

## **Detecting talent: A Checklist for the Prediction of Talent**

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### **Abstract**

The terms *gifted* or *gifted and talented* are bestowed on students who display a variety of characteristics, including high performance capabilities in an intellectual, creative or artistic area. Although certain characteristics can be generalized, some gifted students may not possess the same characteristics as other gifted individuals, and they may not appear to have the same observable differences. Depending on how their giftedness has been dealt with previously, they may even appear to be relatively “ungifted”. Many gifted students resist routine and exhibit nonconformist behavior. Others may withdraw, doing only a minimum of what is required. These students may have developed undesirable behavior due to a lack of challenges in school, and their intellectual development may have been arrested. So it is important to identify these students as early as possible in order to secure a positive schooling experience. Checklists for identifying ‘the upper’ 5% of students were distributed to 150 gifted and talented students, and to their parents and teachers, as well as to 188 ‘ordinary’ students and their parents and teachers, in order to determine the probability of giftedness. The results reveal the probability of giftedness from the perspectives of the students, parents, and teachers respectively.

*Keywords:* gifted students, giftedness checklist, identification, prediction

### Detecting Talent: A Checklist for the Prediction of Talent

The terms *gifted* or *gifted and talented* are bestowed on students who display a variety of characteristics, including high performance capabilities in an intellectual, creative or artistic area (Clark, 2008). Although certain characteristics can be generalized, some gifted students may not possess the same characteristics as other gifted individuals, and they may not appear to have the same observable differences. Depending on how their giftedness has been dealt with previously, they may even appear to be relatively “ungifted”. Many gifted students resist routine and exhibit nonconformist behavior. Others may withdraw, doing only a minimum of what is required. These students may have developed undesirable behavior due to a lack of challenges in school, and their intellectual development may have been arrested as a result (Clark, 2008; Nissen, Baltzer, & Kyed, 2007). So it is important to identify these students as early as possible in order to secure a positive schooling experience.

Internationally the terms *gifted* and *talent* are commonly used (Shavinina, 2009a, 2009b). Gifted in the sense of having received a gift, and talent in the sense of something you can develop if the right context is available. For example, you can be gifted with a potential for playing the piano; but if you don't have a piano to practice on, your talent for playing the piano will not develop.

There is no universal definition of giftedness, but many professionals define *gifted* as having an IQ score above 130, being two or more standard deviations above the norm, or being among the top 2.5 per cent of a group of children of the same age<sup>1</sup> (Wasserman, 2003; Wechsler, 1991). However, others have a broader concept of intelligence, for example Gagné, who has developed a differentiated model of giftedness and talent focusing on the top 10% of age peers with regard to giftedness and talent (Gagné, 2003).

However, intelligence tests have their limitations. Commonly used intelligence tests such as the WISC (Wechsler, 2003) only measure verbal and nonverbal competences, and are reproductive. They measure what is known, not what could be known, which means that creativity and divergent thinking are not measured. Nor are various types of talent measured, apart from academic talent.

*Mensa*<sup>2</sup> is a society for bright people whose purpose is to promote stimulating intellectual and social opportunities for its members. In order to join the society, people must have an IQ of 130 or

<sup>1</sup>Internationally (Shavinina, 2009a, 2009b) the 2½ per cent is divided into *gifted individuals* with quotients between 130 and 144, *highly gifted individuals* with quotients between 145 and 159, *exceptionally gifted individuals* with quotients between 160 and 175, and *exceptionally highly gifted individuals* with quotients above 175. These groups correspond to 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> standard deviation respectively.

<sup>2</sup>[www.mensa.dk](http://www.mensa.dk)

above, corresponding to the top 2½% of the population. *Gifted Children*<sup>3</sup> is “the child version” of Mensa and advocates a better understanding and knowledge of gifted children and their well-being with a strong focus on the identification and development of the children’s potential. This society emphasizes that early identification will benefit the children and their families and society in general. It targets the top 5% of an age group, corresponding to an IQ of 125 or above. *Gifted Children* do not demand an IQ test, but they have a screening procedure performed by consultants, and based on interviews they make recommendations about membership. The consultants are not psychologists but “ordinary” parents of gifted children who have been trained to identify these children and have personal experience of the kind of issues that they face.

