

Understanding & supporting gifted learning disabled students

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Who we are talking about

What do Albert Einstein, Thomas Edison, Leonardo DaVinci, Walt Disney, Whoopi Goldberg, Lindsay Wagner, and Robin Williams have in common? All are reported to have learning disabilities. In a similar vein, in his excellent book *In the Mind's Eye : Visual Thinkers, Gifted People with Learning Difficulties*, West (1991) profiles eleven of the world's greatest thinkers. The two concepts, far from being at opposite ends of the learning spectrum, are related and need to be integrated.

Examples of gifted underachieving students

To his teachers, Adam was a conundrum. He was a very quick thinker, but not in the ways that would help him excel academically. He had excellent knowledge of a range of subjects but this didn't seem to help him achieve academic success. His answers to questions were unexpected, although, when analysed, creative. On excursions he could be relied on to see ways around obstacles that arose; his teachers valued his 'native intelligence' on these occasions. It was less valued in classroom contexts in which they might be developing a topic with a group, and Adam would interject with ideas and questions that were either 'marginally relevant' or 'further down the track'. They wished he would put his energy more into improving his spelling and writing ability, that were extremely low, and his recall of the times tables.

Ann, an eight year old, was also perplexing to her teachers. In class she was 'off task' and daydreamed a lot. She did not finish most tasks, frequently lost her place and made many careless errors. Her distractibility meant that she was frequently disruptive. As a consequence, her level of academic achievement was low. Her teacher interpreted her inattention and impulsivity as a lack of interest in learning and her preference to avoid tasks. As well, however, her teacher noticed her comparatively high level reading ability and her advanced oral language capacity and had difficulty reconciling the two sets of observations.

Approximately 30 per cent of gifted students display a learning disability, with 10 per cent reading at two or more years below their grade level. They are referred to as being 'gifted learning disabled' or as having the dual exceptionalities of giftedness and learning disabilities. For these students, their learning disability is more likely to be recognised and targeted in teaching than their gifted ability.

These students

- display a general learning capacity that is characteristic of students who are gifted, in parallel with academic performance that is often substantially below what would be expected based on their intellectual ability
- display creative, unexpected learning outcomes in a range of areas but are not good at learning conventional ideas at school.
- have difficulty showing what they know in acceptable, permitted, valued ways
- are frequently poorly understood by teachers and their peers, classified either as underachieving or as average achieving.
- are not recognised for what they do know and may not receive the teaching necessary to help them achieve their potential.

When examined in depth, these students display the characteristics of giftedness. However, this is masked by comparatively low levels of academic achievement. They are termed 'gifted underachievers' or students 'with dual exceptionalities'.

The low achievement can be due to a range of causes, for example,

- attention deficit hyperactivity disorder (ADHD)
- socioeconomic status or culture .
- learning disabilities. These students display comparative underachievement in areas such as reading, spelling and mathematics.

