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(Editors)

Identifying and Nurturing the Gifted

An International Perspective

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CHAPTER I

Introduction

John F. Feldhusen & Kurt A. Heller

Research on the highly gifted presents a number of serious problems. The definition itself causes serious problems. Is high giftedness the same thing as very high intelligence and/or creativity? Is it above-average achievement orientation or unusual accomplishments in qualitatively challenging tasks? Is it strong interests or task commitment for one or more (not too narrowly defined) achievement area(s)? Such questions must be scientifically clarified before the conceptual problems of identification, counseling/guidance and fostering of highly gifted children and youth are dealt with. Only on the basis of documented results concerning the behavior of the highly gifted as well as their psychological development and the socialization factors which promote or detract from it, can practical work on gifted education be fully successful. The efficiency of programs and counseling measures are not independent from the quality of the identification process, i.e. dependent on reliable and valid assessment of high giftedness (cf. FELDHUSEN, 1985).

The following contributions stem from the symposium 'Identification of the Gifted' held on August 9, 1985 at the 6th World Conference on Gifted and Talented Children in Hamburg (Federal Republic of Germany). The very active participation of many Congress members, as well as numerous questions caused the editors to publish the individual presentations in revised and to some degree extended form.¹

After the overview of newer concepts and models of giftedness in Chapter II, there follow longer presentations of three longitudinal studies (Chapters III, IV and V), a critical discussion with current identification measures, and an alternative approach (Chapter VI). The literature search on the topic of 'Identification and Labeling of Gifted' in Chapter VII is followed by three

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contributions dealing with didactic, psychopedagogic, and educational policy questions in fostering giftedness (Chapters VIII, IX and X). The first psychological counseling and guidance center for the gifted in the Federal Republic of Germany is described in Chapter XI and an empirical study on the relationship of giftedness to anorexia nervosa in Chapter XII. Finally, on Appendix by B. FEGER contains a selective bibliography on Identification of the Intellectually Gifted (cf. also BARTENWERFER, 1985).

A brief commentary by the editors should make it easier to approach this book.

1. Theoretical and Methodological Problems of the Identification of Giftedness

A commonly accepted definition of giftedness has not yet been found, but rather a broad spectrum of definitions and concepts related to giftedness characterize this field. Researchers and practitioners may hold widely differing conceptions of giftedness. Giftedness is also not objectively observable but rather a socialcultural phenomenon. Sometimes giftedness is seen as a set of attributes (e.g. intelligence, creativity, memory) each of which themselves are hypothetical constructs. They are joined together in the term 'giftedness' (FREEMAN & URBAN, 1983). It is assumed here that giftedness exists as a set of characteristics which can be isolated. Various definitions of giftedness are presented and discussed in Chapter II.

FELDHUSEN et al. (1985) have discussed a variety of problems which confront us in our efforts to identify giftedness and talent. They noted, first of all, that the identification process must be linked to the type of program services to be offered. Unfortunately gifted programs often identify youth with one type of giftedness and provide services for another type of giftedness. They also noted the problem that the identification process may be used to select youth who are 'all purpose' or generally gifted but fail to specify the specific talents or strengths of the students identified.

For a long time giftedness, especially extreme giftedness, was viewed one-dimensionally. Correspondingly, (linear) measurements were carried out – and to a great extent still are – in the so-called cut-off method. Here, a certain IQ value, for example, $IQ = 130+$, is used to identify a certain percentage of the highly gifted (in this example the top 2.5% of an age group). This procedure of selecting the highly gifted is questionable and methodologically problematic for several reasons.

On the one hand, this approach is based on the (implicit) assumption that there is one – and only one – form of giftedness. Even in our daily lives we are often confronted with this idea, when it is said that Jim is 'very gifted' and Bob is not. Thus, one is either 'gifted' or not, which overlooks the fact that many

people are talented in different ways for single task areas. This observation is better represented by differential giftedness theories.

