

GIFTED AND TALENTED EDUCATION
PROFESSIONAL DEVELOPMENT PACKAGE FOR TEACHERS

Module 2



Primary



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GERRIC

Gifted Education Research, Resource and Information Centre

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Welcome!

You are about to start a Professional Development Course which will help you identify the gifted and talented students in your class or your school, and differentiate the curriculum to respond to their individual learning needs. You'll also be able to decide which of your students may benefit from various forms of ability or interest grouping and which may possibly be candidates for one or more of the many forms of academic acceleration.

About the Package

The course consists of six Modules

Each Module consists of three levels: Core, Extension and Specialisation. The Core levels of the six Modules are the heart of this course. The Core Modules contain essential information and practical advice and strategies to assist you to identify and respond to your gifted and talented students.

We strongly suggest that you complete the Core level of each Module.

Pre-tests

We are aware that teachers and school administrators will enter this course with a wide range of existing knowledge of gifted and talented education. To accommodate this range of knowledge and experience, we have started each Core Module, from Module 2 onwards, with a pre-test. We encourage you to take these pre-tests and, if you 'test out' on any Module at Core level, simply move on to the next Module. For example, if you 'test out' of Core Module 2 you will pass over that Module and move on to Core Module 3.

Extension and Specialisation Levels

Extension and Specialisation levels for each Module. Material covered in the Extension and Specialisation levels builds on the knowledge you will have gained from the Core level in each Module. Key issues are examined in greater depth and participants explore a wider range of issues in the cognitive and social-emotional development of gifted students. New identification, curriculum differentiation and program development techniques are introduced.

The Extension and Specialisation levels require teachers, counsellors and administrators to undertake further reading and practical activities to reflect on classroom practice, school practice and policy. They encourage participants to focus on their specific role in the school and prepare a brief action plan to demonstrate application or mastery of outcomes.

Schools may decide that completion of the course at Specialisation level would be a useful prerequisite for becoming the school's Gifted Education Coordinator.

What will you learn in this course?

The course consists of six Modules:

Module One: Understanding Giftedness

Understanding the nature of giftedness and talent; what the terms mean; levels and types of giftedness. Cognitive and affective characteristics of gifted and talented students; ways in which these students may differ from their classmates - even if at first we don't observe this.

Module Two: The Identification of Gifted Students

A range of practical identification procedures, with particular attention to procedures which are effective in identifying gifted students from culturally diverse and disadvantaged groups. We'll be emphasising the use of a combination of approaches rather than a single measure such as IQ testing or teacher nomination used in isolation.

Module Three: Social and Emotional Development of Gifted Students

Understanding the social and emotional characteristics and needs of gifted students. Ways in which gifted students may differ somewhat from their classmates in their social and emotional development. Supporting gifted students and their parents. Teaching strategies and class structures which foster the development of positive social attitudes and supportive peer relationships in gifted students.

Module Four: Understanding Underachievement in Gifted Students

Understanding the causes of underachievement in gifted students. Identifying gifted underachievers and planning interventions designed to prevent and reverse cycles of underachievement.

Module Five: Curriculum Differentiation for Gifted Students









Teaching strategies and methods of curriculum differentiation which enhance the learning of gifted students in the regular classroom. Appropriate use of different enrichment models that international research has found to be effective with gifted and talented students. Practical applications of pre-testing, curriculum compacting and individualised programming.

Module Six: Developing Programs and Provisions for Gifted Students

Practical strategies for the establishment and monitoring of ability, achievement or interest grouping, and the many forms of accelerated progression. Particular attention will be paid to the effects of various strategies on students' academic and social development.

Using the package

Much of the material is suitable across teaching and learning contexts. This content is not specifically marked. However, content that may be applicable to your particular context is identified as follows:

Role	Classroom Teacher 	Executive Staff 	Principal 
Location	Urban 	Rural 	
Mode	Self Study 	Small Group 	Whole Staff 

Follow these symbols through the content to customise your learning path.

Each Module comes in two parts, each concluding with a practical exercise. We suggest that you complete the first and second parts a few days apart - unless this is not workable in your particular learning context. This will give you a chance to digest the information in Part 1 and work through the Reflective/Practical component.

Core Module 2: Identification of Gifted and Talented Students

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Module 2

Identification of Gifted and Talented Students

Welcome to Module 2, Identification of Gifted and Talented Students. In this Module you will become familiar with some of the tools and techniques that are used to identify giftedness and talent in students at different levels of schooling.

This is a challenging process, as each school will have students with different characteristics, circumstances and needs.

As will become clear throughout this Module, the key purpose of identifying gifted and talented students is to serve them with a program and curriculum that meet their needs.

1. What is the main purpose of identifying a gifted student?

- (a) To compare them with other students.
- (b) To provide appropriate programs and curriculum.
- (c) To give feedback to parents.
- (d) To label the child gifted and talented.

2. When trying to identify gifted and talented students we should:

- (a) Use one objective measure, as these tools are not influenced by personal opinion or bias.
- (b) Use one subjective measure, as teachers and parents are the best people to identify gifted and talented students.
- (c) Use multiple measures, comprising a combination of objective and subjective measures, according to the definition of giftedness and talent used by the school and the nature of the program.
- (d) Use one objective and one subjective measure as this will allow for balance in the identification process.

3. Explain the difference between objective and subjective measures.**4. When would you use a subjective measure and when would you use an objective measure?****5. What might be the most effective identification process for the following student? Read the case study and make recommendations.**

Lynne, a Year 5 student, is constantly checking with her teacher to see that she is 'getting it right'. She often seems worried and her teacher discovers that her parents have her attending coaching college three evenings a week in the hope of gaining a place in a selective high school.

Lynne achieves well in many KLAs but performs poorly in test situations. Her parents have been asking the school to help Lynne perform better at school as they want her to go to a selective high school.

What tools might we use to assess whether Lynne's parents are expecting too much or whether Lynne is underachieving because she is feeling stressed?

1. (b)

2. (c)

3. Subjective measures are judgements based on individuals' personal observations. Objective measures are those that produce comparable scores, eg from standardised tests, that indicate potential or performance relative to a large population of other students.

4. You should aim to use a combination of both subjective and objective measures in the identification process. Objective measures may confirm personal observations and judgements made when using subjective measures.

5. The following modelled response has been provided for the case study.

What tools might we use to identify whether Lynne's parents are expecting too much or whether Lynne is underachieving because she is feeling stressed?

Lynne's teacher recommends an IQ assessment and collects a portfolio of her best work. He also asks Lynne's previous teacher to complete a Teacher Nomination Form. Lynne's teacher does not think that it is a good idea to above-level test this student, as she is anxious about tests - instead he organises to talk her through an above-level series of examples in maths so that Lynne is unaware that she is being assessed. It would also help to collate Lynne's results from the state-wide literacy and numeracy tests and any large-scale competitions she has entered.

Outcomes

At the completion of this Module, you will:

- understand the purpose of identification.
- understand the difference between objective and subjective identification tools and when to use them.
- be aware of various tools available for identification.
- appreciate the need for multiple identification criteria.

Identification as an ongoing process

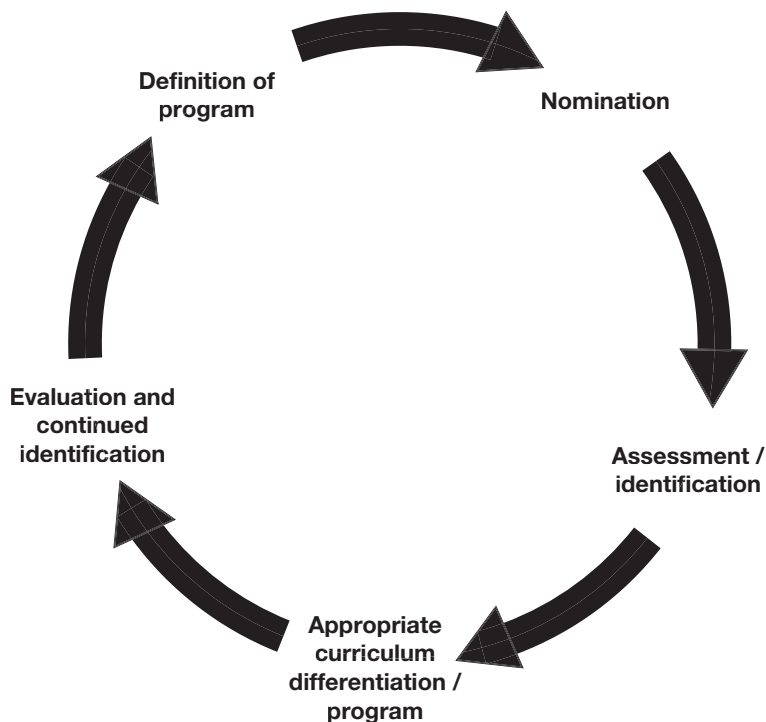
As discussed in Module 1, gifted and talented students have different learning needs from those of their age peers of average ability and therefore need special educational planning to support them in developing their potential. The first step in helping these students is to find them - and this is commonly termed **identification**.

Just as it is important to identify students with learning disabilities and assess their particular learning needs on the learning continuum, it is also necessary to identify each gifted child's specific learning needs and current level of achievement. The purpose of identifying a gifted child is to provide appropriate learning experiences (Richert, 2003).

Once a student has been identified as gifted, we can then use appropriate educational interventions and strategies in order to move them along the learning continuum. In the process we may unearth additional gifts in specific areas, identify students whose needs are not being met by the current curriculum and provide evidence for inclusion in a particular program. These are both the main purposes of identifying gifted and talented students and the desired outcomes of successful identification.

Identification is not intended to label children once and for all as gifted or not gifted. Rather, it is an ongoing process, with a diagnostic purpose, just as it is for students in other special needs groups. Identification should occur throughout a child's educational journey. New contexts and developmental changes may alter the expression of different abilities at various times, requiring ongoing identification. It is a shared responsibility between parents, teachers, counsellors and trained professionals. Periodic assessment is required as students' gifts grow and change.

In a nutshell, we can see the process of identification as ongoing:



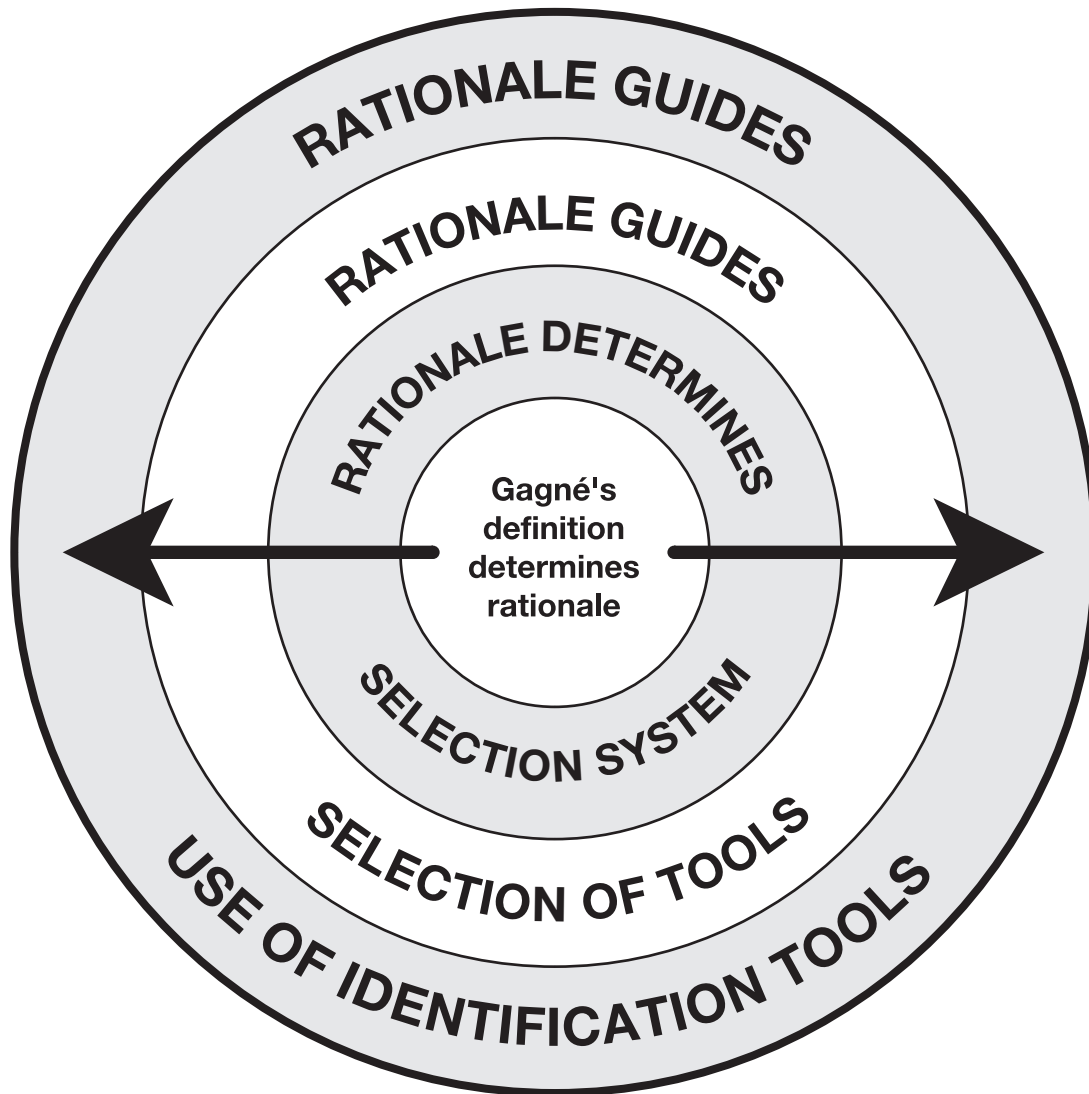
When identifying gifted students we need to know not only whether they are gifted and/or talented but also in what domain(s) the gifts or talents are sited.

Rationale

Identification of gifted and talented students can be a complex issue and the selection of the most suitable tests, checklists and other tools for your school is very important. Choosing the 'right' tools will help you provide defensible interventions for gifted and talented students (Borland, 1989). By defensible we mean that your school can affirm that you are using the best methods available, so that your selection or placement decisions are soundly based and therefore fair and valid. Your school will be able to explain that your identification processes aim to identify as many as possible of the gifted and talented students at the school, using a variety of reliable and valid data collection processes.



The rationale behind the way gifted and talented students are identified is dependent on the definitions of giftedness and talent that the school adopts. The Gagné model is the rationale behind the identification system used in this Professional Development Course, so this model will guide our discussion of identification tools and their use. If you are looking for students who are either gifted or talented (or both, with some gifts having been successfully translated into talents and others still to be assisted), you need to use a variety of tools that will allow you to identify high potential as well as high performance. Identification procedures need to take into consideration the important issue that some gifted children freely express their abilities at school, while others may not.



Principles of effective identification

There are several important principles, supported by research, to guide you in your endeavours to identify gifted students effectively and confidently. These include:

- Using tools and strategies that are prescribed by, or in harmony with, the definitions of giftedness and talent adopted by your school (eg Gagné's, as described in Module 1).
- Using multiple criteria, so that you may identify as many of your gifted students as possible, using a variety and balance of both subjective and objective measures.
- Ensuring that the tools and strategies you use are reliable and valid.

Reliability refers to the accuracy or consistency of an identification method (eg teacher nomination may be considered to have low reliability if two teachers estimate quite differently the potential in a particular domain of the same student, or group of students).

Validity refers to the extent to which an identification method measures what it is supposed to measure (eg parent nomination may be considered to have low validity if all students in a comprehensive school are rated as gifted).

Reliability and validity will be expanded upon in the Extension and Specialisation levels of this Module.

- Examining the intrapersonal and environmental catalysts which are influencing the expression of giftedness.
- Establishing equity of procedures to ensure that no one is overlooked. This will include considering children from disadvantaged backgrounds, and taking into account cultural influences.
- Beginning the identification process early to help prevent chronic underachievement.
- Providing appropriate education (eg in pace and level). We will cover this in the subsequent Modules.



The range of identification measures which the school adopts should be designed to identify all of the gifted and talented students in the school population.

So, how do we know what are the best measures?

Identification measures fall into two basic categories: subjective and objective measures.

Subjective measures allow judgements to be made on the basis of structured observations of the student. These include teacher, parent, peer and self nomination, along with anecdotal records contributed by previous teachers and the child's family.