The learning characteristics of gifted underachievers

These students have superior general intellectual ability in areas that don't match school knowledge without equal abilities in others.	Two groups <ul style="list-style-type: none"> • 'gifted visual-spatial learners' show superiority in nonverbal and imagery areas. Visualization is key in thinking. They show superior learning outcomes in 'outside of class' areas. • strengths in verbal and nonverbal areas and poorer performance strategic attention, sequencing, handling and learning arbitrary information and using symbolism. They have extensive vocabularies, conceptual abilities and general knowledge.
over-use wholistic than analytic sequential strategies when converting information to knowledge, thinking.	More likely to learn in an all-or-none fashion rather than stepwise, <ul style="list-style-type: none"> • show intuitive thinking, • learn by self programming, less likely to be easily programmed; they don't sit waiting to be programmed, waiting for 1..5 ; instead they want to tell you what think about the ideas. They may day-dream, find it hard to concentrate on tasks as directed by others. • generate questions to guide their learning, • engage in 'far transfer' of their knowledge • learn meaning patterns than by rote memorization. • more likely to be discipline problems, less able to learn spontaneously 'rules of play', less likely to be organised • more difficulty learning rules and procedures when they are presented as such
show comparatively low self-concept, low self-efficacy, high levels of frustration, anxiety and self-criticism	When teaching recognises their giftedness, either alone or with their learning disabilities, have higher self-concepts than those receiving services only for the learning disabilities. Higher self concepts for out of school capacities.
have low resilience	Resilience is the protection individuals use to buffer themselves from stressful events and to maintain self-concept and self-efficacy when faced with adversities. GLD students show social-emotional characteristics that increase their vulnerability, for example, hypersensitivity, emotional lability, and high levels of frustration, anxiety, and self-criticism.
show higher intrinsic or self-motivation in areas of interest, poor motivation to learn in the academic areas	They show higher internal motivation. Their self drive clashes with the extrinsic motivational climate in most conventional teaching. They have difficulty orienting to external motivation. When their teachers see a level of academic potential, they are frequently identified as being lazy or lacking motivation.
show metacognitive strategy use more like that of their gifted peers	They use evaluation strategies similar to skilled readers but are less efficient in detecting errors and in using 'while reading' strategies such as visualising, paraphrasing and planning. They show higher metacognitive proficiency for knowledge in which they are more proficient.
have difficulty showing what they know	They are less able to show their knowledge in literacy-oriented ways, get less positive feedback for what they know, learn less about how to 'read' assessment contexts and to how to align what they know with assessment tasks. They may become alienated.
show uneven rates of development	'asynchronous development' leads to difficulties with social relations and self esteem if classmates react negatively. Peer feedback and acceptance tells them they differ from peers and worry about the implications of these differences. They know they think differently from peers and see implications and solve problems faster and more effectively but cannot learn the academic knowledge that peers generally seem to learn with comparative ease. They may attempt alternative paths to fit in with others and be acceptable to peer group. If these are not successful, they may show dysfunctional behaviours, for example, become behaviour management problems or withdraw from learning.

set high standards and goals, 'perfectionists'	Their high expectations and low achievement in academic subjects can lead to a fear of failure and avoidance of subjects in which they do not achieve a high level of success.
may have good social skills but use them inconsistently, poor peer relationships	Confusion about their mix of special abilities and deficits can lead to frustration, unhappiness, and isolation and can lead in turn to anger and resentment toward others, which may affect their interactions and relationships with peers and family members.
show particular literacy learning characteristics	<ul style="list-style-type: none"> • for familiar contexts, reading comprehension >> word reading accuracy • spelling causes difficulty, both phonological and orthographic processing difficulties • expressive writing shows a rich set of ideas but lack of writing conventions • dislikes drill and practise in areas such as maths, spelling

Visual-spatial learners exhibit stronger visual-spatial than auditory sequential abilities.

Learning characteristics of visual spatial learners

Strengths	Weaknesses
thrive on complexity love open-ended challenges and difficult puzzles keen visual memory creative, imaginative focus well on topics of interest to learner systems thinkers high abstract reasoning great at geometry, physics do better at math analysis high reading comprehension excellent sense of humor	struggle with easy material hate drill and repetition poor auditory memory not good at rule learning inattentive in class for topics decided by others disorganized; forget details difficulty memorizing facts poor at phonics, spelling poor at calculation low word recognition performs poorly on timed tests

The learning characteristics of these students can be better seen by contrasting them with those of auditory sequential students.

visual-spatial learners	auditory-sequential learners
prefer whole-part learning strategies	prefer step-by-step learning strategies
show visual strengths	show auditory strengths
learn concepts all at once	learn by trial and error
synthesize ideas well	analyse ideas well
see the big picture; may miss details	attend well to details
learn well by seeing relationships	learn well by rote memorization
recall well from long-term memory	use short-term memory well
generate their own methods of organization	learn the culture's ways of organizing well
develop own methods of problem solving	learn from model by imitation, often vicarious
learn difficult concepts easily; struggles with easy skills	progress sequentially from easy to difficult material
solve problems intuitively	shows components of problem solution easily
learns well (eg., other languages) through immersion	learns well through structure in classes
are sensitive to teachers' attitudes	learn in spite of emotional reactions
learn concepts permanently, turned off by drill and repetition	may need some repetition to reinforce learning
are better at math reasoning than computation	do well at arithmetic
read diagrammatic information, maps well	follow oral directions well
learns sight words better than phonics	learn phonics easily
must visualize words in order to spell them	can sound out spelling words
prefer key boarding to writing	have neat handwriting
perform better in untimed situations	perform well in timed tests
generate unusual solutions to problems	are comfortable with one right answer
develop quite asynchronously	develop in a fairly even manner
may have very uneven grades	usually maintain high grades
enjoy geometry and physics	enjoy algebra and chemistry
are creatively, mechanically, technologically, or emotionally gifted	are academically talented

are late bloomers	are early bloomers
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Identifying these students