On the other hand, the problem of overlapping test values from various groups, for example the highly gifted and the moderately gifted, demonstrate that every cut-off score is somewhat random. The cut-off score is commonly set using the convention of a nicely rounded number – both in research and in the practice of identification of the gifted – (for example, a sigma score of +2 or +3 on the Wechsler-IQ scale) as opposed to some validated criterion. This problem also holds when one uses achievement test scores with cut-off levels in the identification process. One appropriate strategy to use with differential constructs of giftedness is the classification approach as employed by HELLER (1970) for the diagnostic separation of different groups of gifted youth in educational guidance and counseling, as well as for the identification of so-called talent reserves. This approach has been implemented in various psychopedagogic applications and elaborated according to cluster analysis (ALLINGER & HELLER, 1975; ROSEMANN, 1978; ROSEMANN & ALLHOFF, 1982); for methodology in general cf. COOLEY & LOHNES (1971), ANDERBERG (1973), BOCK (1974) among others.

Finally, the cut-off score method has also proven to be unsuitable for the diagnosis of giftedness in individual counseling. In so far as giftedness represents, directly or indirectly, the cause of behavior or school difficulties, social conflicts or developmental problems, intervention oriented diagnosis strategies are indicated. Although for *diagnosis*, the individual case is in the foreground of the psychological analysis, in the *talent search* an effort is made to locate groups of especially gifted or talented youth and to foster their talent (WIECZERKOWSKI & WAGNER, 1985). Group tests are characteristic of this approach and a successive decision strategy is usually followed. An example of this is the sample model of the Munich longitudinal study 'Forms of Giftedness in Children and Adolescents: Development and Achievement Analysis', Chapter IV of this book. In the talent search, then, the nurturing aspects and/or scientific interests are foremost.

Despite varying emphases in the procedures, one should view diagnosis and talent search less as opposites than as complementary approaches to the identification of gifted children and adolescents. In both cases, two types of errors are to be noted: 1) type alpha errors and 2) errors of type beta. The *alpha error* occurs when a person is identified as being highly gifted who actually is not highly gifted. The *beta error* is failure to identify a student as moderately gifted who is in actuality highly gifted. Unfortunately it is not possible to reduce both types of errors simultaneously. Depending on the goal and intent of the identification process, one either raises the cut-off score thereby reducing the first type of error (and increasing the rate of the other type of error) or one lowers the cut-off score in an attempt to reduce the second type of error (but causing an increased alpha error). Whereas, institutions generally attempt to reduce

the first type of error, it is recommended that for *individual* decisions, the second type of error be kept to a minimum (cf. CRONBACH & GLESER, 1965). For the identification of gifted children, the individualized perspective should take precedence in any case. In addition to more valid tests, a multi-step procedure – instead of a one-step procedure – can reduce the risk of incorrect decisions; this may, however, make complicated identification designs necessary. When (multi-factor) classification or cluster analysis approaches are to be used, a high degree of reliability and validity should be achievable – for the individual diagnosis as well as in the talent search (group test).

Before the age of four years, it is difficult to make reliable judgements about (later) development. The available tests for gifted pre-school children are often too easy (ceiling effect) and/or have limited content validity. According to CASEY & QUISENBERRY (1982), highly gifted children often identify themselves through their *precocity*. BARTENWERFER (1978) listed the following characteristics as a basis for observing whether *young children* are unusually talented: a large vocabulary as compared with age mates, appropriate use of words not typical of age, uses complex sentences, learns easily/rapidly, partial early reading or learning of material a year earlier than normal, as well as strong curiosity. For *older children* and *adolescents*, BARTENWERFER (1978) listed the following indicators of giftedness: very high scholastic achievement, well-defined extracurricular activities and interests, often negative or expresses doubt in class, and uses much fantasy and creativity. FREEMAN & URBAN (1983) observed that almost all children who were identified because of their high IQ score, grew up in especially nurturing family settings. Thus, one should realize that giftedness should not be measured solely through achievement criteria, which may be influenced by the quality of the home but should be measured with instruments that are not so influenced.

