

Distinguishing gifted and talented learners and other learners

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Challenge for identification : to distinguish between bright and gifted students:

Gifted learner	Able, bright learner
Not easily programmed	Easily programmed
Irritated by being structured, directed to learn	Enjoys being structured, directed to learn
Makes links in unexpected, divergent ways	Learns the ideas being taught well
Links taught ideas with new ideas	Remembers well what was taught
Is extremely curious to learn new ideas	Is interested, prepared to learn new ideas
Takes ideas apart, extend and question them	Takes in new ideas as they are presented
May not present as achieving at a high level	Achieves at a high level
Shows own opinions and feelings about idea	Prepared to learn new ideas
Infers, predicts about ideas "But what if ...?"	Understands the ideas taught well
Initiates tasks prefers open-ended direction	Completes set assignments well
Thinks intensely about ideas being taught	Receives new ideas
Creates a new design or way of thinking	Copies, imitates well
Invents, builds new ideas	Applies ideas taught well
Often highly self-critical of own learning	Usually satisfied with high level of success
Invents own ways of solving problems	Applies taught ways of solving problems
Invents problems, assignments	Completes set problems, assignments
Prefers divergent problems	Prefers convergent tasks

Problems, difficulties in identifying students who are gifted

- Reluctance to show superior levels of achievement due to past negative experiences, lack of peer support
- May have difficulty with convergent tasks, may 'read too much' into tasks
- May be overly concerned with consequences of being assessed

Systematic process to identify /select gifted students

Key question asked ?	Assessment procedure	Comments
Superior general intellectual ability ?	Intelligence Tests	Intelligence Tests, by themselves, are not sufficient to indicate giftedness. An IQ score is a summary of several aptitudes and abilities.
Specific academic aptitude in a particular area ?	Out-of-Grade-Level Aptitude Tests : tests designed for and normed on students 2- 5 grade levels above grade of the student	Out-of-Grade-Level Aptitude Tests <ul style="list-style-type: none"> • assess specific reasoning skills well - students find ways to solve novel problems. • spread the scores of students who had been clustered at the top of the grade-level test • have difficult problems that challenge even most capable students, assisting the separation the students. • indicate degree of enrichment needed by students.
Creative or productive thinking ?	Analyse students' productions for evidence of creativity	<ul style="list-style-type: none"> • important to use open-ended, divergent tasks • ensure the criteria for assessing the outcomes for exceptional qualities are clear
Superior achievement ?	Use normed achievement tests in verbal, artistic, psychomotor areas.	Talented students score above the 95th percentile
Gifted characteristics ?	Gifted Characteristics Scale : observational checklists	Observe the characteristics over an extended period and note the contexts in which they arise.
High intrinsic motivation ?	Use motivation to achieve rating scale	
Deep approach to learning ?	Use Approach to learning scale	

Sequence for data gathering Developing an identification procedure:

Group screening tests of higher level reasoning

- convergent thinking :
 - nonverbal reasoning
 - spatial reasoning (Ravens Progressive Matrices)
 - verbal reasoning; word meanings, listening comprehension (ability to infer, speed of processing)
 - quantitative reasoning
- divergent thinking :
 - verbal reasoning; listening comprehension (ability to infer, fluency of ideas)
 - music ability; level of development, evidence of creativity
 - art ability ; level of development, evidence of creativity

Behavioural observations of how students learn, link ideas , solve problems. Collect through

- teacher observation in classroom.
- informal parent observation in home.

To improve the accuracy and objectivity of observations. , teachers can

- use observational checklists to guide the collection of information
- collect examples of spoken or written communication such as journals to record child reflections, written, drawn, spoken autobiographies.
- record performance in how problems were solved, how issues, opinions and personal experiences were discussed.
- collect past records, achievements such as creative writing, art, research, inventions, music, oral presentations (recorded on tape) in work folio.

Individual standardised intelligence scales are limited as measures of giftedness in various ways:

- they measure children's problem solving ability at one point in time.
- they consist of convergent tasks; they don't measure thinking in divergent ways or in open-ended ways.
- gifted children can often find the tasks difficult because they read into them ideas that other children don't see; they look for answers or solutions that other children don't. They may delay giving an answer because they think the correct answer is too obvious and not the required one.
- performance is affected by the student's past learning opportunities.
- test performance may be affected by motivation, test anxiety, reading ability, language ability, cultural influences, etc.