In practice it is difficult to identify students who are both gifted and learning disabled. Three groups tend to go unidentified:

- Those identified as being gifted, yet have difficulties with parts of their school work. They are often considered to be underachievers and their learning disabilities tend to remain unidentified.
- Those whose learning disabilities are severe enough to have been recognised.
- Those whose abilities and disabilities mask each other and are seen to have average abilities.

Using dynamic assessment to identify them. You assist the learner to do assessment tasks and note the conditions under which the learner's ability to display knowledge is facilitated.

Suppose a gifted reader has a strong imagery preference. The student may have difficulty displaying high level comprehension because he cannot link the verbal information in the text with his rich imager knowledge. To investigate this possibility, you could remind the reader to visualise the possible topic of the text and then to talk in sentences about what he 'sees in his mind's eye' when he hears the topic. By recoding his imagery knowledge into sentences, the reader may be more able to link the text with what he knows and to reason about it at a high level. In this way the examiner can gain an impression of what the reader could have comprehended if he had his knowledge stored in verbal form.

Assess general ability	Show high general intellectual ability, well developed knowledge, extensive vocabularies, conceptual and verbal reasoning abilities: <ul style="list-style-type: none"> • 'gifted visual-spatial learners' • lower performance on tasks that require attention, sequencing skills and learning arbitrary information.
Assess creativity and divergent thinking	Instances of creativity and divergent thinking in creative writing, art work, contributions to group projects and problem solving, investigations that involve work beyond the classroom, evidence of 'far transfer'
Assessment of learning disability	low achievement in one or more areas of academic learning by administering relevant achievement tests, for example, tests of reading comprehension, spelling or mathematics.
Specific aptitude in particular areas	student's strengths in interests, hobbies and performance in other academic areas; use behavioural observations, student presentations, teacher nominations and structured interviews
Assess level of intrinsic motivation to learn	use behavioural observations, questionnaires and structured interviews to investigate the level of intrinsic motivation, 'self driven to learn more' about topics and issues that interest them.
Assess self-concept	use behavioural observations, questionnaires and structured interviews to assess students' self-concept, self-efficacy and level of frustration and anxiety for learning both in and out of school. use dynamic assessment procedures to identify the conditions under which a student's beliefs in these areas changes.
Assess metacognition, self management of learning	have students 'think aloud' before they begin tasks and as they do them use questionnaires and structured interviews to ask students to comment on what they believe they do when they learn. use dynamic assessment to observe how students use metacognition.
Assess ability to show what is known	Difficulties include comprehending task requirements, aligning one's knowledge with the task demands, spelling and writing effectively. Give students alternative ways to show what they know about a topic and select the mode for doing this, for some tasks.
Take account of uneven rates of development	Note behaviours to do with immaturity or unacceptability. Look for uneven development and help to collate a complete picture that includes what a student does do and know, as well as areas in which the student shows immaturity.

The knowledge students need to learn The knowledge students need to learn: two types:

- academic knowledge; culturally valued knowledge they learn at school.
- personal interest knowledge.

These students prefer personal interest knowledge; to be 'successful students' they need to learn the culturally valued knowledge.