In addition to *standardized tests*, parent and teacher *nominations* have an important function in the identification of gifted children and adolescents. In contrast to achievement criteria (e.g. intelligence test or achievement test variables, school grades), which often ignore creativity aspects, ratings based on *checklists* (with operationalized characteristics of giftedness as concrete behavior indicators) often give much more comprehensive information. The bandwidth-fidelity dilemma (CRONBACH & GLESER, 1965) which arises here, can be minimized when a screening is carried out first, using the less reliable instruments (ratings, checklists, nomination, etc.). In the following steps more accurate measurements/tests are employed (cf. Chapter IV, figure 3 and Chapter V, figure 1).

For younger children, parent nominations seem to be superior to teacher nominations. Teacher nominations are, however, useful for older students (cf. Chapter III). Nevertheless, FREEMAN (1979) found that students who were designated as gifted by their parents, were much less satisfied in school and less emotionally stable than their equally talented classmates. In order to avoid

such problems, it is recommended that a combination of different approaches to identification be employed: multi-dimensional intelligence and creativity tests, questionnaires, and checklists to determine cognitive and non-cognitive personal characteristics and environmental variables. For older students, *self-nomination* can also be used to identify the gifted. *Competitions* have also proven effective, for example, the German competition 'Mathematics' or 'Jugend forscht' (Youth researches). This effectivity is at least partially due to their motivational characteristic (DAHME, 1981; HOWE, 1982). The labeling problem linked to this will be discussed below. First, current European research projects are presented.

2. Three Current European Studies on the Highly Gifted

In the Dutch study by MÖNKS et al. (Chapter III), previously mentioned, a representative sample of secondary level students (12- 15 year olds) was studied regarding the following questions: 1) How can highly gifted students best be identified, which behaviors are characteristic? 2) What is the social-emotional situation of gifted students in academic secondary schools (i.e. college prep schools) and how is it different from average students? The following components were considered prerequisites to be identified as 'gifted': above-average intelligence, high achievements, goal-oriented, and creative behavior. In the first phase of the study, giftedness was determined using various instruments (self- and peer-nomination, tests, and questionnaires). In the second phase of the study, the parameters of giftedness were further refined and applied in various control situations in order to develop an accurate instrument. The third phase was concerned with the students' behavior in the classroom, e.g. what view do they have of their position in the class?

The results of the three study phases can be summarized as follows. Multi-talented gifted students prefer independent learning styles and 'creative' work, and they dislike rote exercise forms. Further, they demonstrate a positive social self- concept, but with regard to their general self-concept and the construct locus of control, no major differences were found – among talented students, average peers and gifted underachievers. Nonetheless, *talented underachievers* had a significantly higher *external* locus of control score and demonstrated higher test anxiety. In addition, they are characterized by a negative view of themselves regarding their own talent and academic capability as well as a negative attitude toward school and low achievement or academic motivation. They are rated by their classmates (achievers) as asking for more assistance more often than they offer advice or assistance. According to MÖNKS et al., teachers are able to identify gifted underachievers in their classroom. A selection strategy was used to select highly gifted relative to their class.

With financial support from the Federal Ministry of Education and Science in Bonn, the Department of Psychology of the University of Munich, under the direction of the first author, a research project has been studying the topic 'Forms of Giftedness in Children and Adolescents' since 1985 (see Chapter IV). Goals of the study being carried out in several regions of West Germany are: 1) the development and trial of a differential diagnostic instrument battery for the valid and reliable identification of gifted children and adolescents using a typological approach; 2) the description and causal analysis of achievement behaviors of highly gifted students with regard to the varying situational challenges; 3) developmental and psychological observation of the careers of highly gifted children and adolescents focusing on socialization influences (HELLER et al., 1984, 1985).

The multi-dimensional giftedness concept on which the study is based, is comprised of, in addition to intelligence, creativity (in the sense of GUILFORD or divergent-convergent problem solving), social competence, musical talent and psychomotor/practical talents (cf. KHATENA, 1982). The postulated causal model of valuable achievements also contains achievement-relevant, environmental, and non-cognitive personality characteristics (e.g. achievement motivation, self-concept, interests, and study and coping strategies). Related problems of creating indicators and the multi-step screening and selection procedures are described in detail.