Objective measures are standardised tests of ability or achievement. These include IQ tests and other forms of psychometric testing, standardised performance tests, dynamic testing and off-level testing.

You may also see these two types of measures referred to as **quantitative** (objective) and **qualitative** (subjective). Effective identification of gifted children requires evidence from both categories.



Effective identification will provide:

- evidence of both students' ability (potential) and their current level of performance.
- pointers to underachievement, including information about the environmental and personalogical catalysts, which may be influencing students' current performance. (You may wish to re-read the section on Gagné in Module 1 which outlines the possible impact of these catalysts).
- information that initiates appropriate curriculum and programs.

Did you know that effective identification will help you to identify underachieving gifted students, including students from culturally diverse and disadvantaged populations?

(You can read more on this, later in this Module, and in Module 4).

Not all gifted students perform well in the school system

The school should also employ identification procedures which are designed to find students who are not achieving at levels commensurate with their ability, due to negative effects of intrapersonal and environmental catalysts. These students are called **gifted underachievers** and in Module 4 we will explain some of the reasons why underachievement is so prevalent among gifted and talented children and adolescents.

A wide range of strategies must be used to assist identification. The tools you use will depend upon the child's age, need, location, background and the resources available to you in your school, district or system. These will be different for each individual in each school. A defensible identification process must contain a balance of objective and subjective measures.

Subjective measures

Giftedness has many dimensions and so should the identification process. Subjective measures allow teachers, parents, peers and the students themselves to use checklists and other descriptors which help them make evaluative judgements about a student's ability.

Parent nomination

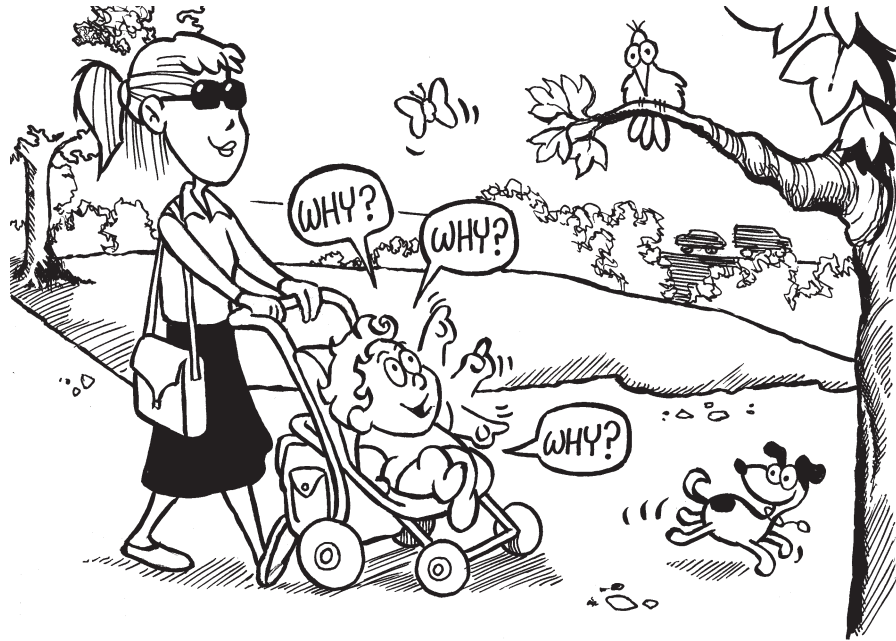
Parents are a valuable source of information. No one knows a child, particularly a young child, better than their parent. Parents have information on both the positive and negative characteristics of their children, particularly in the first five years of life before schooling begins. They know their children's areas of interest and passion.

Significant areas of advanced development can be readily observed in young children and it is the parent who is the 'keeper' of this information.

Parents may be aware of the ages at which their child moved through stages of speech acquisition, physical development milestones, stages of prereading and early reading, and the development of numeracy and early interests. Early development of speech, movement and reading are strong predictors of high intellectual ability. Gross's (2004) study of exceptionally gifted children recorded children who sat up at four months, uttered their first meaningful word by eight months and walked up stairs by nine months. Clearly, these children demonstrated learning which was significantly in advance of their peers. These behaviours occurred long before school entry. They were observed by parents: their teachers weren't around at the time! It is essential to



involve parents in the identification process if we are to gain a whole picture of the child. Early development and milestones will be expanded upon in the Extension and Specialisation levels of this Module.



Teachers are often sceptical that parents may overestimate their child's abilities. However, parents of gifted young children more often **underestimate** their child's abilities, as they may see them as normal, compared to siblings or other family members. In a family where children are developmentally advanced, what parents consider to be normal development may later be seen as substantially advanced when the child enrolls in school.

Teachers do not see these early developmental stages. Parents are more likely to know when particular areas of strength are most evident - and this can be a very useful aid to the identification process. To assist parents to record this valuable information, a set of questions which allows an anecdotal example to be provided, is a most useful tool for identification. Be aware that for some cultural groups there may be reticence to nominate a child or that cultural norms may hold back or hide gifted students. This is particularly true where it is culturally inappropriate to stand out.

A variety of parent checklists is available and your state or territory may have a preferred version. However, one that we recommend, developed by Professor Michael Sayler of the University of North Texas and already used in a number of Australian schools, is included below for your use.



GERRIC RESOURCES
GIFTED AND TALENTED CHECKLIST FOR PARENTS
THINGS MY CHILD HAS DONE

Carefully read each of the following descriptions. Each item is followed by a series of examples; use the examples to help understand the description in the item. Decide how much you agree that your child is like the description. Mark your agreement on the scale from strongly agree (SA) to strongly disagree (SD). Fill in one circle for each item. If you are unclear or haven't noticed how your child compares to an item, fill in the **Unsure or don't know** circle. Then, tell us about a time your child did the things in the item. Try to recall specific incidents or examples about your child. Feel free to add extra pages of stories or examples to tell us more about your child.

Child's name: _____

Child's birthday: _____

Your name: _____

School name: _____

Date: _____

My child:

1. Has quick recall of information.

(e.g. immediately remembers facts, series of numbers, events, words from songs or movies, or parts of conversation heard earlier)

SA ⑩⑨⑧⑦⑥⑤④③②①① SD

Unsure or don't know

A personal example:

2. Knows a lot more about some topics than do other children that age.

(e.g. recounts facts about dinosaurs, sports, electronics, maths, books, animals, music, art, etc; finds out a lot about a particular subject on his or her own)

SA ⑩⑨⑧⑦⑥⑤④③②①① SD

Unsure or don't know

A personal example:

3. Uses advanced vocabulary.

(e.g. surprises older children and adults with the big words used; uses words unusual for a child, knows the correct terms, exact words or labels for things; acts and speaks like a grown-up when talking to adults; uses simpler words when talking to peers or younger children)

SA ⑩⑨⑧⑦⑥⑤④③②①① SD

Unsure or don't know

A personal example:

4. Began to read or write early.

(e.g. said or could read individual words at a very young age; started to read before entering school; likes to write or tell stories; learned to read without being taught)

SA ⑩⑨⑧⑦⑥⑤④③②①① SD Unsure or don't know

A personal example and age of child at the time:

5. Shows unusually intense interest and enjoyment when learning about new things.

(e.g. has lots of energy and interest when learning; frequently and persistently asks how and why questions; is not satisfied with simple answers; wants to know details; loves how-to-do-it and nonfiction books)

SA ⑩⑨⑧⑦⑥⑤④③②①① SD Unsure or don't know

A personal example:

6. Understands things well enough to teach others.

(e.g. teaches other children how to do things; explains things so that others can understand; explains areas of interest to adults)

SA ⑩⑨⑧⑦⑥⑤④③②①① SD Unsure or don't know

A personal example:

7. Is comfortable around adults.

(e.g. spends time with and talks to adults who visit the house; likes the company of adults; enjoys talking with adults; understands adult humour and creates funny sayings or jokes adults can appreciate)

SA ⑩⑨⑧⑦⑥⑤④③②①① SD Unsure or don't know

A personal example:

8. Shows leadership abilities

(e.g. other children ask my child for help; organises games and activities for self or others; makes up the rules and directs group activities; may be bossy)

SA ⑩⑨⑧⑦⑥⑤④③②①① SD Unsure or don't know

A personal example:

9. Is resourceful and improvises well.

(e.g. puts together various household objects to make inventions or solve a problem; uses unusual objects for projects; uses objects in unusual ways; makes 'something out of nothing')

SA 10 9 8 7 6 5 4 3 2 1 0 SD

Unsure or don't know

A personal example:

10. Uses imaginative methods to accomplish tasks.

(e.g. makes creative short cuts; doesn't always follow the rules; good at finding creative ways to get out of work)

SA 10 9 8 7 6 5 4 3 2 1 0 SD

Unsure or don't know

A personal example:

11. Use the rest of this page or its back to tell us anything you think is important about your child that we have not asked about. Please feel free to add any information you think might be useful in giving us a clear picture of what your child has done. Be as specific as possible in describing your child's interests and accomplishments. If you can share some copies of your child's creative work, we would be delighted to have them.

Here is an example of a useful parent checklist item on Saylor's 'Things My Young Child Has Done':

Checklist item:

My child:

1. Has quick accurate recall of information.

(eg remembers complex happenings and describes them long afterwards in clear details; learns notes and words to songs quickly; remembers landmarks and turns on the way to familiar places.)

SA 10 9 8 7 6 5 4 3 2 1 0 **SD** 0 Unsure or don't know

A personal example:

An example of a parent response to the above checklist item, follows;

My child: Antonio Tamaro

SA 10 9 8 7 6 5 4 3 2 1 0 **SD** 0 Unsure or don't know

A personal example:

Antonio was only 18 months old when his grandparents moved house. After his first visit to Grandma's, he directed the way home from the back seat of the car by pointing. The 20-minute trip was achieved perfectly. By age two-and-a-half he could remember the words to 20 nursery rhymes, which all had to be recited every night!

It is clear that Antonio has an excellent memory, both verbally and spatially. However, more than one item is required in order to develop an overall picture of Antonio's ability. Using a detailed parent nomination form will assist the teacher to note the overall pattern of Antonio's behaviours, early interests and passions.

It is sometimes easy for educators to dismiss parent information or anecdotes as parental pride. However, it is these anecdotes which tell you, the teacher, just how early the child was displaying specific behaviours. This will also allow you to assess just how different the child is from his or her age-peers. Parents will be more likely to cooperate when you explain that you are interested in knowing more about their child and the way he or she learns.

Limitations of the parent nomination checklist

As with all identification procedures, parent nomination has some limitations. For example:

- A parent may not be fully aware of the degree of a child's advancement.
- Adoption or fostering may mean that consistency of information has not been maintained.

- A parent may not be able to read, interpret or understand the nomination form due to language, literacy or cultural barriers.
- Parents may not have all the relevant information, due to family breakdowns.
- For a variety of reasons, parents may refuse to complete the form.

Interpreting parent checklists

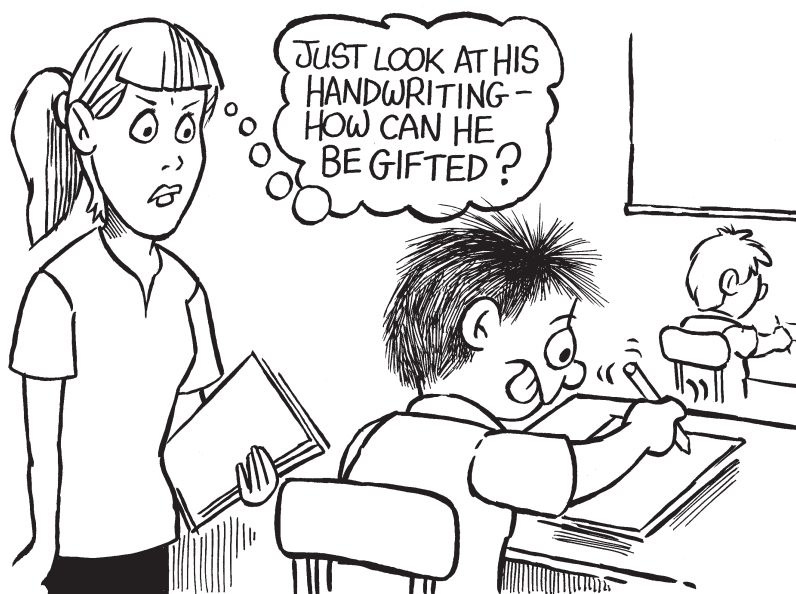
Interpreting parent checklists means reading carefully through the information given and asking yourself:

- Are there gifted behaviours being observed at home?
- Are there early milestones achieved at a younger age than the norm?
- Are more than a third of the items illustrated with descriptive anecdotes?

This information should indicate whether the child is displaying observable gifted behaviours, which can then be combined with information from the other subjective and objective measures the school can use.

Teacher nomination

Module 1 presented a range of learning characteristics and social-emotional characteristics of gifted students. These characteristics are readily observable if teachers know what they are looking for. Certainly, poor teacher nomination can occur when teachers make a subjective judgement without the support of checklists or other tools. For example, teachers may associate giftedness only with high performance. However, many gifted children may not outperform or even equal their peers on everyday classwork. Rather it is on complex, more advanced work, in the student's area of high ability, that you may see greater evidence of giftedness.



A behavioural checklist is a useful tool for teacher nomination. It may facilitate structured observation of both positive and negative behaviours in students. Teachers wanting to identify their gifted students sometimes make the mistake of looking only for positive behaviours.

However, gifted children who are frustrated, bored or switched off learning will rarely be feeling positive about their school experience - and boredom and frustration are rarely manifested in positive ways! Gifted underachievers are unlikely to be identified by teacher checklists which consist only of positive descriptors.

Here is an example of how a characteristic can be described in both its positive and negative forms:

Characteristic

High level of curiosity and a wide variety of interests

Positive Behaviour

Investigates ideas, remembers things in great detail, asks questions.

Negative Behaviour

Easily diverted from the task, takes on too many projects, asks questions at inappropriate times.

Scenario of a classroom setting

Mrs McCarthy would describe 12 year-old William as a dreamer, rather average and not particularly interested in much that goes on in the classroom. He floats through class and seems to be miles away, lost in his thoughts most of the time. He usually performs poorly on his written work and misses instructions, needing these to be given again and again. However, on weekends, William belongs to the Geologists Society, which is run by Mr Cameron, a geology teacher from the local high school.

William loves nothing more than spending his weekends digging for fossils and classifying rocks. He has quite a collection even though he is at least 20 years younger than most other members of the Society. The adults in the group refer to him as 'Professor William' and when they unearth a new find, ask for his opinion. They describe his level of knowledge as that of an expert. He dreams of becoming an archaeologist or anthropologist (he is yet to decide!) and has made some significant finds.

William rushes through his homework in order to get on to more interesting things. He sees school as a waste of time and 'saves himself' for his research. He has a documented journal of his fossicking adventures and records in great detail what he has discovered each trip. He also enjoys emailing the adults in his fossicking group, asking questions and planning future trips.

Mrs McCarthy and Mr Cameron would have very different views of William. However, a checklist of behaviours employed after seeing William engaged in his passion area of geology and ancient civilisations would elicit a very different profile from his daily class work. Therefore, it is crucial when using teacher nomination that you give students the opportunity to engage in an area of advanced and complex content. You can then look for demonstrated behaviours that indicate gifted characteristics.

Students need to engage in challenging and complex activities in order to demonstrate advanced thinking and complex reasoning. For example, curiosity may only be evident when there is something to be curious about. Use of sophisticated humour may only manifest itself when children are given the opportunity to be 'cleverly' funny.

You may need to design a range of complex activities in order to elicit these gifted behaviours.

Be careful not to use the 'shopping list' approach, whereby you observe a student for 10 minutes, aiming to tick off all the items which describe the student. Structured longer-term observation is more valid. You should observe the child over a period of time, during which different experiences are offered and specific behaviours can be observed.

Teacher nomination forms or checklists come in many styles. Your state or territory may have a preferred version. However, the following table is an alternative which you can use.

Primary and Secondary Teacher Nomination Form

Record the name of your student. Use a highlighter to show each behaviour you observe in the classroom or playground.