- *What I know doesn't fit*
- *I want to do it my way*
- *What will happen if I don't fit ?*

Balance students needing to

- modify their ideas to match culturally-defined ideas with being expecting them to be programmed.
- manage their learning with the opportunity to learn how to learn in groups.
- make opportunities to show what they know in preferred ways as well as learning conventional ways for doing this and that increase the likelihood of group valuing

These need a broader range of teaching strategies

Learning characteristics of gifted children with learning disabilities. There is a need to

Signs of Giftedness	Signs of Learning Disabilities
excellent long-term memory	poor short-term memory
extensive vocabulary	speaking vocabulary exceeds written vocabulary
higher reading comprehension	difficulty with decoding words
higher in mathematical reasoning	difficulty with computation
advanced verbal skills in discussions	refuse to do written work
facile with computers	handwriting is illegible
learn abstract concepts	have difficulty with spelling and phonics
performs better with more challenging work	struggle with easy, sequential material
prefer complexity	have difficulty with rote memorization
highly creative, imaginative	often inattentive in class
reason well	emotions can overpower reasoning
are keen observers	poor auditory memory
may have acute hearing	poor listening skills
have very interesting ideas	weak in language mechanics, such as grammar, punctuation, capitalization, etc.
extremely curious; asks many questions	not motivated to learn externally determined topics
have high degree of energy	perform poorly on timed tests
perceptive and insightful (seems "wise")	disorganized
excellent sense of humor	find clever ways to avoid weak areas
may excel at art, science, geometry, mechanics, technology, or music	may fail at foreign languages and subjects emphasizing audition, sequencing, memory

Implications for teaching gifted and talented students

Help students get their knowledge of a topic ready for learning

Type of activity	Example of activity
<i>What does the topic tell you ?</i> Give students a topic. They write the text, draw a picture or act out its possible theme. How did they decide ? They ask "What does it remind me of ?"	Write this topic: <ul style="list-style-type: none"> • <i>Tools used when working with Timber</i> • <i>Species are becoming extinct every day</i>
<i>What do these mean to you ?</i> Give 10 topic words from the text to groups of students. They <ul style="list-style-type: none"> • visualise the topic • describe what the words remind them of • suggest questions that the words might cause them to ask. 	Name Personal details Existing loans Writing Application form What I own How much I owe
<i>This is how it begins.</i> Read out the first sentence of several paragraphs. What do these tell you about the text ? What picture/s do they suggest ? What do they remind you of ?	<ul style="list-style-type: none"> • Like many animals the giant panda needs a special environment to survive • While there are many types of bamboo, the panda will only eat four types • It takes fifty to sixty years for a bamboo plant to mature

<p><i>Brainstorm the topic: What might the topic tell you ?</i> Pupils say or write down all they think of when they hear a topic.</p> <p>They can brainstorm</p> <ul style="list-style-type: none"> • what they know about the topic, factual knowledge • their earlier experiences that seem relevant, things that they have done, seen on TV. • vocabulary possibilities • how the ideas will be written. 	<p>Getting credit will be harder. What things might the topic tell us ?</p> <p>What questions the topic might answer ?</p> <ul style="list-style-type: none"> • What ideas / words might come up in it ? What words they might expect ? • What ways of writing ? <p>Ask the '4W and 1H' questions and then move into more in-depth, probing questions.</p>
<p><i>Think, pair, share.</i> Readers note possible ideas in a topic, pair with other students and share their thoughts.</p>	<p>The Lives of Stars</p>
<p><i>Ask me about the topic.</i> Students have mock interview activities in which one student interviews another about the topic, for example, one student does a radio interview with another student who tries to get a bank loan when it is harder..</p>	<p>Pythagorus' Theorem Training methods for sports</p>
<p><i>You write the article .</i> Give students headlines and have them write possible articles to follow. They can work on this in group activities</p>	<p>Pandas in danger of becoming extinct</p>
<p><i>What can I say in 1 minute ?</i> Students prepare a 1-minute (2-minutes, 5-minutes) oral talk on the topic.</p>	<p>Pythagorus' Theorem</p>
<p><i>What can I draw / act out about the topic ?</i> Pupils draw a picture or act out what they know about a topic.</p>	<p>Pythagorus' Theorem</p>
<p><i>Select the most likely story.</i> Give students a topic and possible themes Give students options for the topic and ask "<i>Is it more likely to be about .. or ..?</i>"</p>	<p><i>Getting credit will be harder</i></p> <ul style="list-style-type: none"> • Banks want you to borrow money You will pay less to borrow money • Banks will need more information about you before they will lend you money
<p><i>Students put their visual imagery knowledge about a topic into words.</i> They</p> <ul style="list-style-type: none"> • visualise the topic and discuss the pictures they make when they hear the topic, for example,? "What can you see happening ?" • recode their images into words to match them with the written prose. • predict from pictures in the topic, discuss illustrations. 	<p>"This topic is about how work habits have changed over the last 20 years . What do you see in your mind when you hear this topic</p>
<p><i>Have you read about / experienced ... ?</i> Students</p> <ul style="list-style-type: none"> • imagine themselves in the context • respond emotionally to the ideas, say how they have felt about these ideas previously. <p>They can rate the ideas on a 'values thermometer</p>	<p><i>Getting credit will be harder</i></p>
<p><i>Ask students questions about the topic before the reading begins.</i> Use directed questions about the topic before students begin reading to stimulate existing knowledge.</p>	<p>What things might threaten the giant Panda ?</p>
<p><i>What do the illustrations tell you ?</i> Students use illustrations to predict the theme. They can see</p> <ul style="list-style-type: none"> • whose interpretation was most accurate. • the importance of talking about the illustrations show putting them into words. 	
<p><i>What don't I know about this topic ?</i> Students list questions and queries that they have about the topic and what they believe they don't know. This is useful for motivating reading.</p>	