The second part of the project is planned as a longitudinal study over (initially) four years with yearly measurement. In a double-blind study, the careers of 900 highly gifted and 900 moderately gifted students, ages 4 to 14 (or 18 years respectively), are to be analyzed according to developmental psychology and socialization theory viewpoints. Relevant problems of the combined cross-sectional-longitudinal design are discussed as well as implications (of the expected results) for *counseling and educational nurturance*.

Corresponding curricula must also be developed for the preparation of psychologists and teachers for guidance of the gifted. This is, however, a long-term goal. This leads to the task of sensitizing gifted children and their parents, teachers and peers to questions of giftedness and to develop psychopedagogic aids for dealing with their problems. Specifically this means:

- (1) Parents should be informed about the talents and the problems of their gifted children and aided in fostering talent at home.
- (2) Parents and children should be given guidance in selecting schools. This should be based on talent and aptitude diagnoses.
- (3) Highly gifted adolescents should be given the chance to gain and broaden their knowledge base through contact with experts and others with interests in the same fields.
- (4) Teachers and trainers should be taught how to develop giftedness.
- (5) Highly gifted adolescents should be given emotional support and helped

to achieve autonomy, especially in dealing with psychological problems (e.g. finding their identity).

- (6) Highly gifted adolescents and adults should be trained in those skills which are necessary for them to find a job suited to their talents and interests (i.e. finding information, decision-making skills, job interview skills).
- (7) Highly gifted children and adolescents with behavior problems or social conflicts should be counseled and, if necessary given therapy. Cooperation among pediatricians, psychiatrists, counselors and psychologists is necessary.
- (8) Creative youth should be armed with those psychological competencies that are necessary for following through on an idea (i.e. self-assurance, perseverance, attractive presentation of self, work habits which do not endanger one's health, openness to social phenomena).
- (9) Information meetings about the problems of the highly gifted should be offered to parents and teachers of gifted children and adolescents as well as the interested public (cf. Chapter XI of this book for more complete detail about this).

The identification procedures not only contribute to the counseling and guidance of the gifted, but are also essential to the selection of highly gifted applicants for scholarships, etc. For this purpose, the German National Scholarship Foundation (*Stipendienstiftung des deutschen Volkes*) in Bonn has conducted research on especially talented seniors in academic high schools (Abiturienten), discussed by TROST in Chapter V.

The report deserves special attention for several reasons: 1) It deals with the largest academic support program in the Federal Republic of Germany (presently 4,500 students are supported by the foundation, which represents 0.5% of all West German university students), 2) since 1970, i.e. since the program was founded, 45,000 high school graduates have taken part in the selection process, and 3) a quite broad and detailed battery of instruments was used in the identification process. The multi-level selection process can be seen in Fig. 1 (Chapter V). Based on the results of this research so far, the author recommends a multi-level identification process. This entails a combination of achievement evaluation, standardized cognitive ability tests, and judgments concerning the candidate's relevant personality traits as well as social behaviors in individual discussions and in group situations.

3. Educational and Social Psychological Problems of Identifying and Fostering the Gifted

Whereas the previous contributors emphasized the necessity of a formal identification process for locating gifted students, SHORE & TSIAMIS attempted in a

Canadian study to prove that an *open door program* as suggested by BIRCH (1984), leads to reliable identification of the gifted (Chapter VI). They coined the term 'identification by provision' for their alternative.

One hundred seventy-four students from the ages of 9 to 13 years were studied (grades 4 to 8). They attended a summer school for the gifted at McGill University (a group of untested students, admitted on the basis of nomination by parents) and a Montreal suburban school (group of tested students). No significant differences could be found between the groups on tests of creativity and intelligence as well as measures of personality. This led the authors to the conclusion that both methods are equally efficient.