Name of Student: _____ **Age:** _____

Teacher: _____ **Date:** _____

Characteristics	Behaviours
Unusual alertness	<ul style="list-style-type: none"> • intense concentration and interest in interactions and objects • long attention span
Advanced play behaviour	<ul style="list-style-type: none"> • interest in games with rules developed at an earlier age than usual • able to play games which require strategy earlier than age-peers
Exceptional memory	<ul style="list-style-type: none"> • ability to recall information in great detail. Often tells stories to the teacher with a immense amount of detail.
Early reading	<ul style="list-style-type: none"> • ability to read on entry to school
Rapid pace of learning	<ul style="list-style-type: none"> • appears to acquire knowledge effortlessly • ability to generalise the knowledge to new situations in unexpected ways
Asks lots of questions	<ul style="list-style-type: none"> • ask probing and reflective questions
Early development of classifying and investigating skills	<ul style="list-style-type: none"> • organises things by classifying into groups • investigates how things work and wonders 'what will happen if ...'
Exceptional mathematical ability	<ul style="list-style-type: none"> • capacity to grasp abstract mathematical concepts at unusually early age

Imagination	<ul style="list-style-type: none"> • has an imaginary friend or animal • creative and inventive storyteller
Early speech	<ul style="list-style-type: none"> • love of rich vocabulary; larger than expected vocabulary compared with age peers • capacity to create complex sentences
Early social interactions	<ul style="list-style-type: none"> • early awareness of the individuality of others • intense concern for other children who are hurt
Feelings of frustration	<ul style="list-style-type: none"> • frustrated if motor coordination lags behind intellectual development, such as pencil grip • may be resistant to writing or drawing
Heightened sensitivity	<ul style="list-style-type: none"> • early capacity to empathise with feelings of others
Social and emotional maturity	<ul style="list-style-type: none"> • emotionally more like older children and may seek them out as friends • may be isolated from same-age peers because of his or her more mature interests and perceptions
Early awareness of difference from others	<ul style="list-style-type: none"> • norm-references to other children from an early age • may deliberately begin making mistakes to be like other children

Caroline Merrick, 2004

Scoring the Checklist

Have you highlighted more than 5 different behaviour boxes? YES / NO

How many characteristics (in the first column) are being displayed? _____

Conclusions:

Let's look at how Mrs McCarthy would score William on a Teacher Nomination Form:

Primary and Secondary Teacher Nomination Form

Record the name of your student. Use a highlighter to show each behaviour you observe in the classroom or playground.

Name of Student: William Harris

Age: 12

Teacher: Mrs McCarthy

Date: Nov 2004

Characteristic	Positive Behaviours	Negative Behaviours
Highly curious	<ul style="list-style-type: none"> asks lots of questions inquisitive remembers details 	<ul style="list-style-type: none"> asks inappropriate questions poor group participant easily diverted from task
Abstract thinker	<ul style="list-style-type: none"> makes generalisations tests out ideas 	<ul style="list-style-type: none"> questions others questions authority
Flexible thinker	<ul style="list-style-type: none"> employs variety of strategies to work something out 	<ul style="list-style-type: none"> manipulates people and situations by using a variety of strategies
Clever use of humour	<ul style="list-style-type: none"> enjoys 'adult' humour gets teachers' jokes! 	<ul style="list-style-type: none"> uses humour at the expense of others
Superior Vocabulary	<ul style="list-style-type: none"> heightened involvement in discussions enjoys adult-like discussions 	<ul style="list-style-type: none"> may be bossy or overbearing when working with others
Advanced Reading	<ul style="list-style-type: none"> reads widely advanced vocabulary and comprehension 	<ul style="list-style-type: none"> reads constantly neglects peer interaction and work-prefers to read
Retention of knowledge; fast learner	<ul style="list-style-type: none"> moves beyond core content and skills quickly detailed recall of facts 	<ul style="list-style-type: none"> rushes work, then disrupts others monopolises class discussions
Long attention span	<ul style="list-style-type: none"> concentrates and focuses on an area of interest for a long period of time 	<ul style="list-style-type: none"> easily distracted unless the task is an area of passion or interest
Independent	<ul style="list-style-type: none"> self-directed focused on task in research or study 	<ul style="list-style-type: none"> reduced involvement in discussion or group work uncooperative in a group
High level of responsibility and commitment	<ul style="list-style-type: none"> sets attainable goals learns to accept own limitations tolerant of peers in a group 	<ul style="list-style-type: none"> self-critical perfectionist when completing tasks sets unrealistic expectations for other group members

Strong feelings and opinions	<ul style="list-style-type: none"> • listens to others • shows concern and interest • considers others' points of view • aware of others' feelings 	<ul style="list-style-type: none"> • speaks out and lacks tact • over-reacts to others' comments and reactions • confrontational
Strong sense of justice	<ul style="list-style-type: none"> • empathises with those less fortunate • wants to 'save the world' • stands up for other children whom they think have been poorly treated 	<ul style="list-style-type: none"> • argues the rules in games eg handball • frustration when others don't play exactly by rules • asks older children or adults to solve issues seen as 'unfair'
Original and creative	<ul style="list-style-type: none"> • comes up with ideas 'out of the box' • sees problems as a whole • connects thoughts and feelings 	<ul style="list-style-type: none"> • unaccepting of status quo • absent-minded or daydreamer • asks unrelated questions • disorganised
High energy level	<ul style="list-style-type: none"> • wide variety of interests • organises time well • high level of individualised learning 	<ul style="list-style-type: none"> • often difficult to live with • may appear hyperactive • easily bored so seeks out new things to explore
Immersion learner	<ul style="list-style-type: none"> • wants to know everything about a topic • becomes an expert on a topic by reading widely or talking to people 	<ul style="list-style-type: none"> • focuses on topics of interest to them, at the expense of classroom work • shows off knowledge to prove others wrong

Caroline Merrick, 2004

Adapted from Gross, MacLeod, Drummond & Merrick (2001), Clark (1983) and Baska (1989)

Scoring the Checklist

How many positive behaviours are being displayed? 1

How many negative behaviours are being displayed? 11

Have you highlighted behaviours in more than 5 different behaviour boxes? YES

Of which behaviours are you observing more: NEGATIVE

Conclusions:

William is displaying a majority of negative behaviours and should be further considered, using other identification tools. Follow up this teacher nomination form by speaking with his parents to find out if there are any other teachers who teach William in or out of school, eg music, drama, basketball. Ask William's parents to complete a Parent Nomination Form. Record any objective test results, which may be on file. Consider other identification tools, particularly objective measures, such as an IQ assessment and off level testing.

Now let's look at how Mr Camerony would score William on a Teacher Nomination Form:

Primary and Secondary Teacher Nomination Form

Record the name of your student. Use a highlighter to show each behaviour you observe in the classroom or playground.

Name of Student: William Harris

Age: 12

Teacher: Mr Cameron

Date: Nov 2004

Characteristic	Positive Behaviours	Negative Behaviours
Highly curious	<ul style="list-style-type: none"> asks lots of questions inquisitive remembers details 	<ul style="list-style-type: none"> asks inappropriate questions poor group participant easily diverted from task
Abstract thinker	<ul style="list-style-type: none"> makes generalisations tests out ideas 	<ul style="list-style-type: none"> questions others questions authority
Flexible thinker	<ul style="list-style-type: none"> employs variety of strategies to work something out 	<ul style="list-style-type: none"> manipulates people and situations by using a variety of strategies
Clever use of humour	<ul style="list-style-type: none"> enjoys 'adult' humour gets teachers' jokes! 	<ul style="list-style-type: none"> uses humour at the expense of others
Superior Vocabulary	<ul style="list-style-type: none"> heightened involvement in discussions enjoys adult-like discussions 	<ul style="list-style-type: none"> may be bossy or overbearing when working with others
Advanced Reading	<ul style="list-style-type: none"> reads widely advanced vocabulary and comprehension 	<ul style="list-style-type: none"> reads constantly neglects peer interaction and work-prefers to read
Retention of knowledge; fast learner	<ul style="list-style-type: none"> moves beyond core content and skills quickly detailed recall of facts 	<ul style="list-style-type: none"> rushes work, then disrupts others monopolises class discussions
Long attention span	<ul style="list-style-type: none"> concentrates and focuses on an area of interest for a long period of time 	<ul style="list-style-type: none"> easily distracted unless the task is an area of passion or interest
Independent	<ul style="list-style-type: none"> self-directed focused on task in research or study 	<ul style="list-style-type: none"> reduced involvement in discussion or group work uncooperative in a group
High level of responsibility and commitment	<ul style="list-style-type: none"> sets attainable goals learns to accept own limitations tolerant of peers in a group 	<ul style="list-style-type: none"> self-critical perfectionist when completing tasks sets unrealistic expectations for other group members

Strong feelings and opinions	<ul style="list-style-type: none"> listens to others shows concern and interest considers others' points of view aware of others' feelings 	<ul style="list-style-type: none"> speaks out and lacks tact over-reacts to others' comments and reactions confrontational
Strong sense of justice	<ul style="list-style-type: none"> empathises with those less fortunate wants to 'save the world' stands up for other children whom they think have been poorly treated 	<ul style="list-style-type: none"> argues the rules in games eg handball frustration when others don't play exactly by rules asks older children or adults to solve issues seen as 'unfair'
Original and creative	<ul style="list-style-type: none"> comes up with ideas 'out of the box' sees problems as a whole connects thoughts and feelings 	<ul style="list-style-type: none"> unaccepting of status quo absent-minded or daydreamer asks unrelated questions disorganised
High energy level	<ul style="list-style-type: none"> wide variety of interests organises time well high level of individualised learning 	<ul style="list-style-type: none"> often difficult to live with may appear hyperactive easily bored so seeks out new things to explore
Immersion learner	<ul style="list-style-type: none"> wants to know everything about a topic becomes an expert on a topic by reading widely or talking to people 	<ul style="list-style-type: none"> focuses on topics of interest to them, at the expense of classroom work shows off knowledge to prove others wrong

Caroline Merrick, 2004

Adapted from Gross, MacLeod, Drummond & Merrick (2001); Clark (1983) and Baska (1989)

Scoring the Checklist	
How many positive behaviours are being displayed?	15
How many negative behaviours are being displayed?	1
Have you highlighted behaviours in more than 5 different behaviour boxes?	YES
Of which behaviours are you observing more:	POSITIVE

Conclusions:

William's scientific knowledge is quite phenomenal. He is displaying many of these gifted behaviours, most of which are in the column of positive behaviours. I was more than happy to complete this Teacher Nomination Form for you, Mrs McCarthy. Please call me if you would like any further details.

Mrs McCarthy has identified clusters of William's negative characteristics while Mr Cameron has identified positive characteristics. Individually, these checklists both show gifted behaviours. However, looking at both checklists, we can see how different patterns emerge in different contexts. In Mrs McCarthy's class, William is gifted but not showing it. With Mr Cameron, he emerges as highly talented!

Who else can you ask to complete teacher nomination forms?

You may be able to ask other educators, who may teach these students, also to complete the Teacher Nomination Forms. This will add greater weight to the subjective elements of the identification process.

Perhaps this student participates in extracurricular activities, such as art, band or chess. These teachers may have valuable observations to contribute to the process.

Interpreting teacher nomination checklists

When you have collated the information gathered on the Teacher Nomination Forms, you are ready to interpret it. When analysing this information, you are looking for any patterns and clusters of gifted behaviours, which you have read about in Module 1.

Look for at least one-third of these behaviours or characteristics to be highlighted on the Teacher Nomination Form.

These can either be in the positive or negative behaviours column. The more behaviours that are highlighted, the more evidence you have collected to support your belief that this child is gifted.

When you have collated the evidence from teacher nomination - together with the other subjective measures **and** the objective measures which we will discuss later in this Module - you should have a much clearer picture of whether or not the student is gifted, and in what areas his or her gifts lie. The information gathered from the subjective and objective measures used will be very important in determining the child's needs, in terms of programs, provisions and curriculum differentiation.

If the teacher nomination forms show a majority of negative (rather than positive) behaviours, be aware that this often indicates underachievement in gifted students. This should lead you to investigate possible causes - which we will address in Module 4.

Limitations of teacher nomination

As with all identification procedures, teacher nomination has some limitations. These include:

- Teachers may not believe the student is gifted and consequently may not use the checklist to identify the student.
- Teachers trained in the use of such checklists are more accurate in the identification of gifted and talented students than those who have not had such training. Teachers without this training may identify 'moderately bright conformists' (sometimes referred to as 'teacher pleasers') rather than gifted and talented students.

Training in the use of teacher nomination checklists is vital if this method of identification is to be effective.

Disadvantaged and culturally diverse populations

Identification procedures which are used for the majority of gifted and talented students may not be suitable for some culturally diverse populations. Different methods of identification may be needed for students from culturally diverse, low socio-economic status or Indigenous backgrounds.

These gifted students are not lacking in ability but their ability may be masked by negative environmental or intrapersonal catalysts. Because of this, their giftedness may not be evident in the identification process.

Teacher nomination of students from disadvantaged backgrounds or culturally diverse populations is most effective when the teachers have training in gifted education and experience with students from these backgrounds.

Finally, teacher nomination for all students will be most effective when teachers have had inservice or training in the identification of gifted students. You will feel more confident in identifying gifted students in your class or school when you have completed the six Modules over the course of this program.

Conclusion on subjective measures

The information collected in this initial phase of the identification process will then be used in conjunction with the objective measures. To conclude this section we offer for your consideration a further identification principle:

Include, for further assessment, students you are not entirely sure about, rather than exclude them - and invite surprises.



Think about the students in your class. Using the knowledge you have developed from Module 1, choose three students who you think may be gifted (even if they have not yet become talented achievers).

Print out or photocopy three copies of the Teacher Nomination Form and write the names of these three students on the top.

Complete the checklist for each student by highlighting the behaviours you have observed.

Now consider other educators who may also contribute to the process. Write their names below:

Now interpret the checklist.

- Are more than four characteristics highlighted?
- Are there clusters of positive and negative characteristics?
- Is there any correlation with the information presented by other educators?
- Are there other teachers who perceive the student differently?
- Is the student a possible gifted underachiever?

Keep these teacher nomination checklists for use when collating the information gathered from the other objective and subjective measures.



Think about the students in your class. Using the knowledge you have developed from Module 1, choose three students who you think may be gifted (even if they have not yet become talented achievers).

Print out or photocopy three copies of the Teacher Nomination Form and write the names of these three students on the top.

Complete the checklist for each student by highlighting the behaviours you have observed.

Share with the group, the names of the students you have identified, using the teacher nomination form.

- Are there any names recurring, among your group?
- Is a particular gender more represented in the negative behaviours column?
- Have you selected any students whom you had not considered gifted before you completed this Module?
- What do you think other teachers would say about the students you have identified?

Objective identification



Objective identification measures can be used to identify gifted and talented students' aptitude and achievement. Objective measures are tools such as standardised tests of potential or performance. Objective measures give teachers and counsellors a score, or a series of scores, which can be used to compare the students with others from their age group or cohort. These measures usually assess a variety of elements of cognitive processing or achievement, eg verbal reasoning or reading comprehension.

Different objective measures give us specific information about a student's ability to achieve well in the school context. The measure may show you either a student's potential to achieve or his current level of achievement.

A variety of objective measures exist and each measure assesses different aspects of a student's ability to learn.

It is important to note that it is quite possible for a student to score at a level lower than her ability. However, it is almost impossible to achieve **beyond** one's true ability on any test, if it is administered in the manner prescribed.

This means that a student's test result may be an underestimation of his ability. However, if a student scores higher than you expected, it is your expectation that is likely to be at fault rather than the test score!

Psychometric assessment - IQ testing

Currently, one of the most effective measures of a student's potential to achieve academically in school is an independent psychometric assessment, commonly known as an IQ test (Assouline, 2003; Rogers, 2002). Such tests can only be administered by a registered psychologist such as your school counsellor or guidance officer, or a private registered psychologist. The most commonly used IQ tests are the **WISC-IV** or the **WISC-III** and the **Stanford-Binet-V**. These tests should be available to your school counsellor or guidance counsellor. This type of test gives information about the student's ability to reason, compared with her age peers.

A high score on such a test shows that the student has the **potential** to achieve well at school. However, this does not guarantee that the student will **be** performing well in the school context. Remember Gagné's environmental and personalogical catalysts that can block the translation of this student's high **ability** - which is measured by the test - into high achievement.

IQ tests can be given to children from as young as three years of age - the Stanford-Binet-V has norms for children as young as two-and-a-half. However, testing a very young child usually results in a score that is an **underestimation** of the child's ability. This is because a young child will often become fatigued during the testing process. The test results are less likely to underestimate a child's ability if the test is done after the age of 5 or 6. **The optimum age range for testing is between 5 and 13 years.**

Some IQ tests are not as effective in identifying gifted students from some culturally diverse or significantly disadvantaged groups. Other identification tools are more effective with such students. (We will explain this further below and in Module 4 on Underachievement.)

