research project described here is now in its second phase (of the longitudinal study). Whereas during the first phase, the emphasis was more on the development of measurement instruments for identifying the gifted, the second phase concentrates more on the development of giftedness, personality and achievement in students. From 1988 on, the approach is to be supplemented by a third phase; the cognitive processes and problem solving strategies of the gifted as compared with the normally gifted are to receive more attention. The application of new testing methods with a computer basis is in preparation. Interesting results are expected from such tests which, in contrast to previously employed methods, are supposed to determine complex thought processes and their development.

Due to the comprehensive sets of data, the interpretation work is still in progress. In the following, the results which are presently available are to be summarized:

(1) The five factors considered, intelligence, creativity, social competence, psychomotor abilities and musical talent were proven to be independent and individual dimensions of giftedness. Thus, the prerequisite for speaking of domain-specific giftedness has been established, i.e., that there is not only one single form of giftedness, but rather many forms of giftedness. When one takes a closer look—based on the diverse tests of giftedness which were employed — additional dimensions of giftedness were determined, e.g., the speed of reaction and spatial thinking.

(2) The instruments employed exhibit the desirable precision even at extreme levels of giftedness. Thus the goal of establishing reliable tests was reached. A good strategy was found to be presenting the gifted students with test items normally used for much older students. Since highly gifted students are frequently many years advanced in their intellectual development as compared with their peers, they are thus met with items of appropriate difficulty.

(3) If one designates the very best in each of the giftedness dimensions found as "highly gifted", then one finds clear differences between the highly gifted and the normally gifted (in each of the domains of giftedness) and, on the other hand, between each of the types of giftedness. These differences are, above all, found in the achievement characteristics. For example, the especially gifted in the area of intelligence are characterized by their particularly good grades; they are not only better than the normally gifted, but also better than the creative gifted, the social gifted, etc. In contrast, the creative gifted are much better than all of the other types of giftedness in creative achievements, e.g., in artistic and literary areas. Each of the groups of gifted, therefore has its achievement emphasis. This means, practically speaking, that when looking for students who are capable of outstanding achievements, must also take domain-specific talents into consideration. It is not enough to rely only on a general intelligence test, based on the (false) assumption that all highly intelligent students will be found.

(4) Students are seldom found who could be considered highly gifted in several giftedness domains. Multiple talents (many-sided gifted) or all around geniuses are more an exception than the rule. Therefore, highly gifted students should also be

supported in individual areas. If one looks at the students who are both highly intelligent and creative, and compares them with students who are either highly gifted or highly creative, then one sees that those who are gifted in both areas are much better than all others. As seldom as multiple giftedness is, it has extremely beneficial effects. Therefore, the diagnosis of the highly gifted should always proceed in a multi-dimensional way.

(5) If one views various achievement domains instead of giftedness itself, and examines which characteristics that differentiate the outstanding students (in the various areas) from the other students, one makes an interesting discovery: the particularly capable students can be differentiated through their achievement orientation, perseverance, willingness to exert themselves, interest in new information, research motivation, inventiveness and success orientation. These motivational characteristics seem to play a greater part than pure ability characteristics. Certainly one has to limit this statement: Achievements were examined which could be made by many students if they exerted themselves adequately. When viewing outstanding intellectual achievements, the importance of the giftedness is probably much more important. Based on this observation, one could conclude that giftedness is an important prerequisite for outstanding achievements, however, a central role is played by achievement motivation and interests which must be encouraged and supported by teachers and parents. This concurs with the research results from Renzulli et al.

(6) If one researches the question of how the highly gifted are distributed among the various types of schools (Hauptschule, Realschule and Gymnasium), one sees that the highly intelligent students almost all attend Gymnasium. In contrast, one finds relatively many creatively and socially talented students in the Hauptschule. Since the Realschule also provides a meaningful quota of highly gifted students, giftedness programs should not be limited to Gymnasium.

(7) Since the support of the highly gifted is generally postulated as a task for educators, the question must be raised of which characteristics are found in students that teachers nominate as highly gifted. Generally only a moderate correlation is found between test data and teacher nominations. One can demonstrate that teachers generally rely heavily on school perfor-

mance in making their evaluations. Since teachers often have limited contact with their students within the academic setting, they can hardly be expected to provide differentiated evaluations of giftedness. They sometimes tend to rate a student as gifted in all areas although he/she is only outstanding in one area. On the other hand, they are more likely to overlook single talents. If one gives teachers the task of selecting highly gifted students, one needs to take these tendencies into consideration and possibly correct them. Certainly one needs to take into consideration that the teachers in the study presented here made their nominations without any practical consequences. If, on the other hand, they are requested to make selections for courses which are to be carried out, they select quite qualified students.

The data from the coming research should provide further information about the quality of teacher nominations, the conditions for outstanding achievements, and the usefulness of the giftedness test instruments. This information is necessary before practical recommendations for the identification, education and nurturance of highly gifted students can be made.

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