Even when the parent nomination seemed to have been as accurate as teacher nomination or school and psychological testing in the identification of highly gifted students, the authors also recommend caution: first, the sample groups are not exactly comparable; second, the artifacts of voluntary participation and the course tuition were not controlled; and third, the representativeness regarding the quality of the diagnosis process appears not to be equivalent to other identification procedures (as they are presented, for example, in Chapter III-V). Although SHORE and TSIAMIS recognized a number of advantages in the identification by provision, they warn against devaluing 'traditional' methods of identification and recommend the continued use of methodically reliable field studies.

The identification of the gifted raises not only a number of questions about methods, but also the social-psychological matter of *labeling*. ROBINSON evaluated the (American) literature on this subject. In the majority of the empirical studies the following results were obtained (cf. also FREEMAN & URBAN, 1983).

The gifted themselves and their teachers and classmates tended to react positively to the label 'gifted', but at the same time the nongifted siblings as well as psychological counselors were more likely to react negatively. The reactions of the American teachers, on the other hand, were not uniform, with some reacting positively and some reacting neutrally to gifted students (cf. Chapter VII).

In a related situation, a very recent polling of 1,200 American and German teachers at the secondary level, as reported by DAHME (1985) and by BUSSE, DAHME & WAGNER (1986) is interesting. The authors discovered that 1) for German teachers, the label 'gifted' was more strongly associated with socially desirable traits (from cognitive areas as well as from social and personal areas) than the labels 'highly intelligent' and 'very creative' were; 2) American teachers view giftedness in a different way than do their German colleagues; 3) all German and American teachers believed that they cope well with their gifted students. This result contradicts, however, other reports and practical experience in counseling of the gifted, especially with regard to younger children or primary school teachers; 4) German teachers support the idea of

fostering highly gifted children within the school context (here the 'Gymnasium') but their American colleagues were more in favor of out-of-school provisions; 5) in both countries they would rate teacher characteristics and family nurturance as more important than preschool and school provisions for giftedness. Finally, DAHME (1985) points out that the label 'highly gifted' is used less in the USA than in Germany.

The following contributions concern themselves more with questions about fostering and educating the gifted. JELLEN & GULLEY (Chapter VIII) demand culture fair selection of the gifted and qualitatively differentiated content, methods, and evaluation. This model contributes to the development of the entire personality and also to knowledge and idea production.

The concept suggested by JELLEN (1981) for the fostering of giftedness is based on the DEG-taxonomy which is based on WARD's concepts and principles (1961, 1980). Twenty-one key concepts for the culture fair identification the gifted are used in the *DEG-taxonomy* (DEG = Differential Education for the Gifted). A corresponding curricula is also proposed. The authors discuss the model in detail in this chapter.

4. Promotion of Giftedness in a Socialist Perspective

The contributions in Chapter IX and X are concerned with the promotion of giftedness in a socialist country. First, PÉK describes the competition system for gifted students in Hungary. Since the sixties, a competition has been held to locate especially gifted students. There are competitions in all school subjects as well as many extracurricular activities. He discusses the questions: 1) What possibilities for early identification of gifted students does the competition system offer? 2) How can one promote giftedness and at the same time guarantee equal opportunities for all? 3) What direction is the gifted student going? The psychopedagogic conception of the competition system and the effects it has on personality development are also discussed. In addition, questions relevant to the society and to educational policy are raised (cf. Chapter IX).

Following this, BÁTHORY (Chapter X) explains the talent education approach in Hungarian schools. After explaining certain concepts and giving a brief historical overview, he presents the results of studies on the effectivity of school systems in 19 countries. He then gives his opinion about why talent education has not occurred in Hungary and describes some factors that typify the present system as demonstrated, for example, by a competition between schools proving that certain schools or teachers generally produce better students than others. BÁTHORY describes some of the problems which are connected with talent education and recommends differential education as a means of overcoming the difficulties and shortcomings which are inherent in the school system.