The usefulness of IQ testing has sometimes been questioned by teachers who worry that IQ scores **label** children. However, the purpose of identification is not to **label** but to **diagnose** a student's level of functioning and her consequent educational needs, so that these needs can then be addressed through the provision of appropriate curriculum and program options. IQ tests are very useful tools because they can, and often do, reveal hidden potential. They can also assess students' **levels of giftedness**.

Aptitude testing

Aptitude tests measure a student's potential to perform well at school. Most aptitude tests can be given to more than one student at a time. These tests are less expensive and less time consuming than individual IQ tests administered by a psychologist. Examples of such tests are the OLSAT, The Henman-Nelson and the Kaufman. These tests are often used for entry into ability grouped classes or schools. Aptitude tests give us a good understanding of a student's reasoning potential, particularly in a verbal context, as the majority of these rely on good reading and comprehension skills.



Aptitude tests which are administered in a group format are less effective in identifying particular groups of students:

- students from disadvantaged backgrounds and/or culturally diverse groups,
- gifted students with English as their second language, and
- students with learning difficulties.

Low aptitude test scores from students in these populations should be treated with caution because the scores may not be a true indication of their ability.

Standardised achievement tests

Standardised achievement tests measure a student's performance or current level of achievement. This is usually in a specific learning or subject area. These tests compare students with other students who are in the same stage or grade. Examples of such tests include any state literacy or numeracy test that has been normed across the state, such as ELLA or SNAP in NSW. Other examples of standardised tests include Maths Olympiad or UNSW competition papers, the Progressive Attainment Matrices (PAT Maths, PAT English), the Neale Analysis of Reading and the Test of Reading Comprehension (TORCH).

There are many excellent achievement tests available through companies such as the Australian Council for Educational Research (ACER), who may be able to assist you regarding the availability and purchase of such tests. Your school may already have some of these tests available for use.

Each standardised achievement test has been designed to identify a different aspect of a student's learning. When choosing a standardised achievement test it is important to understand the specific purpose of the test. For example, the NEALE Analysis of Reading measures the specific aspects of reading fluency and comprehension. It does not assess a student's ability to write lengthy responses to text or to empathise with the main character of a book.

Standardised achievement tests **only measure the performance level** of a student in a particular subject area. They will not identify a student's potential to achieve in that area and thus, some **gifted underachievers may score poorly**.

Teacher-made tests and assessments

Teacher-made tests and assessments can be effective identification tools for talented students who are motivated and performing well. These assessment tools can be used to compare students against their current cohort. Educators regularly use such assessments to determine students' current level of achievement. However, these tools often have a **low ceiling** and are unlikely to show the true level of ability of some gifted students, if the test is designed only to show mastery of basic skills.

In primary schools teacher-made tests are not used as often as in secondary schools. However any teacher-made assessment which has benchmarks can be considered a teacher-made assessment for identification.

Such tests will not identify gifted underachievers and may not identify talented students who are not engaged by the assessment process.

Off-level testing

Off-level testing is used to identify the extent of a student's knowledge or skill in an area of giftedness or talent. The purpose of such testing/assessment is to identify if the student has knowledge and/or skills that you would expect of a student in a higher Year level. The information gathered from such assessments can help influence the curriculum delivery and programs in which a student participates.

In the primary years of schooling, assessments should be **at least two years above** the child's current grade placement. For example, a student may be assessed in Year 6 using a Year 8 UNSW maths competition.

Disadvantaged and culturally diverse populations

Gifted children are found in all cultural groups and at every level in society. However, students who come from backgrounds other than that of the dominant culture may be more difficult to identify using standard identification procedures. This is because students who come from disadvantaged or culturally diverse backgrounds may not perform well on standard objective assessments. It is well documented that Indigenous Australians, students from low socio-economic status groups and some ethnic populations often do not perform well on standardised objective measures. For this reason, educators should be cautious when interpreting these results. This is discussed in greater depth in Module 4.

If you believe the student is gifted, a guiding principle in using objective measures of identification is to believe the high scores but treat the average and low scores with caution.

The identification of gifted students from the populations noted above needs a flexible approach. Information needs to be gathered using a variety of tools which examine many facets of reasoning and expressions of giftedness. Such tools may include culture-fair standardised tests such as the Raven's Standardised Progressive Matrices and the Goodenough-Harris Draw-a-Person Test. Other identification strategies which may be effective in such populations are authentic assessment, dynamic testing and identification through exposure to challenging teaching. Teachers need to be aware of the environmental and personal catalysts which may affect the expression of giftedness in these populations.

One way to identify underachievers from culturally diverse groups or disadvantaged populations is to use the emerging methodology of **dynamic testing**. This methodology represents a very promising alternative to traditional assessment in that it seeks to optimise the students' cognitive performance, rather than simply measure it as it currently manifests itself.



Consider the case of 9-year-old Zac

Zac lives with his mother and three siblings. He lives in a housing commission home and goes to his local school. Zac's mother has tried very hard to make sure that he is getting the best she can provide. However, his father does not contribute and Zac's mother cannot afford very much.

Zac's family do not read much and when he comes home he is usually told to 'go and play with the other kids in the street' so that his mother can organise the younger children's dinner.

Zac performs at an average level compared with children in the rest of the state, according to the state-wide literacy and numeracy testing results. His teacher this year has done some training in gifted education and has recognised that Zac frequently draws very detailed pictures. He draws aerial view maps of the fantasy worlds he creates in pictures. Realising that Zac has advanced spatial abilities, his teacher is concerned that the state-wide testing may not reflect Zac's true ability.

Using a non-verbal test, such as the Raven's Standard Progressive Matrices or the Draw-a-Person test, might show Zac in a different light.

Dynamic testing

Dynamic testing seeks to optimise the student's cognitive performance and begins where one-off assessments end. Dynamic testing usually follows a **pre-test-intervention-posttest format** where the intervention is designed to address factors that contribute to underachievement, for **whatever is causing the underachievement in class will also be influencing any identification process**. Students who perform well below their potential (ie underachieve) in the pre-test may improve considerably in the posttest **if** the intervention has been effective. Those who achieve to their potential at pre-test can improve only slightly.



Consider the cases of Julia and Amelia

Julia and Amelia both scored in the 45th percentile band in a dynamic assessment pre-test, a commonly used, relatively culture-fair measure of ability to learn. Following the intervention phase Julia scored in the 48th percentile band while Amelia had advanced to the 87th percentile band, strongly suggesting that Amelia's pre-test score represented a substantial underachievement.

If the pre-test alone had been used to assess Amelia's potential she would have been wrongly assumed to be an 'average' student and thus would have become an 'invisible' gifted underachiever.

The Raven's Standard Progressive Matrices (RSPM) is a non-verbal test of a child's underlying ability to learn. The RSPM is considered to be relatively culture-fair, mainly because it does not require any literacy or specific language skill and is free of culture-specific items. Consequently, the RSPM has been recommended by some as a suitable tool to identify children from culturally diverse backgrounds. However, recent research (Chaffey, Bailey & Vine, 2003; Lidz & Macrine, 2001) suggests that non-verbal assessment may be only marginally better than other assessment methods for some culturally diverse populations. The reason is simple: the factors contributing to underachievement for these students are many and complex, with language being only one.

So ... which objective and subjective measures should I choose?

As there are so many different types available, it is clearer to analyse these in a chart format.

Chart summary of objective and subjective testing

Identification measure/tool	What the tool measures	Advantages	Disadvantages	Identifies gifts or talents?
Individual IQ test such as WISC-IV Stanford Binet-V	Reasoning ability for school-based learning, compared to age peers	Individual administration means test anxiety can be alleviated Standardised Measures verbal and non-verbal reasoning No prior knowledge required	Does not measure creativity Less effective for some culturally diverse or disadvantaged groups, especially Indigenous groups	Objective identification tool for giftedness
Group aptitude tests OLSAT K-BIT Kaufman Assessment Battery for Children General Ability tests-2 Woodcock-Johnson III Tests of Cognitive Abilities	Assesses potential for school success Compares student with age peers Standardised	Less expensive than individual IQ tests	Does not allow for test anxiety Measures verbal reasoning more accurately than non-verbal reasoning Less effective for all culturally diverse students, especially Indigenous groups	Objective identification tool for giftedness
Intelligence tests teachers can administer Slosson Intelligence test Peabody Picture Vocabulary test Goodenough-Harris Draw-a-Person test	Reasoning ability for school-type learning Compares student with age peers Standardised	Less expensive than individual IQ tests	Less comprehensive than an independent IQ assessment Some have a low ceiling	Objective identification tool for giftedness

Identification measure/tool	What the tool measures	Advantages	Disadvantages	Identifies gifts or talents?
Standardised achievement tests	Tests school-based knowledge and skills	Identifies current level of achievement Tests learning gains	Does not measure giftedness/potential Less effective for some culturally diverse or disadvantaged children	Objective identification tool for identifying talented students in specific areas of achievement such as mathematics, reading, comprehension and science reasoning.
State wide literacy tests eg ELLA, SNAP, Basic Skills	Compares learning achievement with grade level peers	Compulsory	Low ceiling	As above
Kaufman Test of Educational Achievement (ACER)	Tests academic skill level in mathematics, reading, writing and oral language.	Standardised test that is easy to administer	Group test	As above
Progressive Achievement Tests-reading, mathematics (ACER)	Measures a student's current level of achievement in maths or reading	Standardised Easy to administer	Low ceiling and multiple choice	As above
Woodcock-Johnson III Tests of Achievement	Provides information about a student's academic strengths and weaknesses	Standardised	May not be relevant to Australia	As above

Identification measure/tool	What the tool measures	Advantages	Disadvantages	Identifies gifts or talents?
Tests of Reading Comprehension-TORCH (ACER)	Identifies level of comprehension compared with a large normative sample	Standardised	Does not test ability, only level of reading Low ceiling	Objective identification tool for identifying talented students in specific areas of achievement such as mathematics, reading, comprehension and science reasoning.
Neale analysis of reading ability (ACER)	Identifies level of comprehension compared with a large normative sample	Standardised	Does not test potential	As above
Final year of school exams Competition papers eg UNSW Mathematics Competition	Tests knowledge and skills learnt in final years of school UNSW competition papers assess strengths and weaknesses	Large sample to compare students' results Students who achieve high results are working above grade level	Costs to enter Multiple choice	As above
Teacher made tests/ assessments	Identifies school-based learning attainment, knowledge and skills Identifies learning gain	Identifies learning gains and compares performance with academic cohort	Does not measure giftedness Low ceiling Does not identify all underachievers or students from some culturally diverse or disadvantaged backgrounds	Objective measure of academically talented students performing in the school context.

Identification measure/tool	What the tool measures	Advantages	Disadvantages	Identifies gifts or talents?
Off-level/ Above-level tests	Identifies knowledge and skills above current grade level	Lifts ceiling that may affect results on grade-appropriate tests May identify student performance above grade level May identify underachievers who perform better on challenging tasks	Culturally diverse students or students from disadvantaged backgrounds may not perform well or have the skills to achieve well on such tests	Objective identification tool for academically talented students
Parent nomination	Observed behaviours of the child from birth	May identify early milestones Provides anecdotal evidence Parent has observed child over the long term Provides a wider view of the child, beyond the school context	Not objective Parent may not have relevant information Parent may not be able to compare objectively	Subjective identification tool for identifying potential and/or performance
Teacher nomination	Observed behaviours of student in learning setting	Teacher sees student in different academic situations Teacher can compare student's performance with that of others Teacher observes student in context other than the home	Teacher may make a judgement before using a checklist or identification support tool Teacher may disregard a student who displays largely negative characteristics	Subjective identification tool for identifying potential and/or performance

How do we put all this together?

Here is a short case study. Consider what might be the recommended response to this scenario.



Thao is a quiet Year 3 child, who arrived from Vietnam 12 months ago. She spoke very little English when she arrived but only one year later Thao speaks English fluently and is achieving highly in maths. Thao's written work is full of good ideas but her written expression still has syntactic errors.

What tools may be useful in identifying whether Thao is gifted?

Recommended answer for 'putting it together' case study

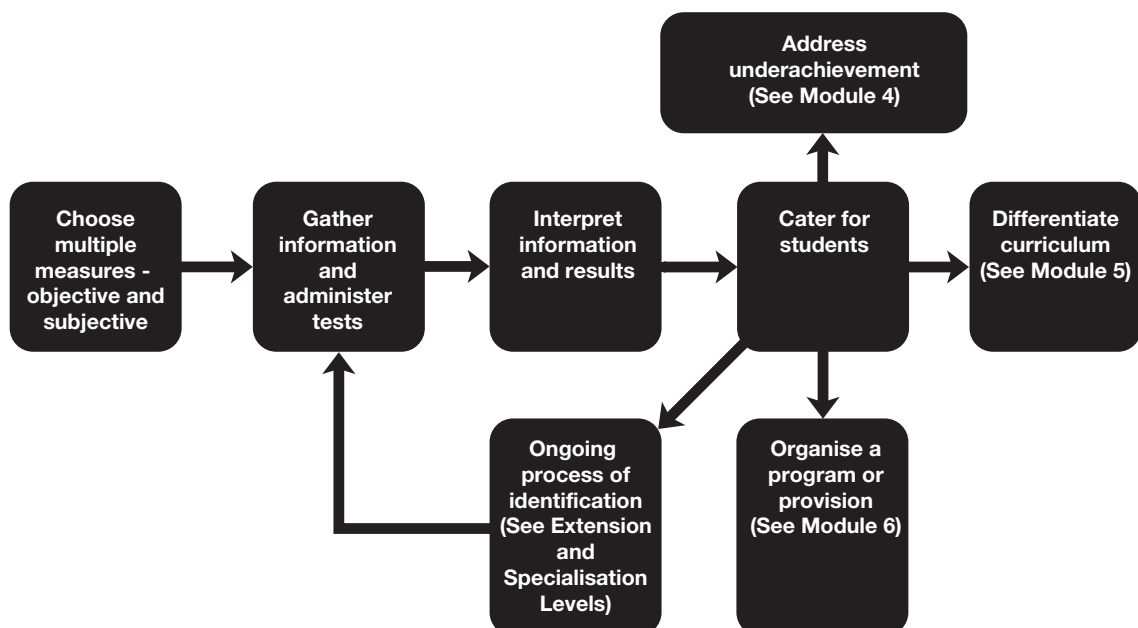
What tools may be useful in identifying whether Thao is gifted?

Thao's teacher might use a Raven's Progressive Matrices test as an objective tool as this is not a language-based assessment. This test helps identify Thao's nonverbal reasoning level. Thao's teacher has spoken to her parents and has asked that an interpreter assist Thao's teacher to interview the parents, using the Sayler parent nomination form as a guide. The school administers a TORCH or Neale test to check reading comprehension levels and identify any gaps in understanding.

The identification process

Now that you have covered material on subjective and objective measures of identification, you may wonder where identification fits into the scheme of these Modules and the scheme of things in schools.

The following flow chart shows the direction that is taken in the process of identification.



1. What is the purpose of identifying a gifted student?

- (a) To compare them with other students.
- (b) To provide appropriate programs and curriculum for the students.
- (c) To give feedback to parents.
- (d) To label the child gifted and talented.

2. When trying to identify gifted and talented students we should:

- (a) Use one objective measure, as these tools are not influenced by personal opinion and bias.
- (b) Use one subjective measure, as teachers and parents are the best people to identify gifted and talented students.
- (c) Use multiple measures, comprising a combination of objective and subjective measures, according to the definition of giftedness and talent and the program.
- (d) Use one objective and one subjective measure as this will allow for balance in the identification process.

3. Explain the difference between objective and subjective measures.**4. When would you use a subjective measure and when would you use an objective measure?****5. What might be the most effective identification process for the following students?**

Read the two case studies and make recommendations for each of the given situations.



Read the two case studies and make recommendations for each of the given situations. Compare your conclusions with those of other members of your group and analyse any differences.



Then read the modelled responses that we have provided. Note that these are not intended to be exhaustive; you may have thought of other constructive suggestions.



Mark is a disruptive Year 4 student, in a suburban primary school. He often calls out inappropriate comments and corrects his teacher in front of the class. He cannot ignore slight errors made by others and must always point out why they are wrong.

Mark does not seem to have many friends and often spends time in the playground reading or playing with younger children. Mark has a very strong general knowledge but does not seem interested in the tasks presented in class. His parents have approached the Principal, saying that they are not happy with the way the school is handling Mark. They believe that he is much more interested in learning outside school and that his talent is being wasted.