Encourage intuitive learning

Intuitive thinking involves making novel links between ideas.

- the connections are not rationally-based and non-analytic.
- terms for intuitive thinking; hunch, gut-feeling, 'just know', intelligent guess, possibility.
- comes out of sets of experiences (episodic knowledge).
- allows learners to integrate 'big' ideas, make large steps in learning, think creatively.

You can

- Allow students to operate intuitively at the beginning of a learning unit, for example, to suggest what they think are possible outcomes, explanations, ways of doing something.

Having worked through the ideas, they can compare their intuitions with the outcomes. While they can explain their intuitions to others, they should not be expected to argue them rationally.

- Help students learn the value of intuitive thinking and when it is useful.
- Discuss with students earlier intuitive discoveries made in the area of study. In science and maths related subjects, these can be drawn from the history of science.

Encourage students to use rational knowledge to build intuitive knowledge (imaginal episodes)

Allow students to learn new ideas in each area of knowledge

Code ideas culturally, socially, historically How has prejudice been used / described in history ? How does it occur in different communities ? What problems does it cause ? How can communities control it?	Code ideas scientifically What causes prejudice ? How is it changed? What matches prejudice for solids ? When is it more likely ? Why ? Are there degrees of prejudice ? Is individual prejudice different from group prejudice ?	Code ideas affectively What feelings would you have if you experienced / did prejudice ?
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How prejudice is presented in narratives

Code ideas verbal -linguistically Brain-storm ideas ----> concept map -----> network map Paraphrase, summarise text that explains prejudice. Key words for prejudice. An person experiencing prejudice /doing prejudice is interviewed. What questions would you ask ? What would each person say ? Ask 6 hard questions about prejudice Write a story / play "Prejudice in our neighbourhood". When else would you use the word 'prejudice' ? Names for the doer and receiver of prejudice ? Discuss situations involving prejudice, what happens.	Code ideas in episodes/ images Imagine, draw, collect situations in which prejudice occurs in narratives: • prejudice in a humorous story • prejudice in a sad story • prejudice because of physical features. Draw a comic strip of instances Useful icons for prejudice ? Classify instances of prejudice.	Code ideas in actions Small groups of students act out a instances involving prejudice. What actions make up prejudice ? What do the action sequences share ? What gestures suggest prejudice ? Is there a reverse action to evaporating ?
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Cue students to think about the idea in different ways for example,

- remind students who prefer to visualise, verbalise or to represent ideas as actions to do so.
- note when to use particular ways of learning.

Help GLD students to recode their knowledge for example, "

What is the capital city of New South Wales ?"

verbal code; network links NSW, Sydney and capital city	episodic code; capital city may not be in episode with Sydney and NSW.	action code; capital city not in episode
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Students can recode ideas when a code is sufficiently well developed to take the ideas. They need

- to learn how to use each code, its features
- to know that it is acceptable to recode, that they are allowed to do this
- to learn how to recode, for example, how to talk about nonverbal images of an idea
- to have time to recode and to gradually automatise the recoding.