5. Clinical and Psychological Counseling Problems

In addition to fostering the academic programs for gifted students in school, psychological counseling is often indicated. Here again, the necessity of early diagnosis of giftedness becomes apparent. When schools fail to provide for and educate the gifted, the risk of psychiatric problems especially, when the above occurs in combination with low economic status, is high. According to a study by SCHMIDT (1977) on the *clinical problems* of behaviorally problematic children with great talent, children whose mothers went from a lower social level to a higher and whose parents showed a lack of child-centered attitudes, suffered the most problems. According to FEGER (1981), counseling is also necessary for disturbed parent-child relationships in the following circumstances: indifferent parents who reject their children and psychologically disturbed parents.

GOWAN & DEMOS (1964) listed the following conditions as causing a great deal of *stress* for the gifted: lack of challenge (especially in primary school), lack of contact with mental age peers, lack of information about appropriate activities, boredom and impatience in class, lack of motivation, resistance to conformity, and independence in thinking and judging (as a trait of giftedness), perfectionist tendencies, etc.

Fox (1982) summarized the situation of *highly gifted girls*, based on many years of observation at the Johns Hopkins University in Baltimore, as follows: mathematically talented girls demonstrated less self-confidence than equally talented boys; are less supported by their parents, teachers and peers; regard mathematics as less important; and have less clear future goals. Furthermore, they are less willing to take intellectual and academic risks; their values, interests, and expectations correspond less to their abilities than those of their male counterparts. Thus the call for counseling services for girls should take their specific problems into consideration. These problems arise because of *sex role stereotypes* and because of *unfavorable social conditions* in socially disadvantaged families. Therefore, directed counseling of gifted children and their parents is necessary and according to BRANCH's (1976) experience, is welcomed in many cases. Above all, parents and educators should be made aware that children they consider to be difficult could also be gifted.

Further target groups are disadvantaged children who, due to geographic-environmental factors and/or economic factors, because of a problematic situation at home, or because of physical or psychological characteristics which inhibit the development of their talent, need special help. FEGER (1981) also pointed out one very neglected group – the children of foreigners (*Gastarbeiterkinder*). The two last contributions to this book are dedicated to this topic of counseling the gifted.

To begin with, FEGER & PRADO (Chapter XI) report in detail about the first Information and Counseling Center for the Gifted in West Germany (in Ham-

burg). After an overview covering the functions of the Hamburg counseling center and a description of the clients, the most common occasions of counseling as well as the task and problem areas dealt with are briefly outlined. Two case reports (Tim and Christina) exemplify the practical work. Helping problem cases, as experience clearly demonstrates, is dependent on the professional competency of the counseling personnel. FEGER & PRADO, at the conclusion of their article, emphasize the following *requirements for counseling personnel*:

- (1) in-depth knowledge of the important literature on giftedness (research) and the ability to make recommendations for the actions of parents, teachers, and other students and for the gifted person;
- (2) thorough knowledge about the school system and its varieties of organization, legal aspects of program services (e.g. advancement rules, choice of subjects, etc.), and curricular demands of the different types of schools, and possibilities for extracurricular activities in specific cases; psychologically significant in this context is knowledge about details of the school systems in other states, in city and country regions, and also in larger regions or districts – about the prerequisites, school and educational climate, and attitudes toward gifted children and adolescents;
- (3) positive relationships not only with the clients (children and adolescents, teachers, and parents), but also with other persons and institutions who are concerned with the gifted. As long as work in this field is pioneering in nature, close cooperation with all those involved and who show interest is desirable. This should include parent and teacher initiatives, which – as experience shows (cf. WEBB, MECKSTROTH & TOLAN, 1984/85) – should not be organized without sufficient psychological supervision. Only then is it possible to maximize the help while at the same time minimizing undesirable side effects (cf. Chapter XI).

In the following contribution (Chapter XII), SCHMIDT & DETZNER pursue the question of whether highly intelligent children and adolescents are especially vulnerable to the development of *anorexia nervosa*.