What tools might you suggest be used to identify whether Mark is gifted?



Sarah is a Year 5 student at an inner-city school. She lives with her mother and sister. Sarah writes beautiful narratives and poetry that contain sophisticated language and themes. She also loves art and music. Sarah does not do well in maths and prefers to avoid completing maths work, where possible.

Her mother has not been much involved with the school, so Sarah's teacher has not been able to ascertain much about her home life. Recently Sarah has become less interested in her writing and seems to lack focus in class.

What processes might the teacher use to identify whether Sarah is gifted and to cater for her needs?



Peter comes from a very large family. His parents own a large farm and he and his siblings do a lot of work on the farm after school. Peter performs above the average in his Year 4 class but does not always complete his homework. He reads a lot and has discussed his love of reading with his teacher.

Recently his teacher entered the children in her class in the UNSW Maths, Science and English Competitions. Peter scored a High Distinction in Maths and Science and a Distinction in English.

What other tools might the teacher now use to identify whether Peter is gifted?



Julie is an Indigenous Year 3 student living in a small country town. She is a quiet student who is trying hard with her work. Julie's teacher is Aboriginal and has a good rapport with Julie. The class has just completed the state's literacy and numeracy tests, in which Julie performed in the average range.

Julie's teacher has been working on a unit about family and community. Julie has been approaching her after class and asking many insightful, interesting questions about the differences between families and communities. Julie's teacher has an inkling that there may be more to this student than she has previously seen.

What tools might Julie's teacher use to identify whether Julie is gifted?

1. (b)

2. (c)

3. Subjective measures are judgements based on personal observations. Objective measures are those that produce comparable scores, eg from standardised tests, that indicate potential or performance relative to a large population of other students.

4. You should aim to use a combination of both subjective and objective measures in the identification process. Objective measures may confirm observations and judgements made when using subjective measures.

5. The following modelled responses have been provided for each case study.



What tools might you suggest be used to identify if Mark is gifted?

Mark's Principal asks his parents to complete a Parent Nomination Form and asks Mark's class teacher and other teachers who work with him to complete a Teacher Nomination Form. He is particularly interested to see if there are any observable patterns of negative behaviours. In consultation with Mark's teacher it is suggested that the school counsellor conducts an assessment of Mark, using an IQ test, in order to rule out Attention Deficit Hyperactivity Disorder (ADHD), as well as look for giftedness. He also gives Mark a standardised reading comprehension tool such as the TORCH test.



What process might the teacher use to identify if Sarah is gifted and cater for her needs?

Sarah's teacher requests that the district's school counsellor speak with Sarah and gain permission to administer an IQ test. Achievement tests in maths and off-level tests in reading would be useful measures. A Teacher Nomination Form would highlight both the positive and negative behaviours that are evident.



What other tools might the teacher now use to identify whether Peter is gifted?

Peter's teacher looks at his results in the state literacy tests and finds that he is in the top band for every test. She then assesses him using a standardised maths and English test. Off-level testing may also be required. She asks his parents to complete the Parent Nomination Form and completes the Teacher Nomination Form herself.



What tools might Julie's teacher use to identify whether Julie is gifted?

Julie's teacher has looked at her past levels of achievement and noted that there is nothing there to suggest that Julie is gifted. She calls Julie's mother and invites her to the school. The mother is initially very reluctant to meet with the teacher until she is told that her daughter may be bright. She agrees to come in and Julie's teacher interviews her, using the Parent Nomination Form as a guide. Her mother is very cooperative and leaves, pleased that the school will now organise dynamic testing for Julie.



Using the knowledge gained in this Module on Identification, think about which identification tools would be most useful in identifying gifted and talented students in your school.

- What are the identification tools available to you, in your school? (If you are unsure, you may wish to investigate this further.)
- Which of these tools might be best suited to identifying the gifted students in your class(es)?



Using the knowledge gained in this Module on Identification, think about which identification tools would be most useful in identifying gifted and talented students in your school.

In your group, brainstorm and discuss which identification tools are available to you, in your school. Using butchers' paper or a table, classify these identification tools into the two categories of objective and subjective measures.

Think about the students you teach. Which of these identification tools might be best suited to identifying the gifted students in your class(es)?



Divide into groups, such as by stage. Using the knowledge gained in this Module on Identification, think about which tools might support you in identifying gifted and talented students in your stage.

Using butchers' paper or a table, classify these identification tools into the two categories of objective and subjective measures.

Each small group is encouraged to provide feedback to the rest of the staff, to create a whole school perspective on the identification tools available within the school.



After your small group or whole staff feedback session, use a table to collate the information presented by each stage.



Analyse the results and identify any areas of need, in either subjective or objective identification tools, or both.

Evaluate the identification tools required to support staff in the identification process. From this exercise, what identification tools do your staff have and what do they need?



Resources

References

- Assouline, S. (2003). Psychological and educational assessment of gifted children. In N. Colangelo & G. Davis, *Handbook of gifted education*. Boston: Allyn & Bacon,
- Birch, C. P. (1984). Is any identification procedure necessary? *Gifted Child Quarterly*, 28(4), 157-161.
- Borland, J. (1989). *Planning and implementing programs for the gifted*. New York: Teachers College Press.
- Borland, J. H. & Wright, L. (1994). Identifying young, potentially gifted, economically disadvantaged students. *Gifted Child Quarterly*, 38(4), 164-171.
- Chaffey, G. W., Bailey, S. B., & Vine, K. W. (2003). Identifying high academic potential in Australian Aboriginal children using dynamic testing. *Australasian Journal of Gifted Education*, 12 (1), 42-55.
- Feldhusen, J. F., Asher, J. W., & Hoover, S. M. (1984). Problems in the identification of giftedness and talent, or ability. *Gifted Child Quarterly*, 28(4), 149-151.
- Feldhusen, J. F. & Baska L. K. (1989). Identification and assessment of the gifted. In J. F. Feldhusen, J. L. VanTassel-Baska, & K. R. Seeley (Eds.), *Excellence in educating the gifted*. Denver: Love.
- Feldhusen, J., Hoover, S., & Saylor, M. (1990). *Identifying and educating gifted students at the secondary level*. Melbourne: Hawker Brownlow.
- Frasier, M. M. (1989). Poor culturally diverse students can be gifted, too!. *Educational Leadership*, 46 (6).
- Gross, M. U. M. (2004). *Exceptionally gifted children* (2nd Edition). London: RoutledgeFalmer.
- Kaplan, R. & Saccuzzo, D. (2001). *Psychological testing: Principles and applications and issues*. Belmont, CA: Wadsworth.
- Lidz, C., & Macrine, S. L. (2001). An alternative approach to the identification of culturally and linguistically diverse learners: The contribution of dynamic assessment. *School Psychology International*, 22, 74-96.
- Linden K. & Hoover, S. (1994). Understanding the technical issues and problems in identifying the gifted. In J. B. Hansen & S. M. Hoover, *Talent development theories and practice*. Dubuque, Iowa: Kendall/Hunt.
- Passow, A. H. & Frasier, M. M. (1994). Toward improving identification of talent potential among culturally diverse and disadvantaged students. *Roeper Review*, 18(3), 198-202.
- Reis, S. M. & McCoach, D. B. (2000). The underachievement of gifted students: What do we know and where do we go? *Gifted Child Quarterly*, 44, 152-170.
- Renzulli, J. S. (Ed.) (2004). *Identification of students for gifted and talented programs*. Thousand Oaks, CA: Corwin Press and the National Association for Gifted Children.
- Richert, E. S. (1991). Rampant problems and promising practices in identification. In N. Colangelo, N. & G. A. Davis, *Handbook of gifted education*. Boston: Allyn and Bacon.
- Rogers, K. B. (2003) *Re-forming gifted education: Matching the program to the child*. Scottsdale, AZ: Great Potential Press.

Websites

- <http://www.hoagiesgifted.org/identification.htm>
- <http://www.nexus.edu.au/teachstud/gat/gibson.htm>
- <http://ericec.org/digests/e644.html>
- <http://www.nswagtc.org.au/info/identification/>

Psychological and Educational Assessment of Gifted Children

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An assessment is a data-gathering process designed to help answer questions and make decisions. Many assume that assessment and testing are synonymous; however, testing is but one of four components of an educational and/or psychological assessment. The four components are (a) standardized tests, (b) interviews, (c) structured or unstructured observations, and (d) informal procedures (Sattler, 2001). As components of a comprehensive assessment, interviews, observations, and informal procedures will be briefly addressed, but the emphasis and purpose of this chapter is to highlight and confirm testing, and standardized testing in particular, as the primary component of an assessment of a gifted student.

It is important for the reader to know what I mean by "test." The simple response is that a test is a *sample* of behavior. However, a more complex answer lies in the pages that follow.

Anastasi (1988) defined *psychological tests* as, "like other tests in science, insofar as observations are made on a small but carefully chosen *sample* of an individual's behavior" (p. 24). She described the function of psychological tests as the "measure [of] differences between individuals or between the reactions of the same individual on different occasions" (p. 3). In other words, psychological tests measure individual differences in samples of behavior. The behaviors being measured may be sampled from broad domains, such as intelligence or personality.

Educational tests are also measures of samples of behavior, but, as defined by Anastasi, "have been specifically developed for use in educational contexts" (1988, p. 411). Because the distinction between psychological and educational tests is not always clear, the term *psychoeducational* has come to mean

that the information used will include results from psychological as well as educational tests. Many adjectives have been placed in front of the word *test*, for example, authentic, criterion-referenced, standardized, or norm-referenced. *Criterion-referenced tests* differ in significant ways from norm-referenced or standardized tests. Criterion-referenced tests (e.g., spelling tests) are designed to yield information that suggests an individual's degree of competency or mastery of a pre-established level of performance or criterion. Criterion-referenced tests are an example of the informal component of an assessment. The information from a criterion-referenced test can be helpful in determining curriculum.

An *authentic assessment* analyzes a student's work. Authentic assessments are especially subjective in nature. Often, the student's work, as well as the analysis of the work, is kept in a portfolio or folder, and sometimes an authentic assessment is called a *portfolio assessment*. Although the adjective *authentic* implies that this form of assessment is more valid than a standardized or norm-referenced test, that is not the case. Authentic assessments also represent the informal component of an assessment and can be rich with information about a learner.

Norm-referenced tests are developed so that a score can be compared to a representative group of individuals referred to as a *normative sample*. In order for the comparison to be valid, a norm-referenced test must be administered under the same (i.e., standardized) conditions for everybody. In this chapter, the terms *norm-referenced* and *standardized* are used interchangeably. Both large-group administered tests of achievement, such as the Iowa Tests of Basic Skills (ITBS), and individually administered intelligence

tests are examples of norm-referenced or standardized tests.

Norm-referenced or standardized tests are perennially criticized. Wiggins (1993), for example, criticizes testing with the assertion that:

Students are tested not on the way they use, extend, or criticize "knowledge" but on their ability to generate a superficially correct response on cue. They are allowed one attempt at a test that they know nothing about until they begin taking it. For their efforts, they receive—and are judged by—a single numerical score that tells them little about their current level of progress and gives them no help in improving (p. 2).

Similar attacks are found in a variety of publications, including professional educational publications such as *Phi Delta Kappan*. For example, in the September 2001 issue, Wassermann laments that both the practice of standardized testing as well as criticisms of standardized testing have remained consistent throughout the latter half of the twentieth century, and argues that we should be suspicious of the motives of those advocating standardized testing. Wassermann asserts that educators should omit testing from the assessment process and revert to, "the use of informed, evaluative observations by teachers," even though these observations may be "flawed . . . subjective . . . [and] it's true that teachers' judgments about students' performance could be wrong, misguided, or biased" (p. 36).

In this chapter, I propose that the responsible educator should ignore Wiggins' and Wassermann's advice and (a) recognize that standardized tests can be extremely useful in understanding the learning needs of a gifted student, and (b) advocate for the synthesis of information from standardized tests as well as from informal assessment procedures to develop programs for gifted students.

The first part of this chapter provides the reader with an appreciation of standardized testing through the presentation of a brief history of norm-referenced testing, theories of intelligence, and giftedness. The second part presents two case studies and discusses testing issues as they relate to the field of gifted education. The case studies demonstrate clearly the value of information from standardized testing for making programming and placement decisions about gifted students. The chapter concludes with a list of "consumer guidelines" that summarize important issues when assessing gifted children.

How Has the History of Testing Influenced Today's Practices in Gifted Education?

In 1869 Sir Francis Galton published *Hereditary Genius*, which established the link between the terms *intelligence* and *genius*. Lewis Terman published in 1916 the U.S. version of Binet and Simon's individual intelligence test. Terman called his version of Binet and Simon's test the Stanford-Binet Intelligence Scale and, in 1922, used this scale to launch a study of 1,528 gifted children. The results of Terman's study were published in a series entitled *The Genetic Studies of Genius*, the first volume of which was published in 1925 (Terman, 1925). In Terman's work, we see the shift in terminology from *genius* to *gifted* (Feldhusen & Jarwan, 1993). Also, through Terman's work we see the forging of the strong link between intelligence testing and gifted.

Terman's extensive longitudinal studies established the foundation for identifying gifted students on the basis of intellectual potential as measured by individualized intelligence tests. However, Terman was sensitive to the limitations of measuring "intelligence," and early in the days of developing the Stanford-Binet Terman cautioned test users:

We must guard against defining intelligence solely in terms of ability to pass the tests of a given intelligence scale. It should go without saying that no existing scale is capable of adequately measuring the ability to deal with all possible kinds of material on all intelligence levels. (Terman, 1921, p. 131)

Terman's precautionary statements were prescient to the theoretical work dominating the last quarter of the 20th century. During the twentieth century, the conceptualization of intelligence evolved from a single point of view (i.e., Terman's Stanford-Binet) into a complex perspective with several different orientations, three of which are described below: psychometric, cognitive modifiability, and information processing. Each orientation has influenced educational practice; at the same time, educational practice has influenced our views about the usefulness of intelligence tests.

The oldest and most research-based tradition of measuring intelligence is the psychometric approach (McGrew & Flanagan, 1998). *Psychometrics* is defined as the quantitative measure of psychological traits or attributes (Sattler, 2001). The psychometric

approach has resulted in thousands of tests; according to the 1999 edition of *Tests in Print*, there were 2,939 commercially available tests. Each test is concerned with measurement issues of reliability and validity. *Reliability* refers to the consistency and stability (accuracy) of scores earned by test-takers. *Validity* is a more esoteric concept, but a brief definition of validity refers to its "appropriateness" to the domain being measured. (See Anastasi, 1988, or Hammill, Brown, & Bryant, 1992, for more detailed explanations of reliability and validity.)

The psychometric approach to testing dominates the present-day educational system, and with good reason, as the information from norm-referenced testing can be tremendously useful in both placement and programming decisions. The psychometric approach continues to evolve. Some types of psychometric testing, for example, Galton's measurement of sensory discrimination abilities as a way of measuring intelligence, are now extinct. Other types of psychometric tests have evolved, for example, individualized intelligence tests; and their evolution is complemented (not replaced) by the cognitive modifiability and information-processing approaches.

Assessing how an individual functions within an environment represents an interactive or dynamic approach to assessment (as opposed to the more "static" nature of the psychometric approach) and characterizes *cognitive modifiability* theories of intelligence. McGrew and Flanagan (1998) associate cognitive modifiability theories with Vygotsky's *zone of proximal development* (ZPD). ZPD is defined as "the difference between a person's . . . performance in isolation and one's performance when mediated by hints, guided instruction, and suggestions by another individual" (p. 30). Dynamic assessments evolved from cognitive modifiability theory, and, by their nature, dynamic assessments correspond to the gifted educator's vision of diagnostically assessing a student's learning needs and matching those needs with an appropriate prescription for instruction.

The *information processing* approach to intelligence is characterized by analyses of how information is received and mentally operated upon during problem solving and everyday tasks. Information processing is still relatively new; it only entered the psychological scene in the 1960s. Naglieri and Kaufman (2001) refer to tests that have been developed from the information processing tradition as a new breed of instruments that provide, "cognitively-based alterna-

tives to traditional IQ test technology that has dominated the field during most of the 20th century" (p. 152). Measurement of processing components by this new breed of instruments still relies on psychometric procedures and principles.

Sattler (2001) provides a fascinating timeline that reviews the historical markers in cognitive and educational assessment. The timeline presented in Table 10.1 includes important dates and notes about the evolution of theories of intelligence testing as they relate to gifted education. Much of the information in Table 10.1 draws heavily from Sattler and McGrew and Flanagan (1998).