Help students improve their knowledge of the beds for learning new ideas.

Teach the key verbal concepts for each topic; teach students to read, spell key concepts, suggest synonyms, antonyms for key words Select about 5 key concepts (single words or short terms) in the content. Plan to work on a small list each lesson

- teach students to read, say and write words that occur in that subject
- support and extend what students already know about reading words
- help them learn meanings of unfamiliar words, learn new meanings for words.
- dictate these to students, say them by 'stretching them out', saying each syllable,
- provide feedback by writing words on board after students have written them

For topic identify main words students may need to read and the sequence in which they will be expected to read / write them.

Examples of word lists

Year 9 English	Year 9 technology	Year 9 SOSE	maths	Phys Ed	Year 9 Chemistry
calmed	temperate	information	circle	power	lustre
fascinated	biome	primary source	circumference	maximum	lattice
impatiently	tropical	secondary source	diameter	endure	metallic bonding
inquisitive	tundra	event	radius	endurance	malleability
curiously	envision	eye witness	area	aerobic	reactivity

You can have students

say accurately each list word	<ul style="list-style-type: none"> if necessary identify each syllable in a spoken word. draw attention to possible areas of pronunciation difficulty ask students to suggest similar sounding words 	
read each word with you / after you	<ul style="list-style-type: none"> read each word in syllables, say each part and then blend syllables; loc-a-tion, sev-er-al. let them see how stress pattern changes when you blend help them see similarities between words on the lists and words they can read - use analogy 	tem-per-ate trop-i-cal tun-dra en-vis-ion en-viron-ment
work on / explain meanings of key words	Each pair of students <ul style="list-style-type: none"> has two words and put together their definition, use each word in a sentence that shows its meaning, write a paragraph / short story using the list words. suggests as many synonyms and antonyms for key topic words. suggests the category the topic words belong to, draw a network diagram linking the word meanings. explore several words, that have the same prefix or suffix, eg., re- or micro- They <ul style="list-style-type: none"> link each word both with what they know about similar words and how it is said segment each written word into parts. guess the meaning of the prefix, in this case, re- . 	alti-tude lat-i-tude tem-per-ate bi-ome
spell the words.	Develop writing and spelling in parallel with reading: <ul style="list-style-type: none"> show how to get from how word is said ask students to write down all they know about a spelling pattern ask students to segment words into syllables and write each syllable. when correcting incorrect attempts, show the syllables / letters that are in the correct positions . help them see the value of syllabifying or having words syllabified for them. 	

Help students learn the new ideas in verbal linguistic ways. Have them

Read aloud short portions of relevant text	
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Paraphrase sentences	<p>After reading a sentence aloud, ask readers :</p> <ul style="list-style-type: none"> • "Say that in your own words. • What does it mean ? or • What is this saying ? • What is another way of saying it • Say it to someone else in another way <p>Practise paraphrasing spoken sentences. Repeat 2 or 3 students' paraphrases of a sentence and ask "Which is the closest paraphrase to the text Give a paragraph of 3-4 sentences to a small group of students. Each student paraphrases one sentence. Combine the four paraphrases into a paragraph Link sentences with paraphrases: Explain what you do when you paraphrase. How does it help you read better ? Give students 3-4 paraphrases and ask them to arrange them in order of closest to furthest away from text</p>
Say questions the text answers	<p>After reading a sentence aloud, ask readers "What question/s does this answer for us ?" In small groups, write down the question that each sentence answers What questions does this text answer ? Does this answer a Who What When Where Why question ? Link each question with the sentence that answers it</p>
Summarise the text	<p>After reading a sentence aloud, ask "What is the main idea in this paragraph ? How is its topic ? Begin by having readers summarise two sentences and then three or more sentences. Develop the notion of the topic sentence. Find the topic sentence in the following. Match each sentence with its head-line</p>
review and consolidate what has been learnt by reading silently a relevant text and showing comprehension	<ul style="list-style-type: none"> • cloze activity, written retelling of text read • answer written questions • match questions with text, match topic sentence with text