Two most used general ability tests

- Wechsler Intelligence Scale for Children III (WISC III).
- Stanford Binet Intelligence Test (Fourth Edition) (SB-FE)

Roughly comparable tasks on the WISC III and the SB-FE are shown in Table

	WISC III	SB-FE
Recall verbal general knowledge, information	Information	
Reason how verbal concepts are similar / differ	Similarities	Verbal Relations
Solve quantitative problems	Arithmetic	Quantitative Equation Building
Describe the meanings of words, vocabulary	Vocabulary	Vocabulary
Explain various phenomena	Comprehension	Comprehension
Retain information in short term memory	Digit Span	Memory for Digits , Bead Memory Memory for Sentences. Memory for Objects
Comprehend visual information in context	Picture Completion	Absurdities
Arranging picture to tell a story	Picture Arrangement	
Analyse and construct a spatial design	Block Design	Pattern Analysis Paper Folding and Cutting
Analyse and complete a matrix		Matrices
Arrange parts to make an object	Object Assembly	

Learn an arbitrary visual code	Coding	
Reproduce a spatial pattern		Copying

The WISC III The sub-tests on the WISC III and a brief description of what each measures, with the example for a gifted 8 year old doing tasks from WISC-III :

Task or sub-scale	ability measured	percentile ranks	
<i>Verbal tasks</i>			
Information;	recalling verbal general knowledge	97	superior
Similarities	describing how two verbal concepts are similar	99	superior
Arithmetic;	solving arithmetic word tasks	99	superior
Vocabulary;	describing the meanings of words, vocabulary	99	superior
Comprehension	explaining various social phenomena and conventions	95	superior
Digit Span	storing information in short term auditory memory	95	superior
<i>Nonverbal (performance tasks)</i>			
Picture Completion	recognizing missing features from visual information	97	superior
Coding	learning an arbitrary visual code	97	superior
Picture Arrangement	arranging a set of pictures in order to tell a story	97	superior
Block Design	arranging blocks to make a spatial design	97	superior
Object Assembly	arranging parts of an object to make the object	97	superior
Symbol Search	scan a set of arbitrary visual symbols for target symbol/s	95	superior
Mazes	navigate through a maze		
Overall verbal reasoning ability, PR of 99.9; overall non-verbal reasoning ability, PR of 99.9; M displayed superior verbal and nonverbal reasoning abilities.			

These tests assume a normal distribution curve.

Interpreting test scores These tests provide score on each subtest, each area and for the test as a whole. The scores are expressed in various ways

- standard scores
- percentile ranks

Measure of general ability and portion of same age population

General ability score (IQ)	% ranks	Number of SDs (SD =15) above mean	Portion of same age population
100	50	0	1 in every 2
115	84	1	16 in every 100
130	97.5	2	2 in every 100
145	99.9	3	1 in every 1,000
160	9>9.9	4	3 in every 100,000

By administering the various sub-tests you can calculate

- a standard score (the 'scaled score') for each sub-scale on the WISC-III.
- a total verbal area score and a total nonverbal or performance area score.
- a total general ability score , g,
- scores for various factors; Verbal Comprehension (Information , Vocabulary, Comprehension, Similarities) Perceptual Organisation (Picture Completion, Block Design, Object Assembly, Picture Arrangement) Freedom from Distractibility (Arithmetic, Digit Span) and Processing Speed (Symbol Search, Coding).

Use of the WISC III to identify giftedness

- may not adequately assess giftedness at ages > 14, particularly because of timed bonus- this could penalise reflective students

	Portion of normal curve	WISC 111	Stanford Binet 4
Very superior	2.1 - 2.2	130+	132+
Superior	6-8	120-129	121-131

High Average	16	100-119	111-120
Average	50	90-109	89-110

Gifted students show a greater range of subtest variation than average students (Fishkin, Kampsnider & Pack, 1996):

- a larger portion of gifted students score above their mean than average students for
 - Similarities allow students to display superior logical abstract thought and
 - Comprehension to differentiate essential from non-essential detail
 - Vocabulary
- a larger portion of gifted students score below their mean than average students for
 - Coding both tasks involve speed
 - Symbol Search

Gifted profile on the WISC III

- 'peaks' in Similarities, Comprehension + Vocabulary and valleys in Coding and Symbol Search
- discrepancy between verbal and performance IQ when one is > 130
- variability among index scores with Processing Speed Index lower
- use of Verbal Comprehension Index than FSIQ because it is less affected by speed of performance.

When gifted learning disability is suspected, use SBIV.

Dispute re the version of SBIV to use; see Robinson, (1992) and Silverman & Kearney (1992).

Limitations of IQ as a defining concept

- definitions include categories of giftedness in addition to general intelligence and specific academic ability
- giftedness is domain specific and cannot be accounted for by umbrella IQ
- need to focus on IQ- independent abilities ; triarchic theory of human intelligence (Sternberg)

References

Fishkin, A.S., Kampsnider J.J. & Pack, L. (1996). Exploring the WISC III as a measure of giftedness. *Roeper Review*, 18, 3, 226-231.

Robinson, N. (1992). Which Stanford-Binet for the brightest? *Roeper Review*, 15, 1, 32-34.

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