What Types of Educational Decisions Are Conducive to Assessment?

The purpose of an assessment is to gather information relevant to making a decision. In gifted education, decisions about students usually involve (a) placement into a program and/or level and (b) type of curriculum to use within the program. Until recently, the primary reason for assessing an academically talented child was to make a decision regarding placement. For gifted children, this traditionally has been to obtain a measure of general intellectual ability (IQ).

Group intelligence tests are often used as a way of initially screening for students of high academic ability, but beyond that their uses with individual students are limited. Two tests widely used are the Otis-Lennon School Ability Test (OLSAT)—7th Edition, published in 1995, and the newly revised Cognitive Abilities Test (CogAT) Form 6 (Lohman & Hagen, 2001). Both tests were concurrently normed with a group-administered achievement battery. The OLSAT, which yields a verbal score, a nonverbal score, and a total score, was normed at the same time as the Stanford Achievement Tests and the Metropolitan Achievement Tests. The CogAT, which yields a score measuring reasoning in three domains—verbal, quantitative, and nonverbal—was normed along with the Iowa Tests of Basic Skills. Combining the information, for example, from the CogAT and the ITBS, can help educators in their decision making.

Despite improvements in the group-administered tests of general ability, an individually administered intelligence test remains the best instrument for identifying gifted children on the criterion of *general ability* (see Table 10.2, Part A). Sattler (2001) recom-

Table 10.1 **Twentieth Century Timeline of Cognitive and Educational Assessment**

1904	Spearman introduced the concept of a two-factor theory of intelligence—a general factor (<i>g</i>) of intelligence and one or more specific factors (<i>s</i>). Spearman's <i>g</i> emphasized intelligence—mental ability—as a unitary trait.
1905	Alfred Binet and Theodore Simon developed a 30-item test intended to measure judgment, comprehension, and reasoning of school-aged children (based upon testing that began in the early 1890s). This effort resulted in the Binet-Simon Scale.
1916	Stanford University Professor Lewis Terman published an extended standardized form of the Binet-Simon Scale under the name of the Stanford Revision and Extension of the Binet-Simon Scale. Terman's scale served as the foundation for future applications of the psychometric theory of intelligence testing to measurement. This scale and its subsequent revisions represent the classic application of Spearman's theory of intelligence to measurement. The concept of IQ (intelligence quotient), as a ratio of mental age to chronological age, was introduced with Terman's scale. IQ was essentially an operational definition of general mental ability, i.e., Spearman's <i>g</i> .
1936	The Iowa Every-Pupil Tests of Basic Skills (later renamed the Iowa Tests of Basic Skills) were developed by E. F. Lindquist and his colleagues at the University of Iowa. The ITBS represents a large-scale achievement-testing program. Many gifted programs use scores from tests like the ITBS to identify students for programs.
1937	The 1916 version of the Binet-Simon Scales was revised by Lewis Terman and his colleague Maude Merrill and renamed the Stanford-Binet Intelligence Scale.
1938	Louis Thurstone introduced a "multiple" intelligences theory. In direct contrast to Spearman's <i>g</i> , Thurstone's theory, and the resultant test, the Primary Mental Abilities Tests, portrayed intelligence as equally weighted multiple abilities, including, verbal, number, and space ability.
1939	David Wechsler published the Wechsler-Bellevue Intelligence Scale. Revisions of this scale, as the Wechsler Adult Intelligence Scale (WAIS) were published in 1955, 1981, and 1997. (Note: In 1914 David Wechsler was introduced to the measurement of intelligence through his experience as a U.S. Army private in the Army's large-scale testing program.)
1949	The Wechsler Intelligence Scale for Children (WISC), designed for children ages 6 to 16, was published. The Wechsler tests use a point-scale format. The underlying assumption of a point-scale format is that items are designed to measure specific functions or aspects of behavior at every age. In 1967 the Wechsler Preschool and Primary Scale of Intelligence (WPPSI), designed for children ages 3 to 7, was published; a revision (WPPSI-R) was published in 1991. In 1974 the WISC was revised and renamed the WISC-R; and in 1991 the WISC-R was revised and renamed the WISC-III.
1953	Wechsler considered IQ, defined as the ratio of mental age to chronological age, as unattainable, especially for adults. He developed the notion of a <i>deviation IQ</i> in which the examinee's score is compared with scores earned by other individuals of the examinee's age.
1960	The best items from the two 1937 forms of the Stanford Binet Intelligence Scale were selected and combined into one form, the Stanford-Binet Form L-M (<i>L</i> is for Lewis Terman and <i>M</i> is for Maude Merrill, Terman's colleague and co-developer of the Stanford Binet). New norms for the 1960 form were published in 1972. For the next 25 years, the Stanford-Binet (Form L-M) was regarded as an extremely reliable and valid instrument for use in predicting academic success. It was designed to be used with individuals as young as two years of age through adult.
1970	Congress mandated Secretary of Education Sidney Marland to generate a report on the <i>Education of Gifted and Talented</i> (published in 1972 and commonly called the <i>Marland Report</i>). From this report, a national definition of gifted and talented students was generated (see Table 10.2). This definition is still used in many states, and given its nature seems to ensure that standardized tests—especially tests of intelligence—will continue to play a role in the identification of gifted students.
1972	Professor Julian C. Stanley initiated the Talent Search Model. Although the Talent Search only tested a few hundred students in the early 1970s, by the beginning of the twenty-first century, hundreds of thousands of students are participating annually in the Talent Search.
1975	U.S. PL 94-142, protecting the right to equal education for all handicapped children, was passed. In 1990 this law was updated and renamed the Individuals with Disabilities Education Act—IDEA. There was a reauthorization in 1997, and amendments in 1999. PL 94-142 was a watershed in education; educators and parents are now more aware of assessment and special needs, as well as the requirement to accommodate students with special needs.
1983	Howard Gardner proposed a Theory of Multiple Intelligences. Gardner's theory resulted in a variety of instructional and assessment strategies, however, no standardized test exists to measure the multiple intelligences.
1985	Robert Sternberg introduced a Triarchic Theory of Intelligence. Sternberg's theory, like Gardner's, is also in contrast to a single, unitary view of intelligence. McGrew and Flanagan (1998) stated that Sternberg's theory has not held up well when judged against established standards of validity.

(continued)

Table 10.1 Continued

1986	The Stanford-Binet Intelligence Scale: Fourth Edition (SB: IV) was developed by R. L. Thorndike, E. Hagen, and J. Sattler. The SB: IV introduced users to a factor structure, which includes a general intelligence factor, several general memory factors, and several specific factors such as verbal, quantitative, and abstract visual reasoning factors.
	Note: Silverman and Kearney (1992) made a strong case for continuing to use the Stanford-Binet (L-M) with extraordinarily able students because it is more effective at differentiating exceptionally gifted from moderately gifted children. However, Robinson (1992) countered Silverman and Kearney with two important points. First, the norms of the SB: IV are superior when compared to the 1972 norms of the Stanford-Binet (L-M). In fact, with the publication of this chapter we are now over fifteen years beyond the 1986 norms of the SB: IV. When the Stanford-Binet 5 is published (scheduled for release after 2003), the availability of more recent norms will make a compelling argument for its use. Robinson's (1992) second point concerned the usefulness of the factorial structure (e.g., memory, verbal, quantitative, and abstract visual reasoning) of the SB: IV, and the "power" of that structure for understanding a child's pattern of abilities.
1988	The Jacob K. Javits Gifted and Talented Students Act reestablished modest (not exceeding 10 million dollars on an annual basis) federal funding for gifted programs.
1990	The Differential Abilities Scale, a revision and extension of the 1980 British Ability Scales (Elliott, 1990) was published. This is a relatively new instrument and reflects information-processing theories and approaches to understanding human abilities.
1993	<i>The National Excellence Report: A Case for Developing America's Talent</i> (Ross, 1993) was published by the U.S. Department of Education's Office of Educational Research and Improvement. The report offers a new federal definition which has been adopted by several states (see Table 10.2, Part B).

Table 10.2 1972 and 1993 Federal Definitions of Gifted and Talented**Part A:** 1972 Marland Definition (Public Law 91-230, section 806)

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.

Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:

1. general intellectual ability
2. specific academic aptitude
3. creative or productive thinking
4. leadership ability
5. visual and performing arts
6. psychomotor ability*

It can be assumed that utilization of these criteria for identification of the gifted and talented will encompass a minimum of 3 to 5% of the school population.

Part B: 1993 National Excellence Report Definition (Based upon the Federal Javits Gifted and Talented Education Act)

Children and youth with outstanding talent perform or [who] show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment.

These children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools.

Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor.

*This was later removed.

mends that placement decisions be based only on the Wechsler Scales (Wechsler, 1991), the Stanford-Binet Intelligence Scale: IV (Thorndike, Hagen, & Sattler, 1986), or the Differential Ability Scales (Elliott, 1990).

Placement is important, but it should not eclipse the equally important goal of programming. An assessment of a gifted child must go well beyond the administration of an intelligence test (a measure of general school ability), and should include measures of achievement, as well as the other components of an assessment: interviews, structured or unstructured observations, and informal procedures. In sum, the assessment should go beyond placement and should provide information that can assist in educational programming decisions. The application of assessment information for both placement and programming is demonstrated in two case studies (see Figures 10.1 and 10.2).

Two Case Studies

The two separate cases in Figures 10.1 and 10.2 demonstrate the usefulness of tests as part of the assessment process for gifted placement and programming. Figure 10.1 is a report of an assessment of Fred, an extremely able student. At the time of the report, Fred was placed in first grade in accordance with his age. However, as noted throughout the report, the first grade curriculum was so underchallenging that Fred was very frustrated, and his parents requested a grade-skip from first to seventh grade! Parents and school officials were each intractable in their positions and were ready to go to court for a placement ruling.

Throughout the report, there is a *School Psychologist's Perspective of the Assessment (SPPA)*, which details the motivation for which tests were selected as well as the interpretation of the results. The purpose of reproducing the assessment report and the SPPA is not to recommend specific tests, but demonstrate how the tests "saved the school day" for this very gifted student.

For Fred, both the immediate as well as the long-term indicators of success were extremely positive. Six months after the results from the psychoeducational assessment were used to accelerate Fred from first grade to a third/fourth grade class, the unanimous conclusion was that the placement and the program were tremendously successful. The school personnel gained a new appreciation of Fred's ability and

achievement, and the discussions about Fred opened up new opportunities for other gifted students.

Fred entered Purdue University at the age of eleven. He graduated from Purdue with a Doctor of Pharmacy degree at the age of 17, and enrolled in a Ph.D. program at Rockefeller University in New York.

Fred's case was litigious for two reasons: (a) he was extremely capable, and (b) there was a great deal of defensive reluctance by the educators because the results from the screening were incongruent with their informal observations. Cases like Fred's do not have to be controversial if educators and psychologists use the information from tests of ability, aptitude, and achievement to make decisions about placement and programming. Fred's assessment occurred prior to the development of the *Iowa Acceleration Scale (IAS)*, which is discussed below and sections of which are presented in Figure 10.2. However, a discussion similar to that promoted by the process of using the IAS occurred with Fred, and it was that group discussion, based upon assessment data, that fostered an appropriate placement and program for this extremely gifted student.

An essential component to Fred's assessment was the professional administration and interpretation of the tests within the context of the information that had been gathered informally. An appreciation for the special programming needs of academically able students also is crucial. Additionally, it was important to convey this information to parents and educators in a way that would serve the child.

What Is the Role of Assessment in Whole-Grade Acceleration Decisions?

Despite the unequivocal evidence (DeHaan & Havighurst, 1961; Gallagher, 1996; Kulik & Kulik, 1984) supporting whole-grade acceleration as a programming option for gifted students, acceleration—or grade-skipping—remains a contentious issue.¹ Prior to the publication of guidelines for grade advancement (Feldhusen, Proctor, & Black, 1986), most decisions concerning grade acceleration were based upon the selective biases of a school administrator. In some instances, discussion about acceleration is precluded by a district's extant policy *against* acceleration. The Feldhusen et al. article was helpful to many gifted educators and parents of gifted students who found themselves in the role of advocate for acceleration without the tools to advocate effectively.

1. See Chapter 21 by Kulik.

The Connie Belin & Jacqueline N. Blank International Center
for Gifted Education and Talent Development

STUDENT: Fred D.
BIRTHDATE: April, 11
AGE: 6 years, 7 months
REPORT DATE: December 1
EVALUATION DATE: November 12–14
SCHOOL PSYCHOLOGIST: Susan G. Assouline, Ed.S., Ph.D.

Reason for Referral:

The superintendent of schools recommended that Dr. D. refer his son, Fred, to the Belin-Blank Center for an evaluation of Fred's academic achievement and for recommendations based upon that evaluation. At the time of the referral, Fred had been withdrawn from first grade in the local public school and was home-schooled.

Background Information and Observations:

Fred had been evaluated previously at the age of 5 years, 2 months, and 6 years, 5 months. Each of these evaluations included the administration of an individual intelligence test (Stanford-Binet: Fourth Edition and the Wechsler Intelligence Scale for Children—Revised), and each evaluation resulted in confirmation of Fred's superior intellectual ability. The academic achievement tests administered during the previous evaluations were designed to provide a general indication of Fred's achievement in reading, mathematics, and spelling. The tests administered at the age of 6 years, 1 month were the Wide Range Achievement Test—Revised (WRAT-R) and the Basic Achievement Skills Individual Screener. *On these screening instruments, Fred performed at the seventh-grade level for reading, math, and spelling.* The two prior assessments resulted in two reports, and the primary recommendation from each of those reports was that consideration be given to Fred's program of study to determine the best way in which to meet his needs for academic stimulation and appropriate socialization with his schoolmates.

Reports from the previous evaluations indicated that Fred had excellent concentration and attention, and my observations of Fred's ability to concentrate and attend to tasks verified the previously reported observations.

School Psychologist's Perspective of the Assessment (SPPA): A good assessment begins with a question to be answered. There are two questions concerning this student: (1) What is the appropriate grade placement? (2) What is the appropriate academic program?

(SPPA): Two individual administrations of an intelligence test had been administered within a sixteen-month period, and each had yielded similar results. (At the time of this assessment, these were the most current results available.) There was no need for a third administration of an intelligence test.

However, the information from the previous administrations of measures of achievement was insufficient. The measures used were designed for screening; the information from them was inappropriate for a placement or a program decision. This is obvious in the vague recommendations that were presented with the results of these previous assessments.

The statement concerning Fred's ability to concentrate is an example of nontest data that was part of the assessment. This observation is used in the recommendations.

Fred is right-handed and has worn corrective lenses for four months.

*Interpretation of Results:
Tests Used*

Raven's Progressive Matrices (RPM)
Stanford Diagnostic Reading Test (Green Level, Form A)
Standard Reading Inventory (SRI)
Stanford Diagnostic Mathematics Test (Green Level, Form A)
Sequential Tests of Educational Progress (STEP): Basic Concepts and Computation

One of the goals of the present evaluation was to determine Fred's academic progress relative to his ability. Fred was asked to complete the Raven's Progressive Matrices (RPM), an untimed nonverbal test of figural reasoning. For this test, the individual is presented with 60 meaningless figures and is asked to discern the nature of the pattern for each figure and complete the relations. Fred correctly completed 41 out of 60 figures in 35 minutes and earned a score surpassing 98% of the 8-year-olds in the normative sample (the highest raw score earned by the 6 1/2-year-olds in the normative sample was 34). Thus, compared to the highest score earned by his age-mates in the normative sample, he was able to answer correctly 7 more items than the top-scoring individual(s). This is a significant discrepancy from the highest score earned by his age-mates and confirms that Fred's ability to form comparisons, reason by analogy, and organize spatial perceptions into systematically related wholes, as measured by this well-standardized instrument, is superior—even when compared to children two years older than he.

During an interview with Fred's father, Dr. D. he described Fred's routine at home. The family chose not to have a television in their home, and evenings were devoted to study and exploration of world events. It was obvious that Fred had been presented with considerable factual knowledge; however, all evidence indicated that he was ready not only for the exposure to this knowledge, but to process the information with reasoning skills that surpass those of bright students in higher grades. The results of the RPM support this observation.