### **Methods and results**

Checklists for the identification of the upper 5% of students have already been developed, see tables 1, 2, and 3 (Nissen, 2016). Each checklist consists of 25 items; and there is one checklist for students, one for their parents, and finally one for their teachers. The informants are asked to mark 0 (not true), 1 (somewhat or sometimes true), or 2 (very true or often true).

These checklists were distributed to 150 students who had been screened by consultants from Gifted Children, the conclusion being that they belonged to the top 5%. 188 “ordinary” children and adolescents were also asked to respond, see table 4.

The table completed by the children reveals that talented students on average score 41.5 points, while “ordinary” children and adolescents score 33.6. The parents of the talented children and adolescents score on average 43.5 points, while the parents of “ordinary” students on average score 36.0 points. The teachers of the talented children and adolescents score on average 37.2 points, while the teachers of the “ordinary” children and adolescents score 25.9 points, see table 4. The children in both groups were between 7 and 16 years old, with an average of approximately eleven years.

One difference between the two groups is that the scores among the talented students and their parents and teachers are higher than the scores among the “ordinary” students and their parents and teachers. In order to identify whether a new student is talented or not, it is necessary to work with two distributions at the same time: one distribution of test scores produced by “ordinary” students, and one distribution produced by students who have already been identified as gifted (Nissen, 2016). The identification is produced by parents and teachers, but these two groups are kept separate.

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<sup>3</sup>[www.giftedchildren.dk](http://www.giftedchildren.dk)

Underlying there are two distributions with test scores, one with students that are identified as talented, and one with “ordinary” students. Although the two distributions overlap, it is obvious that the score distributions of the “ordinary” students in general are lower (left of) the score distributions of the talented students. The problem is now to choose a cut-point-value within the accumulated score distribution in the range of zero (0) to max (50) on the score scale. Connected with every value in the two distributions two distributions are seen: the frequency of students under the chosen cut-point-value and the frequency of students higher than the chosen cut-point-value.

In order to keep reasonable equidistant values on the score scale as cut-points, and if 5 to 10 per cent defines as low or very high (that is not very often), it is possible to determine the above-mentioned limits and the score distributions for the “ordinary” students. The demarcation between “average” and “high” is partly caused by the wish of having equidistant value as cut-points.

In the light of the actual scores from the six distributions is the probability of giftedness in the perspective of the student, the parents and the teacher calculated in this way that the *low* group has a less than 5% probability of being talented, the *average* group has a probability of about 20% of being talented, the *high* group has a probability of about 50% of being talented, and finally the *very high* group has a 95% probability of being talented (see figures 1, 2 and 3).

### **Discussion**

The intent of the checklists is to give students, parents, and teachers the opportunity to identify gifted and talented students in a brief and feasible way in the form of a guesstimate. The lists for the parents and teachers can be used for students in the range from 6 to 16 years, while the checklist for students demands a reading ability corresponding to 4<sup>th</sup> grade. The lists can be used separately or together, for example in connection with parent-teacher meetings.

The checklists help to quickly identify gifted and talented children, thereby avoiding the risk that they will spend too much time in school without being challenged. This risk can only be avoided if the competences of the students correspond to the challenges they are exposed to in school (Csikszentmihalyi, 1990). If the challenges are too limited, the risk is that the students may react with non-conformist or apathetic behavior, as mentioned earlier.

In the past, it was commonly believed that if you were born gifted you would always be gifted, but this does not seem to be the case. Neuropsychological research indicates (Geake, 2009) that gifted children in comparison with “ordinary” children have enlarged activity in the frontal lobes, more connections between the brain cells, and increased brain cell activity. But in recent years a variety of research has been

published revealing that people who are identified as being gifted are not necessarily gifted for the rest of their lives. Talent increases or decreases depending on the context in which you grow up (Horowitz, Subotnik, & Matthews, 2009).