Whereas in epidemiological studies, no increased risk could be proven for the development of psychiatric disturbances in gifted children (which, however, could be due to the low prevalence of giftedness and psychiatric abnormalities), there were some indications from the utilization study that a generally higher risk exists as well as a higher risk for specific psychiatric illnesses. In this study at the University of Heidelberg/Mannheim which is presented here, highly intelligent child and adolescent patients were matched with a control group of normally intelligent patients on age and sex. A comparison of the two groups showed significant differences in the frequency of occurrence of anorexia nervosa. These results and clinical experience indicate that highly intelligent children and adolescents are especially vulnerable to

anorexia nervosa. One possible explanation could be the largely cognitive control which the highly intelligent have, which is thought to play not only a large role in the development of the illness but also in the way therapy progresses. Therefore, overcoming this predominant cognitive control is an essential factor in the therapy process. Implications of these results for the pathology, treatment, and prevention of anorexia nervosa are discussed.

Summary

Overall this volume of papers is concerned with the problems of identifying and nurturing 'giftedness'. When the focus is on the problem of identification, important contextual conditions should also be dealt with. The process of identification cannot be separated from educational and training questions or causes for counseling which are specifically related to giftedness. Important questions dealt with in this book are thus the following: 1) What is empirically to be understood under the term giftedness and how is it theoretically and practically defined? 2) How can highly intelligent children and youth be reliably and validly identified; are there undesirable side-effects (e.g. labeling problems)? 3) Which pedagogical fostering possibilities are available and what psychological or clinical problems do the highly gifted have during socialization and development?

These and similar questions were discussed in detail by experts within the framework of a symposium at the 6th World Conference on Gifted and Talented Children in Hamburg, 1985. The symposium was not only very well received by the conference participants, but its results should be interesting to everyone who wants to know the latest information related to phenomena and developmental conditions of the highly gifted. The complete symposium contributions are therefore – as requested by many – presented in the following volume for a wider public.

References

- ALLINGER, U. & HELLER, K. (1975). Automatische Klassifikation von psychologischen Untersuchungsbefunden. In KULTUSMINISTERIUM BADEN-WÜRTTEMBERG (Ed.), *Bildungsberatung in der Praxis*. Villingen: Neckerverlag.
- ANDERBERG, M.R. (1973). *Clusteranalysis for applications*. New York: Academic Press.
- BARTENWERFER, H. (1978). Identifikation von Hochbegabten. In KLAUER, K.J. (Ed.), *Handbuch der Pädagogischen Diagnostik*, Vol. 4. Düsseldorf: Schwann.
- BARTENWERFER, H. (1985). *Bibliographie Hochbegabung. Deutschsprachige Literatur*. (Werkstattbericht 1). Frankfurt/M.: Deutsches Institut für Internationale Pädagogische Forschung (DIPF).
- BIRCH, J.W. (1984). Is any identification procedure necessary? *Gifted Child Quarterly*, 28, 157–161.