Superior ability to process information and to attend to learning tasks is rare and requires careful tailor-

SSPA:

It was extremely important to determine how Fred's abstract reasoning skills compared to his age-mates as well as to older children. The comparison to age-mates responded to educators' concerns that there are "lots of bright children" in Fred's class, and Fred's academic needs are no different from theirs. The comparison to older children was equally important because abstract reasoning skills are part of an advanced curriculum that was under consideration.

In the parent interview, Dr. D. mentioned to the school psychologist that some educators believed that Fred was being pushed at home and that Fred was not ready for advanced material. During the presentation of the results to Fred's educators, the school psychologist corrected this misconception. On the contrary, Fred was doing what he was able to do. His parents were responding to his academic needs and were requesting that the school find an optimal match between the curriculum and Fred's ability and achievement.

Finding the optimal match between Fred's ability and achievement was the reason for completing the

ing of an individualized educational plan that will provide an optimal match between Fred's ability and achievement. The two previous psychoeducational reports included a screening of spelling, reading, and mathematics. The present assessment of reading and mathematics was more diagnostic in nature.

Reading: The Green Level (Form A) of the Stanford Diagnostic Reading Test was administered. The Green Level is designed for students in grades 3, 4, and 5 and provides comparative scores for a sample of students in those grades. Fred worked quickly through the sub-tests. The final passages were to be read silently, but Fred subvocalized each of those passages. Even though he worked quickly, he was not impulsive in his responses and he rechecked his answers to the questions.

When compared to fourth graders, Fred earned the percentile rankings reported below. Grade equivalents represent the typical performance of students in a specified grade. Because Fred is not a typical student, grade equivalents are not generally good comparative indicators; however, for our purpose of determining where to begin instruction, it was appropriate.

<i>Stanford Diagnostic Reading</i>	<i>Per- centile</i>	<i>Grade Equivalent</i>
(Compared to fourth graders)		
Auditory discrimination	92	7.3
Phonetic analysis	95	>12
Structural analysis	83	6.8
Auditory analysis	51	3.9
Literal comprehension	74	4.7
Inferential comprehension	43	3.7

The "lowest" grade equivalent score (earned for inferential comprehension) was two grade levels above his present placement. The highest (earned for phonetic analysis) was beyond grade 12. Relatively speaking, Fred's auditory vocabulary, literal comprehension, and inferential comprehension, as measured by these subtests of the Stanford Diagnostic Reading Test, are not as well developed as his ability to discriminate auditorily, analyze the relationships between sounds and letters (phonetic

assessment. The screening instruments from the previous assessments were inadequate for this task. The tests that were chosen were diagnostic in nature and were administered so that specific suggestions regarding programming could be made.

analysis), and decode words through the analysis of word parts (structural analysis). In other words, the skills measured by the cognitively less demanding tasks of recognizing words and decoding them are more advanced than his *understanding* of common words and his general reading comprehension, especially his inferential comprehension.

The Standard Reading Inventory (SRI) was also administered, and the hypothesis that Fred's decoding skills were more developed than his comprehension skills was confirmed by the results of the SRI. He orally read the fourth- and fifth-grade passages with only a few minor pronunciation errors. It was noted that he read in a monotone. We did not go beyond the fourth- and fifth-grade passages, but he could probably read passages at a much higher grade level. However, it is unlikely that he could comprehend passages at the junior high grade levels. His silent reading speed was at the instructional level for grade 4, but not for grade 5.

Instructionally, Fred reached frustration (correctly answered four out of ten comprehension questions for both silent and oral reading) at the fourth grade level. He correctly answered four of the ten comprehension questions for the fifth-grade oral reading passage, but he answered only two of the ten comprehension questions correctly for the fifth-grade silent reading passage. He subvocalized while he was reading this passage.

Coupled with the information from the Stanford Diagnostic Reading Test, it appears that providing material at an advanced third- or fourth-grade level would be instructionally appropriate. Fred's ability to decode written words will continue to be far superior to his ability to comprehend for several more years. Fred could probably read a sixth- or seventh-grade social studies text, but his thinking is not yet sophisticated enough to comprehend the material fully and draw inferences. He needs time to allow underlying cognitive functions necessary for comprehending to develop and mature.

Reading: Fred needs only limited instruction in decoding or phonics. It is recommended that an instructional program emphasize the development of his comprehension skills. His overall comprehension is at an advanced third-grade or beginning fourth-grade level, and instruction with materials at

SSPA: Since reading is one of the most important elementary school activities, a careful assessment of Fred's reading skills was critical. Additionally, this case almost went to court because the initial screening information suggested a "reading level of seventh grade," and the parents used that information to advocate that Fred be placed in grade 7. School personnel reacted strongly against this and wanted to keep Fred in grade 1.

The distinction between Fred's decoding skills and his comprehension skills was important because it begins to explain why parents and educators had seemingly incompatible programming goals. The parents were focusing on the highly developed decoding skills (especially as reported in a previous screening assessment), but the educators were convinced that Fred would not survive in seventh-grade classes—even though he could "read" the material.

All of the above information, which was based upon data from the assessment, leads to the recommendation below.

The Basic Concepts test designed for grades 6–9 was too difficult, as evidenced by his performance: Fred required all 40 minutes to answer 24 of the 50 questions; and he correctly answered only 14 questions, which placed him at the 8th percentile when compared to ninth graders. It was decided not to give him the middle school/junior high level of the Computation test. There was concern that he would be unnecessarily frustrated.

Therefore, the lower level of the STEP Basic Concepts and Computation tests, which were designed for grades 3–5, was administered. On this level of the Basic Concepts test, Fred correctly answered 38 out of 50 items in 35 minutes. When compared to second-semester fifth graders, this score is at the 83rd percentile. Eight of the 12 missed items required manipulation of number concepts. On the Computation subtest, Fred correctly answered 53 out of 60 items in 28 minutes. This score is at the 90th percentile when compared to second-semester fifth graders.

Recommendation for Mathematics: The fact that Fred did so well on both of the tests designed for third through fifth graders indicates that he has relatively few, if any, gaps in his mathematics knowledge base. The biggest concern is that he not rush too quickly into pre-algebra and algebra because he needs time to allow for the development of the necessary cognitive structures that will foster success in more abstract mathematics such as algebra and geometry. Unlike many extremely precocious students, Fred has not developed sloppy habits. He did not do all of his work in his head; rather, he was careful to work out the problems on scratch paper. However, if he remains unchallenged, he will most likely develop poor work habits because performing computations mentally will be one of the only ways that he can mentally challenge himself.

Summary and General Recommendations:

Given Fred's superior performance on the two previously administered individual intelligence tests, as well as his superior performance on the RPM, one would predict that his academic achievement would be at least two grade levels above that of his age- or grade-mates. Indeed, Fred has fully utilized his superior academic ability and has achieved at a level commensurate with that ability. Fred has excellent concentration and attending skills and could easily

these levels would probably provide sufficient challenge. To continue developing his comprehension skills, Fred needs: (1) time for the underlying cognitive processes to mature; and (2) the opportunity to interact with students who are at a similar level of comprehension. These students will likely be found in higher grades. If Fred is accelerated into third or fourth grade, it would be appropriate to place him with the most advanced reading group.

Although his reading comprehension skills are (relatively) not as superior as his skills at decoding words, they are still superior when compared to those of his age- or grade-mates. The fact that his ability to comprehend ranges from two to four grade levels above his age-mates means he will need special arrangements for reading instruction. A whole-language approach to reading and writing instruction might foster Fred's progress in each of these areas. However, it would be important *not* to use a grade-level basal for whole-language instruction. Rather, Fred will need exposure to literature such as that provided by the Great Books Series.

Mathematics: Mathematics was the other curriculum area for which programming recommendations were needed. Three mathematics tests were administered before finding one that was appropriately difficult. The Green Level (Form A) of the Stanford Diagnostic Mathematics Test was the first test administered. The green level was developed for students in grades 4, 5, or 6. Fred finished the whole test in less than an hour (95 minutes is allowed). When compared to fifth graders, he earned the following percentiles for the three sub-tests:

<i>Stanford Diagnostic Mathematics Test</i>	
Subtest	Percentile Rank Compared to Fifth Grader
Number system and numeration	86
Computation	85
Applications	94

The Stanford Diagnostic Mathematics Test did not appear to be sensitive enough to prescribe specific instruction. Therefore, the Basic Concepts and Computation tests of the Sequential Tests of Educational Progress (STEP) were administered.

SSPA:

For a more complete discussion of elementary students who are mathematically talented, see *June and Johnny Love Math: Recognizing and Encouraging Mathematical Talent in Elementary Students* (Lupkowski & Assouline, 1992) and *Developing Mathematical Talent: A Guide for Teachers and Parents of Gifted Students* (Assouline & Lupkowski-Shoplik, in press).

succeeded in third- or fourth-grade material. For some tasks, such as decoding and basic computation, even fourth-grade material will be too easy for him.

The more routine school tasks (i.e., decoding of words and basic mathematics computation) are about as fully developed as can be expected for a 6 1/2-year-old child, and his ability to concentrate and attend has been well honed. *Fred is at a critical point in his academic development. He will not lose his ability to learn, but if he is not sufficiently challenged he may lose his love for learning and will likely develop poor study habits.*

- With regard to his general reading comprehension, placing him in an advanced third-, fourth-, or fifth-grade class seems most appropriate.
- Because his reading and math comprehension skills seem to be equally developed, it would make sense to consider whole-grade rather than subject-matter acceleration. For subjects such as science and social studies, Fred is probably ready to begin receiving instruction at a third-, fourth-, or even fifth-grade level. Pre-testing in these subject areas would be appropriate.

The school system is fortunate that Fred's parents are able and willing to fill in any gaps in Fred's instruction that might occur as a result of accelerating Fred by two or more grades. When students who have superb ability to learn are tutored at home, it is sometimes believed that the parents' opinion is suspect because parents have invested so much in their child's education. My sense of the situation is that Dr. D has tapped into his son's strengths and has helped his son realize those strengths. Fred took the tests at the Belin-Blank Center by himself and demonstrated extremely mature behavior. His behavior was more similar to that of a mature, extremely intelligent eight- or nine-year-old. His demeanor is like that of a well-behaved upper elementary student.

Fred has achieved through home schooling provided by his parents, but he needs the opportunity to interact with peers. He also needs exposure to extracurricular activities and contexts, such as spelling bees, the Mathematical Olympiad for Elementary Students, and science projects that are typically assigned in the upper elementary grades. In determin-

ing an appropriate placement for Fred, attention should be paid to the most academically comfortable setting, that is, third, fourth, or fifth grade, as well as the most emotionally comfortable setting. The receiving teacher(s), parents, and administrator(s) should discuss the most appropriate setting.

An understanding teacher who can adequately prepare his or her class to welcome a new student (who is younger, yet equally or more able), and who can communicate effectively with the parents is most important.

- I have recommended that Dr. and Mrs. D continue to provide enriching educational experiences for their son. However, it was suggested that these experiences might focus on opportunities that are not traditionally offered in the public school. For example, Fred would probably do well if exposed to one or two foreign languages, as well as a musical instrument. Activities in sports and social groups such as Cub Scouts are also to be encouraged. When he is old enough (probably around age 11 or 12), Fred would probably benefit from summer academic programs offered by universities such as the University of Iowa.

- Follow-up every three or four months with the Belin-Blank Center Staff, to be initiated by Dr. and Mrs. D, is strongly recommended.

SSPA:

Follow-up is a critical component of a successful assessment and intervention.

Figure 10.1 Psychological Interpretive Report.

Southern and Jones (1991) and Passow (1993) moved the debate about the advantages of acceleration forward. In 1993 Assouline, Colangelo, and Lupkowski published the *Iowa Acceleration Scale (IAS)*, a guidance tool designed to facilitate discussions and decisions about acceleration. In 1999 the manual for the *Iowa Acceleration Scale (IAS)* (Assouline, Colangelo, Lupkowski-Shropik, & Lipcomb, 1999) was published. The *Iowa Acceleration Scale (IAS)* and the accompanying manual were developed to guide educators in making recommendations about accelerating a student. Because no single definition exists as to what qualifies a student for whole-grade acceleration, one goal of the IAS is to provide exclusionary indicators of the appropriateness of acceleration as an educational option for students in kindergarten through eighth grade.

The indicators of the IAS include school-related issues, such as class attendance and the student's attitude toward learning; developmental factors, such as body size and fine and gross motor coordination; interpersonal skills, which assess how effectively a student interacts with others; and attitude and support of the principal individuals involved in the student's academic life. These issues represent the informal components of the IAS.

The IAS also requires information from tests of academic achievement and ability. With respect to academic ability, a formal measure of intelligence is one of the critical aspects underlying acceleration decisions using the IAS. Both group-administered and individually administered test scores can be used. A score representing superior intelligence is required before other indicators on the IAS can even be

Figure 10.2 The Iowa Acceleration Scale.

**IAS Example: Jenny
The Iowa Acceleration Scale Form***

Section I: General Information**Part A: Student Information**

Student Name Jenny
 Student Address 1234 Small Road
Mid-Sized Town, Midwestern State 12345
 Student Phone Number 123-4567 Gender Female
 Present School Presidential Elementary Present Grade 3rd Proposed Grade 5th
 School Address 5678 Main Street
Mid-Sized Town, Midwestern State 12345

	Year	Month	Day
Date of IAS Completion (Today's Date)	<u>8</u>	<u>12</u>	<u>2</u>
Student's Date of Birth	<u>8</u>	<u>3</u>	<u>14</u>
Student's Chronological Age	<u>8</u>	<u>8</u>	<u>19</u>

Part B: Family Information

Father: Steve Occupation: Banker
 Does parent live with child? Yes No Sometimes
 Mother: Cindi Occupation: Teacher
 Does parent live with child? Yes No Sometimes

Names of Siblings Gender Age School Grade Name of School
Ken Male 8 Junior High

Part C: Child Study Team Information

Names/Position of Individuals Participating in Acceleration/Decision/Planning:
 Principal Mrs. S. Parent (Guardian) Steve & Cindi
 Present Teacher Mrs. P. Receiving Teacher Mrs. R.
 Other (e.g., Gifted Ed. Coordinator, School Counselor, School Psychologist) Mrs. E. (G/T Coordinator)

*Sections of the Iowa Acceleration Scale (IAS) have been reprinted with permission of Great Potential Press (formerly Gifted Psychology Press). This publication, or parts thereof, may not be reproduced in any form without written permission of Great Potential Press.

Name of Person Completing this Form: Mrs. E.
 Position: G/T Coordinator
 Who initiated the consideration of acceleration? Student (see attached letter) Parents
 Educator (Please indicate name: _____ and position: _____)

(Sections II through V have been omitted from this figure. See the IAS manual for a detailed description of these Sections.)

Section VI: Academic Ability and Achievement**Part A: Ability Test Results**

NOTE: Although an IQ score is not a perfect measure of ability, research has shown that individualized intelligence test scores are excellent predictors of academic success.

For each item below, circle the number to the right of the response that best describes the results of tests which the student has completed.

On an individualized intelligence test (name of test: WISC-III) administered within the last three years, the student's overall IQ score was:

Please circle one.

- Between one and two standard deviations above the mean (115–129)
 Between two and three standard deviations above the mean (130–144)
 Three or more standard deviations above the mean (145–above)

If a score is unavailable, an individualized IQ test, such as the WISC-III, Binet IV, or W-J Cognitive Ability Scale, should be administered and the results incorporated into this decision-making process about acceleration. (If the score is below 115, see Section II, Critical Items.)

Comments or concerns: Verbal Score in Superior Range, Performance Score in High Average to Above Average Range. This is NOT a concern.

Part B: Achievement Test Results

Grade level achievement test administered within the last year:

Name of test: ITBS
 Please indicate the type of test used: Individual Group

Above-grade level achievement test administered within the last year (if available):

Name of test: _____
 Please indicate the type of test used: Individual Group

Please circle one number in each category for #1 (i.e., grade level test results). Then circle one number in each category for #2 (i.e., above-grade level test results), or circle the option given for #3 if above-grade level test results are not available.

	Vocab- ulary	Total Reading	Total Math	Total Language	Total Social Studies	Science	Other (Math Concepts)
1. On a grade level test, the student: Performed at <90th Percentile: Performed at >90th Percentile:	0 ②	0 ②	0 ②	0 ②	① 2	① 2	0 ②
2. On an above-grade level test, the student: Performed at <90th Percentile: Performed at ≥ 90th Percentile:	0 2	0 2	0 2	0 2	0 2	0 2	0 2
3. Above-grade level test results not available	-	-	-	-	-	-	-

Comments or concerns: Language Total from Grade 1 not available for Grade 2

Add all of the numbers circled from Part A and Part B to calculate the Academic Ability and Achievement (AAA) Subtotal: 12
 If this (AAA) subtotal score is < 10, whole-grade acceleration is not recommended.
 If the score is ≥ 10, continue on to the next section of this form.