Use cooperative, collaborative learning where possible in which students

- co-operate to solve problems, build new knowledge,
- write problems and mock tests for other groups of students,
- share their ideas about a topic, discuss ideas with peers, work in groups to decide what questions might be useful to ask about a topic to be learnt,
- take turns to be the teacher in explaining or justifying an idea, writing problems, suggesting how the ideas occur in everyday life or in hobbies,
- discuss how they might solve a problem or a task, share with others strategies they used,
- discuss what were the main ideas in a topic, the best ways of studying it,
- use puzzles, games and related activities, develop their own games that give them the opportunity to apply their knowledge
- engage in reciprocal teaching procedures for learning new maths ideas .

There are several related attitudes that we can model in our teaching. We can show them that

- (1) at the beginning of a task, we don't have all of the answers, but that, by discussing, trying out ideas, deciding what questions to ask, together can solve the task.
- (2) we are keen and motivated to change our knowledge of the topic and that the working together is not only for our students' benefit but is also helping us.

Particular co-operative learning contexts include

- scripted cooperation procedure; students take part of the content and practise teaching it to the rest of the group.
- reciprocal teaching; students work through the teaching information in small groups and each take responsibility for teaching a part of it. As the group works through the ideas, each student takes turns to lead the others to
 - summarise the topic
 - ask questions about its main points,

- identify difficult parts and work on them by re-reading, etc,
- make predictions about what might happen next .

Help students improve their ways of learning analytically When learning to read, they can be assisted to make optimal use of what they already know:

Stages of reading	Levels of text processing				
	Dispositional level	Topic level	Conceptual level	Sentence level	Word level
Getting ready or orienting stage activities	Focus on purposes for reading: <i>Why am I reading text ? What will I look for as I read ? What will I know when I have finished reading ?</i> Readers say how they will read, the strategies they will use	Link text with what reader knows; by using title, pictures. <i>What do I think text is about? What might the key ideas be ?</i> Extend knowledge necessary for understanding the text.	Link ideas in text with what you know, use mapping, networking. <i>What other ideas might come up with these ? What might happen next ? What questions can I ask about it ?</i>	Focus on how the ideas might be said: <i>How would I put these ideas into sentences ? How would it all someone about them?</i>	<i>"What will I do as I read / come to a strange word?"</i>
While-reading stage: process text and self-monitor	Readers interact with the text; they select and process portion at a time. They work at <ul style="list-style-type: none"> • word level; use letter cluster recoding + context, etc., • sentence level; paraphrase, visualise, question, re-read • conceptual level; predict, tread further, relate what they read to what they expected, • topic level; scan, use topic sentence, main ideas, review, summarise, consolidate the ideas read, gradually build an impression of the text. 				
Post-reading or review stage	Respond emotionally to text <i>How I liked the text ? Were ideas useful /interesting ? Why was the text written ?</i>	Review text understanding: <i>What did the text tell me ?</i> Review, evaluate reading strategies used: <i>What reading actions worked ?</i>	Learn by reading. What new ideas have been learnt; how has reader's knowledge changed ? <i>What new ideas will I remember ?</i>	Add to their knowledge of language, for example, paraphrase ideas in text, note new ways of saying ideas.	What new words were in the text ?

Give students a range of ways of showing what they know about ideas and learn conventional ways as a second step.

Helping them learn strategies for showing what they know by writing.

Useful activities here include

- dictation
- predicting using the genre, cloze, finish off the text
- what is the purpose of the text ?
- reading 'between the lines' the use of persuasive language such as word choice, creating a tone, using evidence to support assertions.