In other words, it is not enough to simply identify the talented students because their context must also be taken into consideration. With a view to achieving a more thorough assessment, Nissen (Nissen, 2011a, 2011b) has developed a psycho-relational model based on information regarding the student's history of development, their behavioral, phenomenological, intra-psychic and biophysical level, and relational systems such as their family, school, peers, and immediate environment. The model is based on the theory that identity development takes place through dialectic interaction between individuals and their relations. After having collected data from these areas, strengths and barriers for development are identified in order to create a foundation for strategies of action.

Once a gifted and talented child has been identified, it is not possible to say in general what to do. It depends on the options available in the school district in question. One approach that is feasible involves measuring whether whatever you have decided upon works. Nissen has developed a model of how you can measure whether learning has taken place or not within one minute (Nissen, Lemire, & Andersen, 2014). The idea is that if the student indicates that no learning has taken place (below a cut-off score), then the student in question does not need any "more of the same" but needs "something else" instead (Hattie, 2009). The tool that can be used to achieve this is a theory-based and empirically based analog rating scale that measures the degree to which the student feels that that they have learnt something (academic achievement), succeeded socially, enjoyed the way the teacher concerned teaches (the method used), and understood how much is expected in school (expectation). This rating scale has been digitalized so that the teacher can get feedback from the students in less than one minute, with information about whether learning is taking place or not (Nissen et al., 2014).

The checklists (see table 1, 2 and 3) were not developed with a view to creating a tool for distinguishing between gifted and non-gifted students, but were designed to detect students whose potential was not being challenged and whose resources were not being utilized effectively. Data from the checklists can also be used to conduct "potential differentiated teaching" in such a way that everybody in the class is challenged instead of only a few being challenged.

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**The Checklists**Table 1. *Checklist for students*


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0	1	2	When I am interested I can get completely absorbed
0	1	2	I learn rapidly
0	1	2	I have an extensive vocabulary
0	1	2	I am good at logical thinking
0	1	2	I value fairness and justice
0	1	2	It is exciting to examine things and learn new stuff
0	1	2	I am extremely curious and know a lot about many things
0	1	2	I am good at constructing and imagining things
0	1	2	I understand things fast
0	1	2	I am good at considering, reasoning, and reflecting on things
0	1	2	I know I am smart and clever
0	1	2	It is easy for me to learn new things
0	1	2	My memory is really good
0	1	2	I am good at numbers and math
0	1	2	I am good at advanced games, e.g. on laptops
0	1	2	I hold on to my interests
0	1	2	I am a keen observer
0	1	2	I am sensitive and emotional
0	1	2	I don't like routine work in school
0	1	2	I prefer companions with the same interests as me
0	1	2	I feel different in comparison with others
0	1	2	I am good at thinking strategically
0	1	2	I have a very good sense of humor
0	1	2	I think differently in comparison with others in my age group
0	1	2	I like project work at school

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Table 2. *Checklist for parents*

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0	1	2	Has an extensive vocabulary
0	1	2	Understands things fast
0	1	2	Has a really good memory
0	1	2	When interested can get completely absorbed
0	1	2	Values fairness and justice
0	1	2	Is good at logical thinking
0	1	2	Learns rapidly
0	1	2	Is good at understanding complicated relations
0	1	2	Loved to have things read aloud as a small child
0	1	2	Is good at considering, reasoning and reflecting on things
0	1	2	Was able to think abstractly before starting school
0	1	2	Is sensitive and emotional
0	1	2	Is a keen observer
0	1	2	Is extremely curious and knows a lot about many things
0	1	2	Often makes judgments which are very mature in comparison with their age
0	1	2	Is good at constructing and imagining things
0	1	2	Developed a sense of humour early
0	1	2	Formed opinions and made judgments before starting school that were very mature in comparison with their age
0	1	2	Is good at numbers and math
0	1	2	Understood irony before starting school
0	1	2	Developed language very early
0	1	2	Learned the alphabet before starting school
0	1	2	Prefers to spend time with companions with the same interests
0	1	2	Used foreign words before starting school
0	1	2	Is a perfectionist