Section VII: School and Academic Factors

Please circle the number to the right of the statement that best describes the student.
 1. Grade Placement Under Consideration

	Please circle one
Acceleration would result in a change in building at the beginning of the first semester of the academic year (e.g., elementary to junior high). In this case, a plan for transition is needed.	①
Acceleration would require the student to attend some classes in another building.	1
Early entrance would be to kindergarten.	3
Early entrance would be to first grade.	4

Comments or concerns: Acceleration would mean a change in building.

(The following items have been omitted from Figure 10.2: items 2-7 from Sections VII: School and Academic Factors; Section VIII: Developmental Factors; Section IX: Interpersonal Skills; and Items 16-18 of Section X: Attitude and Support.)

Section X: Attitude and Support

19. Planning for Acceleration Prior to Completing the IAS Form

	Please circle one
No prior planning or gathering of information has taken place or been shared regarding this student's acceleration	0
Limited staffing, information sharing, and planning have occurred regarding this student's acceleration	①
Extensive staffing, planning, and discussion have occurred regarding this student's acceleration	2

Comments or concerns:

Section XI: Scale Subtotals, IAS Grand Total, and Guidelines

Is the Academic Ability and Achievement (AAA) Subtotal Score ~~200~~ Yes X No —
 If AAA Subtotal is <10, do not consider whole-grade acceleration.

Academic Ability and Achievement Subtotal	12 of a possible 32 points
School and Academic Factors Subtotal	15 of a possible 22 points
Developmental Factors Subtotal	6 of a possible 9 points
Interpersonal Skills Subtotal	14 of a possible 16 points
Attitude and Support Subtotal	8 of a possible 11 points

Add the above five scale subtotals together to equal the IAS Grand Total:

lowa Acceleration Scale Grand Total 55 of a possible 90 points

Guideline for Interpreting the lowa Acceleration Scale Grand Total:

70 to 90 total points	Student is an excellent candidate for whole-grade acceleration. Acceleration is recommended.
54 to 69 total points	Student is a good candidate for whole-grade acceleration. Acceleration is recommended.
43 to 53 total points	Student is a marginal candidate for whole-grade acceleration. There is no clear recommendation. Review materials closely and carefully consider alternatives.
42 or fewer total points	Whole-grade acceleration is <i>not recommended</i> . Consider single-subject acceleration, mentoring, enrichment, or other alternatives.

Analysis of Team Decision and Outcome

Jenny:

Current Grade: 3rd Grade, with acceleration in Reading and Language Arts
Proposed Grade for Acceleration: 5th Grade
IAS Score: 55 (Good Candidate for Whole-Grade Acceleration)

Overall, Jenny is a good candidate for acceleration into the fifth grade. One concern did suppress her score, and this was indicated in Section VII, Item 1, Grade Placement Under Consideration. Jenny earned a zero on this item, because acceleration at this point in time would result in a mid-year change in buildings—she would be moved from the elementary school to the junior high school. Because the acceleration is still recommended, however, a plan needs to be in place so that Jenny can make the necessary adjustments in the new environment. This plan includes specifically implementing some of the typical transition activities experienced by fourth graders.

Note: In reality, Jenny's acceleration took place several years ago. Because of this, we have been able to track her progress. At the beginning of the trial period, Jenny was treated much like a transfer student and was given special consideration regarding the change in her routine. In no time, though, her mother reported that Jenny had adapted to the new setting like "a fish to water." A critical factor to the success of this intervention was the receiving teacher's willingness and openness to having Jenny in her class. This set the tone for the rest of the class. Additionally, the receiving teacher was involved in the planning phase of the acceleration process, which eased some of Jenny's anxieties. It was clear from the beginning of the process that Jenny knew what she wanted and was willing to work with the teachers to assure that she was in a challenging setting.

Jenny was very satisfied with her school experience as a result of the acceleration. She was appropriately challenged, and her enthusiasm for school remained undiminished throughout high school and into college. All indicators continue to confirm that the acceleration was a successful educational intervention.

Jenny's Letter to the Principal

Dear Mrs. S

I find that the work I'm being given is very discouraging because it's much too easy. Most of it I know so I do the work catch on and I have to wait for the others to catch on. The grade I'd like to go to best would be college but since I can't I have something more challenging. Say for instance I could go to any Grade I want as long as Long as is in Presidential Elementary Or Presidential Middle School. I like to try 5th Grade I don't but it would be nice to go there and see what it's like. I don't care if I leave Presidential Elementary cause I really don't have anything really important or true friends that I'd miss

Sincerely, Jenny

considered. As demonstrated in the sample case (see Figure 10.2), and in addition to the required information from an IQ test, the IAS asks for achievement results from both grade-level and above-grade-level testing. A student must have grade-level test results, and although above-grade-level testing is not required, it is strongly recommended. (With the increase in participation in talent searches of both

Jenny expressed her desire to be skipped into a higher grade. Her motivation and advanced language skills are apparent in this poignant letter. The absence of above-level testing information should be noted. When Jenny's case was presented, the availability of above-level testing through elementary talent searches was relatively limited, and Jenny's school district was not participating at that time. Nonetheless, the team's ultimate decision was that she be accelerated.²

When Is an Assessment Important for a Gifted Student?

Identification and Programming

The National Association for Gifted Children (1998) *Pre-K–Grade 12 Gifted Program Standards* includes five guiding principles, two of which are relevant to a discussion about assessment. Principle 3 states that, "A student assessment profile of individual strengths and needs must be developed to plan appropriate intervention." Exemplary standards for this principle state that "Individual assessment plans should be developed for all gifted learners who need gifted education. An assessment profile should reflect the gifted learner's interests, learning style, and educational needs." Principle 4 states that, "All student identification procedures and instruments must be based on current theory and research." The exemplary standards for this principle include: "Student assessment data should come from multiple sources and include multiple assessment methods. . . . Student assessment data should represent an appropriate balance of reliable and valid quantitative and qualitative measures."

Although these standards are well intentioned, they do not provide the typical educator of the gifted with a great deal of guidance about specific steps to take. Educators need to be thoroughly informed before embarking on an assessment. However, only through an assessment will educators be able to provide students with a curriculum that is based upon the learner's needs.

2. In the IAS manual, Jenny's case is reproduced in its entirety. Sections of Jenny's case have been reprinted in Figure 10.2 with permission of the publisher, Great Potential Press, formerly Gifted Psychology Press.

The Twice-Exceptional Student

The twice-exceptional student is exceptional in at least two ways: (a) Giftedness is one of the exceptionalities, and (b) one or more disabilities, for example, a physical, learning, and/or emotional disability, represents the second exceptionalality. Combining the terms *gifted* and *learning disabled* may seem to pose a conflict to some, especially to those who may still adhere to Terman's (1925) conclusions. Although Terman's work was important because it dispelled the myth of the sickly, socially awkward child and introduced us to the gifted child as an individual with superior intelligence, in good health, and socially well-adjusted, these same conclusions masked our awareness that some gifted children also had physical, learning, or social-emotional exceptionalities that needed to be addressed.

Since the 1975 passage of PL 94-142, there is increased public awareness regarding the characteristics of all students with disabilities. Public awareness has grown to recognize that many students with disabilities are also gifted, and vice versa. For comprehensive discussions on students who are gifted and learning disabled, see Brody and Mills (1997) and Cohen and Vaughn (1994). Kaufmann and Castellanos (2001) provide an excellent review of the gifted student with ADHD, and Nelhart (2000) posits that gifted children with Asperger's Syndrome are under-identified because some of their behaviors are incorrectly attributed to learning disabilities.

For most students who are twice-exceptional, an IQ test is a critical first step to discovering their giftedness, but the analysis of the IQ test profile must go beyond the score to look at patterns of strengths and weaknesses, especially within the context of the newer theories of intelligences.³

Which Tests Are Recommended for the Assessment of Gifted Students?

Assouline and Lupkowski-Shoplek (in press) have developed for educators and parents "Consumer Guidelines for Educational Assessments," which includes:

1. The assessment question guides the selection of tests and drives the recommendations. Parents should be

3. See Chapter 7 by Sternberg and Chapter 8 by von Karolyi, Ramos-Ford, and Gardner.

- involved in formulating the assessment question.
- Know what types of tests are appropriate and useful for obtaining the needed information. A general ability test can be helpful in predicting success in school, but won't give enough specific information about a child's specific aptitude, for example, mathematics, to determine placement in a mathematics class or programming within that class.
- Confirm that the person conducting the assessment has appropriate training. A teacher who is familiar with the directions can administer some tests. Other tests require extensive training, and the person administering them usually has an advanced degree.
- Test results should be reported in written form. This report should include the actual test scores, which should be presented within an educational context. A test score, by itself, is of little value.
- Verify that the report will include several specific recommendations individualized to the child who was tested. A photocopyied list of pre-published educational practices is not acceptable.
- Reports should be completed and sent in a timely fashion, that is, within one month after the assessment has been completed. Parents should be notified of any delays.
- Parents should know whether a test will be administered as a group or individually. If the test is individually administered, parents should know in advance whether the test is designed for electronic response, paper and pencil response, or whether the student will respond orally.
- Cost may be an issue for some parents. At one end of the cost-continuum, testing might be done through the school district at no cost to parents. At the other end of the cost-continuum, parents might pay several hundred dollars, especially for a thorough assessment that includes an individualized intelligence test.

SUMMARY AND CONCLUSIONS

This chapter highlighted the brief history of testing and its role in the educational lives of gifted children. Much of the chapter was a defense of testing as the primary way in which psychologists and educators obtain the information necessary for placement and programming. Although the general public, as well as some educators, sometimes criticize testing as an unnecessary educational practice, there is strong evidence that testing should continue to be an integral part of the education of all students, and gifted students in particular. The two case studies demonstrated the importance of a professional interpretation of the results from testing to the educational decision-making process.

QUESTIONS FOR THOUGHT AND DISCUSSION

- What can an individualized intelligence test tell you about a student? How important is the score from an IQ test to the understanding of a student's learning needs?
- According to Assouline, testing is one of four components of an assessment. Why was testing described as the most important component? How do the other three components fit into an assessment?
- Imagine that a school board member wants to eliminate testing from the gifted education program to save money. The person believes that testing should be replaced with "portfolio assessment." List five to seven points from this chapter that would be your response to this board member's recommendation.
- Think of an elementary student in your school district who needs accelerated experiences. How would testing fit into curricular planning for that student?
- Some gifted students also have a learning and/or social emotional disability. How can an assessment help educators and parents achieve a better understanding of such a student?

REFERENCES

- American Heritage College Dictionary (3rd ed.). (1993). Boston: Houghton Mifflin Co.
- Anastasi, A. (1988). *Psychological testing* (6th ed.). New York: Macmillan.
- Assouline, S. G., Colangelo, N., & Luptowski, L. (1993). *The Iowa acceleration scale*. Belin-Blank Center, The University of Iowa, Iowa City.
- Assouline, S. G., Colangelo, N., Luptowski-Shoptik, A. E., & Lipscomb, J. (1999). *The Iowa Acceleration Scale manual*. Scottsdale, AZ: Gifted Psychology Press.
- Assouline, S. G., & Luptowski-Shoptik, A. E. (In press). *Developing mathematical talent: A guide for teachers and parents of gifted students*. Waco, TX: Prufrock Press.
- Brody, L. E., & Mills, C. J. (1997). Gifted children with learning disabilities. *Journal of Learning Disabilities*, 30, 282-296.
- Cohen, S. S., & Vaughn, S. (1994). Gifted students with learning disabilities: What does the research say? *Journal of Learning Disabilities: A Multidisciplinary Journal*, 5(2), 87-94.
- DeHann, R. F., & Havighurst, R. (1961). Educating gifted children (rev. ed.). Chicago: University of Chicago Press.
- Elliott, C. D. (1990). *Differential ability scales*. San Antonio, TX: Psychological Corporation.
- Feldhusen, J. F., & Jarwan, F. A. (1993). Identification of gifted and talented youth for educational programs. In K. A. Heller, F. J. Monks, & A. H. Passow

- (Eds.), *International handbook of research and development of giftedness and talent* (pp. 233-252). Oxford: Pergamon.
- Feldhusen, J. F., Proctor, T. B., & Black, K. N. (1986). Guidelines for grade advancement of precocious children. *Roeper Review*, 9, 25-27.
- Gallagher, J. J. (1996). Educational research and education policy: The strange case of acceleration. In C. P. Benbow & D. Lubinski (Eds.), *Intellectual talent: Psychometric and social issues* (pp. 83-92). Baltimore: Johns Hopkins University Press.
- Galton, F. (1869). *Hereditary genius*. New York: Macmillan.
- Hannell, D. D., Brown, L., & Bryant, B. R. (1992). A consumer's guide to tests in print (2nd ed.). Austin, TX: Pro-Ed.
- Kaufmann, F. A., & Castellanos, F. X. (2001). Attention-Deficit/Hyperactivity disorder in gifted students. In K. A. Heller, F. J. Monks, R. J. Sternberg, & R. Subotnik (Eds.), *International handbook for research on giftedness* (2nd ed., pp. 621-632). New York: Elsevier.
- Kulk, J. A., & Kulk, C. C. (1984). The effects of accelerated instruction on students. *Review of Educational Research*, 54, 409-425.
- Lohman, D. F., & Hagen, E. P. (2001). The Cognitive Abilities Test (Form 6). Chicago: Riverside Publishing.
- Luptowski, A. E., & Assouline, S. G. (1992). *Time and Johnny love math: Recognizing and encouraging mathematical talent in elementary students*. Unionville, NY: Trillium Press.
- McGrew, K. S., & Flanagan, D. P. (1998). *The intelligence test: A reference*. Boston: Allyn and Bacon.
- Murphy, L. L., Impara, J. C., & Plake, B. S. (Eds.). (1999). *Tests in print V*. Lincoln, NE: Bureau of Mental Measurements.
- Naglieri, J. A., & Kaufman, J. C. (2001). Understanding intelligence, giftedness and creativity using the PASS Theory. *Roeper Review*, 23, 151-156.
- National Association for Gifted Children. (1998). *Pre-K—grade 12 gifted program standards* [Electronic version]. Retrieved from <http://www.nagcs.org/webpage12.htm>.
- Neihart, M. (2000). Gifted children with Asperger's Syndrome. *Gifted Child Quarterly*, 44, 222-230.

- Otis, A. S., & Lennon, R. T. (1995). *The Otis-Lennon school ability test* (7th ed.). San Antonio: Harcourt Brace Educational Measurement.
- Passow, H. (1993). Nation/state policies regarding education of the gifted. In K. A. Heller, F. J. Monks, & A. H. Passow (Eds.), *International handbook of research and development of giftedness and talent* (pp. 29-46). Oxford: Pergamon.
- Robinson, N. M. (1992). Stanford-Binet IV, of course! Time marches on! *Roeper Review*, 15, 32-34.
- Ross, P. O. (1993). *National excellence: A case for developing America's talent*. Washington, DC: U.S. Department of Education.
- Sattler, J. M. (2001). *Assessment of children* (4th ed.). San Diego: Sattler.
- Silverman, L. K., & Keaney, K. (1992). The case for the Stanford-Binet L-M as a supplemental test. *Roeper Review*, 15, 34-37.
- Southern, W. T., & Jones, E. D. (1991). *The academic achievement of gifted children*. New York: Teachers College Press.
- Termin, L. M. (1992). A symposium: Intelligence and its measurement. *Journal of Educational Psychology*, 72, 127-133.
- Termin, L. M. (1995). *Genetic studies of genius* (vol. 1). Stanford: Stanford University Press.
- Thorndike, R. L., Hagen, E. P., & Sattler, J. M. (1986). *Stanford-binet intelligence scale* (4th ed.). Chicago: Riverside.
- U.S. Commissioner of Education. (1972). *Education of the gifted and talented* (Report to the Congress). Washington, DC: U.S. Government Printing Office.
- Wassermann, S. (2001). Quantum theory, the uncertainty principle, and the alchemy of standardized testing. *Phi Delta Kappan*, 83(1), 28-40.
- Wechsler, D. (1997). *Manual for the Wechsler Intelligence Scale for Children—third edition*. San Antonio: The Psychological Corporation.
- Wiggins, G. P. (1993). *Assessing student performance*. San Francisco: Jossey-Bass.