- BOCK, H.H. (1974). *Automatische Klassifikation*. Göttingen: Hogrefe.
- BRANCH, M. (1976). Counselling. In GIBSON, J. (Ed.), *Gifted Children Looking to Their Future*. London: Pru Chennells.
- BUSSE, T.V., DAHME, G. & WAGNER, W. (1986). Teacher perceptions of highly gifted students in the United States and West Germany, *Gifted Child Quarterly*, 30, 55-60.
- CASEY, J.P. & QUISENBERRY, N.L. (1982). Hochbegabung in der frühen Kindheit – Ein Forschungsüberblick. In URBAN, K.K. (Ed.), *Hochbegabte Kinder*. Heidelberg: Schindele.
- COOLEY, W.W. & LOHNES, P.R. (1971). *Multivariate Data Analysis*. London, New York: Wiley.
- CRONBACH, L.J. & GLEESER, G.C. (1965). *Psychological Tests and Personnel Decisions*. Urbana: University Press.
- DAHME, G. (1981). Naturwissenschaftliche hochbegabte Jugendliche – Ergebnisse empirischer Studien an Teilnehmern des Wissenschaftswettbewerbs 'Jugend forscht'. In WIECZERKOWSKI, W. & WAGNER, H. (Eds.), *Das hochbegabte Kind*. Düsseldorf: Schwann.
- DAHME, G. (1985). *Giftedness, creativity and high intelligence as seen by teachers*. Paper presented at the 6th World Conference on Gifted and Talented Children, Hamburg (FRG).
- FEGER, B. (1981). Hochbegabte Kinder aus benachteiligten Gruppen – Überlegungen zur Identifikation und zu Programmen. In WIECZERKOWSKI, W. & WAGNER, H. (Eds.), *Das hochbegabte Kind*. Düsseldorf: Schwann.
- FELDHUSEN, J.F. (Ed.) (1985). *Toward Excellence in Gifted Education*. Denver, London: Love Publishing Company.
- FELDHUSEN, J.F., ASHER, J.W. & HOOVER, S.M. (1984). Problems in the identification of giftedness, talent and ability. *Gifted Child Quarterly*, 28, 149-151.
- FOX, L.H. (1982). Die Zeiten ändern sich – die Erziehung hochbegabter Mädchen. In URBAN, K.K. (Ed.), *Hochbegabte Kinder*. Heidelberg: Schindele.
- FREEMAN, J. (1979). *Gifted Children. Their Identification and Development in a Social Context*. Lancaster: MTP Press.
- FREEMAN, J. & URBAN, K.K. (1983). Über Probleme des Identifizierens und Etikettierens von hochbegabten Kindern. *Psychologie in Erziehung und Unterricht*, 30, 67-73.
- GOWAN, J.C. & DEMOS, G.D. (1964). *The Education and Guidance of the Ablest*. Springfield, Ill.: Charles C. Thomas.
- HELLER, K. (1970). *Aktivierung der Bildungsreserven*. Bern, Stuttgart: Huber / Klett.
- HELLER, K. et al. (1984). *Formen der Hochbegabung bei Kindern und Jugendlichen: Identifikation, Entwicklungs- und Leistungsanalyse*. München: Universität München (unpubl.).
- HELLER, K. (1985). Identification and Guidance of Highly Gifted Children: Information about a Longitudinal Research Project. *Internationally Speaking. Journal of the AACD-International Relations Committee*, 10, 1985, 7-9.
- HOLMES, B. (1981). *Comparative Education: Some Considerations of Methods*. London: Allen / Unwin.
- HOWE, M.J.A. (1982). Biographical evidence and the development of outstanding individuals. *American Psychologist*, 37, 1071-1081.
- JELLEN, H. (1981). *A Multi-lingual Glossary for Differential Education for the Gifted (DEG)*. Unpublished doctoral dissertation, University of Virginia, USA.
- KHATENA, J. (1982). *Educational Psychology of the Gifted*. New York: Wiley.
- ROSEMANN, B. (1978). *Prognosemodelle in der Schullaufbahnberatung*. München, Basel: Reinhardt.
- ROSEMANN, B. & ALLHOFF, P. (1982). *Differentielle Prognostizierbarkeit von Schulleistung*. Opladen: Westdeutscher Verlag.
- SCHMIDT, M.H. (1977). *Verhaltensstörungen bei Kindern mit sehr hoher Intelligenz*. Bern: Huber.
- WARD, V. (1961). *Educating the Gifted: An Axiomatic Approach*. Columbus: Charles E. Merrill Books.
- WARD, V. (1980). *Differential Education for the Gifted*. Los Angeles: National/State Leadership Training Institute on the Gifted and the Talented.

- WEBB, J.T., MECKSTROTH, E.A. & TOLAN, S.S. (1984, 3rd ed.). *Guiding the Gifted Child*. Columbus: Ohio Publishing Company. - German (1985): *Hochbegabte Kinder: ihre Eltern, ihre Lehrer. Ein Ratgeber*. Bern, Toronto: Huber.
- WIECZERKOWSKI, W. & WAGNER, H. (1985). Diagnostik von Hochbegabung. In: JÄGER, R.S., HORN, R. & INGENKAMP, K. (Eds.), *Tests und Trends, 4. Jahrbuch der Pädagogischen Diagnostik*. Weinheim, Basel: Beltz.

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