Teaching a set of self-cuing strategies that these students can use to assist them to write in a systematic, organised way, for example,

- self-instructional statements for the pre-writing, planning stage
 - *What is my purpose for writing ? What do I want to say ? Who will read what I write ?*
 - *What form should my writing take ? What will my finished attempt look like ?*
 - *Have I gathered enough information ? Does it meet my purpose ?*
- self-instructional statements for the while-writing stage
 - *What is the first main idea I want to say ? How will I say it ? What ideas go with it ?*
 - *What is the second main idea ? What ideas do with it ?*
 - *How will I start the writing ? What do I want to say first ? How will I tell the reader about the main idea of the passage ?*

- How will I finish off the writing ?
- What will each paragraph be ? What is the main idea in each paragraph ?
- self-instructional statements for the revising, proof-reading stage
 - Is the text on the right track ? Does it do what it is supposed to do ?
 - Do I say too much / too little ?
 - Does it say what I want it to say ? Are there confusing parts ?
 - Are the main points in the right order ?
 - Does the writing begin smoothly ? Do I take too long to get started?
 - Does each paragraph have one main idea ? Are the paragraphs linked well ?
 - Does the writing finish well ?
 - Have I used words that I am not sure of ?
 - Have I checked the writing for correct grammar , correct spelling /punctuation ?
 - Does each sentence have one idea ?
 - Will I use sub-headings ?

Improving their expressive writing Structuring the ideas at a conceptual level

Template	Their second draft
Contextualise the writing Check its purpose Summary of key areas of writing so that reader knows 'what to look for'	
Topic sentence of first main paragraph. Modifying detail of the topic of the paragraph Link to next para and main purpose (optional)	
Topic sentence of second main paragraph. Modifying detail of the topic of the paragraph	
Concluding paragraph; • summarise key ideas, actions to be taken • future directions, open-ended issues	

Structuring the ideas at a sentence level. They check that

- each sentence had one idea or
- conjunctions are used correctly
- the subject, verb and object of each sentence is clear
- continuity is maintained across the sentences.

Help them see themselves making progress. You can do this by

- helping them developing a map or action plan of where they might go through a topic and then note their progress.
- helping them see that they can be 'partly right'
- as they learn new ideas, such as spelling, maths tasks, they can write them on cards and gradually move them across the columns as they learns more.

New word	Not sure	More sure	Really sure	Know word perfectly
new				
have				

Encourage them to set goals for themselves for themselves and to see how to achieve them. Help them to analyse large tasks into a series of smaller tasks, organise these into a schedule of commitments and have 'floating learning episodes'.

Help them learn positive attitudes to learning. Many gifted LD students have unrealistic beliefs about learning and themselves as learners. Help them

- understand their giftedness

- understand themselves as learners

Help them learn to use their independence as learners in functional ways. They need

- to have choices and to learn how to deal with this
- to have time to operate independently, to pursue a topic of interest and be supported in this,
- to learn to allow themselves to be structured or programmed by others in some contexts.

Help them learn to deal with disengagement form learning. Where this arises,

- help them see open-ended aspects of the ideas, frame up questions about the topic
- use brainstorming techniques to help them to extend their knowledge
- help them identify novel ways of displaying their knowledge of the topic
- encourage them to teach you about the ideas
- try to make up games involving the ideas

Help them keep their sensitivities in perspective.

Help them deal with their 'mental energy'. The "Just A Minute" syndrome.

Help them improve their social interaction skills.

- Learning to 'read' group situations
- Learning positive, useful attitudes to others
- Help them improve their peer group social interaction skills.

Develop open-ended aspects of the ideas, problems to be solved, use group problem-solving

Learning how to transfer knowledge can be developed through small group co-operative learning activities. At the end of each topic, engage the gifted underachievers in activities in which they

- suggest situations to which they can transfer the ideas ? Where else might ideas be used ? They distinguish between situations in which the ideas could/ couldn't be used.
- suggest how they can decide where the ideas can be used ? They can suggest, draw, describe new situations in which the ideas could be used.
- note how far they can transfer with / without model ?
- create new episodes for the ideas.
- categorise problem solving contexts in terms of whether the ideas are useful and how.
- answer higher-level Bloom-type question sequence;

apply the ideas in other situations	
analyse the ideas	
put the ideas together in other ways	
evaluate the ideas	

- look at ideas from various angles, for example,

the positive aspects of the ideas	negative aspects of the ideas	how ideas might be used in the future
emotional aspects	Topic	
factual aspects		

- suggest questions the new ideas answer. Students
 - invent, ask and answer questions about the ideas,
 - convert ideas to question form, say the questions the ideas answer.
 - make up mock quiz for peers.

ideas	what	why	when	where	how	what if