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Table 3. *Checklist for teachers*

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0	1	2	Understands things fast
0	1	2	Has a really good memory
0	1	2	Learns rapidly
0	1	2	Has an extensive vocabulary
0	1	2	Is good at logical thinking
0	1	2	Is good at considering, reasoning and reflecting on things
0	1	2	When interested can get completely absorbed
0	1	2	Is good at numbers and math
0	1	2	Holds on to their interests
0	1	2	Is sensitive and emotional
0	1	2	Values fairness and justice
0	1	2	Is good at understanding complicated connections
0	1	2	Is able to concentrate for lengthy periods
0	1	2	Is extremely curious and knows a lot about many things
0	1	2	Is much better at one or more subjects than you would expect for their age
0	1	2	Is good at constructing and imagining things
0	1	2	Is a keen observer
0	1	2	Is good at strategic thinking
0	1	2	Is undoubtedly one of the most talented members of the class at one or more subjects
0	1	2	Often makes judgments which are very mature in comparison with their age
0	1	2	Is good at working strategically in order to find solutions
0	1	2	Likes project work at school
0	1	2	Has good working habits
0	1	2	Is extremely interested in school work
0	1	2	Is very good at handling large amounts of information

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## DETECTING TALENT - A CHECKLIST FOR THE PREDICTION OF TALENT

Table 4. The table shows the number of talented and “ordinary” students, parents, and teachers included in the study. “Range” indicates minimum and maximum scores on the checklists, and “Average” indicates the average of these scores.

Category	Number	Range	Average
Talented students	150	28 – 50	41.5
“Ordinary Students”	188	13 – 46	33.6
“Talented parants”	252	24 – 50	43.5
“Ordinary Parents”	205	14 – 50	36.0
“Talented teachers”	120	14 – 49	37.2
“Ordinary Teachers”	256	4 – 50	25.9

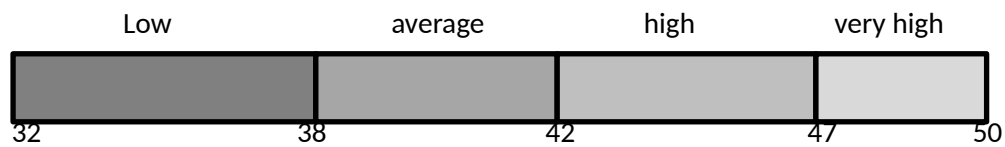


Figure 1. The figure displays the probability scores for giftedness from the perspective of the students.

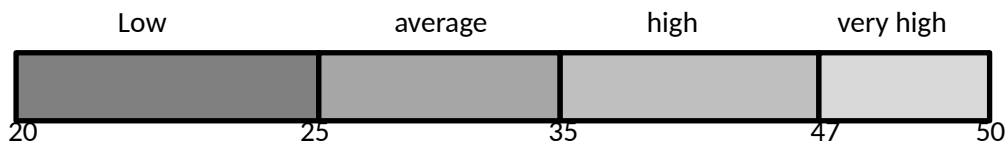


Figure 2. The figure displays the probability scores for giftedness from the perspective of the parents.

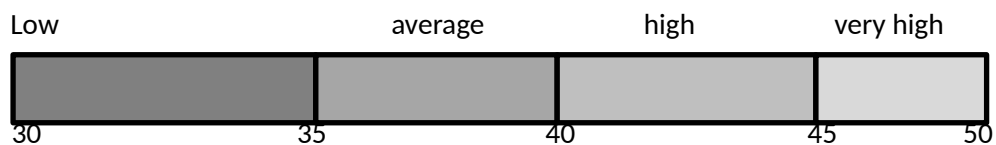


Figure 3. The figure displays the probability scores for giftedness from the perspective of the teachers.