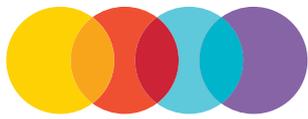


IB CONTINUUM

Meeting student learning diversity in the classroom



International Baccalaureate®
Baccalauréat International
Bachillerato Internacional



IB CONTINUUM

Meeting student learning diversity in the classroom



International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

**Primary Years Programme, Middle Years Programme,
Diploma Programme and IB Career-related Certificate**

Meeting student learning diversity in the classroom

Published May 2013

Published on behalf of the International Baccalaureate Organization, a not-for-profit educational foundation of 15 Route des Morillons, 1218 Le Grand-Saconnex, Geneva, Switzerland by the

International Baccalaureate Organization (UK) Ltd
Peterson House, Malthouse Avenue, Cardiff Gate
Cardiff, Wales CF23 8GL
United Kingdom
Phone: +44 29 2054 7777
Fax: +44 29 2054 7778
Website: www.ibo.org

© International Baccalaureate Organization 2013

The International Baccalaureate Organization (known as the IB) offers four high-quality and challenging educational programmes for a worldwide community of schools, aiming to create a better, more peaceful world. This publication is one of a range of materials produced to support these programmes.

The IB may use a variety of sources in its work and checks information to verify accuracy and authenticity, particularly when using community-based knowledge sources such as Wikipedia. The IB respects the principles of intellectual property and makes strenuous efforts to identify and obtain permission before publication from rights holders of all copyright material used. The IB is grateful for permissions received for material used in this publication and will be pleased to correct any errors or omissions at the earliest opportunity.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior written permission of the IB, or as expressly permitted by law or by the IB's own rules and policy. See <http://www.ibo.org/copyright>.

IB merchandise and publications can be purchased through the IB store at <http://store.ibo.org>. General ordering queries should be directed to the Sales and Marketing Department in Cardiff.

Phone: +44 29 2054 7746
Fax: +44 29 2054 7779
Email: sales@ibo.org

IB mission statement

The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

IB learner profile

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

IB learners strive to be:

Inquirers	They develop their natural curiosity. They acquire the skills necessary to conduct inquiry and research and show independence in learning. They actively enjoy learning and this love of learning will be sustained throughout their lives.
Knowledgeable	They explore concepts, ideas and issues that have local and global significance. In so doing, they acquire in-depth knowledge and develop understanding across a broad and balanced range of disciplines.
Thinkers	They exercise initiative in applying thinking skills critically and creatively to recognize and approach complex problems, and make reasoned, ethical decisions.
Communicators	They understand and express ideas and information confidently and creatively in more than one language and in a variety of modes of communication. They work effectively and willingly in collaboration with others.
Principled	They act with integrity and honesty, with a strong sense of fairness, justice and respect for the dignity of the individual, groups and communities. They take responsibility for their own actions and the consequences that accompany them.
Open-minded	They understand and appreciate their own cultures and personal histories, and are open to the perspectives, values and traditions of other individuals and communities. They are accustomed to seeking and evaluating a range of points of view, and are willing to grow from the experience.
Caring	They show empathy, compassion and respect towards the needs and feelings of others. They have a personal commitment to service, and act to make a positive difference to the lives of others and to the environment.
Risk-takers	They approach unfamiliar situations and uncertainty with courage and forethought, and have the independence of spirit to explore new roles, ideas and strategies. They are brave and articulate in defending their beliefs.
Balanced	They understand the importance of intellectual, physical and emotional balance to achieve personal well-being for themselves and others.
Reflective	They give thoughtful consideration to their own learning and experience. They are able to assess and understand their strengths and limitations in order to support their learning and personal development.

Contents

How to use this document	1
Meeting student learning diversity	2
Other considerations for learning	3
Attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD)	4
Autism	9
Dyscalculia	16
Dyslexia	19
Dyspraxia—developmental coordination difficulties (DCD), motor learning difficulties	24
Gifted and talented or exceptionally able	28
Hearing impairment/deafness	32
Medical conditions/chronic illness	35
Mental health issues	37
Physical disabilities	40
Speech, language and communication needs (SLCN)	43
Visual impairment	50
Appendix	53
IB resources for supporting student learning diversity	56

How to use this document

Inclusion is an ongoing process that aims to increase access and engagement in learning for all students by identifying and removing barriers.

(Learning diversity and the IB Programmes: Special educational needs within the International Baccalaureate programmes, 2010:3)

This publication identifies specific special needs and discusses them in alphabetical order. A summary of the special need is given under the heading of each section, followed by information about possible challenges, suggested teaching strategies and ideas for resources.

This information is for use during planning sessions and workshops when educators are collaborating to meet individual learning needs and to develop inclusive practices. The information is not provided for diagnostic purposes nor is it designed to ensure compliance by schools with any local requirements, legislation or policies regarding educating students with special needs.

Special need terminology has been used to support teachers in better understanding statement and clinical documents and in accessing resources. Students will show diversity within each of the descriptions so it is crucial that educators get to know and understand all of their students' individual strengths and challenges. Collaboration with medical practitioners or specialists, in addition to each student and their families, may be required.

Educators of students with identified learning needs should be aware of national legal implications and follow mandated laws as well as internal school policies with respect to the rights of the student and the legal implications of meeting identified needs.

The following International Baccalaureate (IB) resources provide support for educators.

- *What is an IB education?* (2012)
- *Candidates with special assessment needs* (2011)—specific to the Diploma Programme
- *Language and learning in IB programmes* (2011)
- *Learning diversity and the IB Programmes: Special educational needs within the International Baccalaureate programmes* (2010)
- *Programme standards and practices* (2010)

Further information can be found on the special educational needs page on the online curriculum centre (OCC).

Meeting student learning diversity

Students in IB World Schools come from a variety of backgrounds and will exhibit a range of learning profiles supported by the IB's approaches to teaching and learning. *Programme standards and practices* (2010) provides a set of criteria that both the IB World School and the IB use to evaluate success in the implementation of IB programmes. The following practices require schools to demonstrate their support for a diversity of learning.

- A9 The school supports access for students to the IB programme(s) and philosophy.
- B1:5 The school develops and implements policies and procedures that support the programmes.
- B2:8 The school provides support for its students with learning and/or special educational needs and support for their teachers.
- C1:6 Collaborative planning and reflection incorporates differentiation for students' learning needs and styles.
- C3:10 Teaching and learning differentiates instruction to meet students' learning needs and styles.

It is expected that all students in IB World Schools will experience positive learning environments based upon the IB's four principles of good practice: affirming identity and building self-esteem; valuing prior knowledge; scaffolding and extending learning (*Learning diversity and the IB Programmes: Special educational needs within the International Baccalaureate programmes*, 2010:5). Strengths are celebrated, challenges circumvented.

It is good practice to celebrate the work done with the student by documenting learning progress, school interventions and the learning support procedures that are in place. School documentation should include profiles of individual learning, pertinent policies and lists of resources so that they may support school meetings with students, parents, specialists, school evaluation visits, and collaborative approaches to meeting learning diversity. Please note that the IB requires documentation for purposes of granting assessment accommodations, so these requirements should be considered separately.

Developing a positive classroom climate conducive to supporting the learning of all students requires that students are appropriately challenged by their learning, that expectations of them are high but realistic, where students belong to the community and feel cared for, trusted, understood, valued and safe. Students need to be listened to, have their opinions sought, and be provided with opportunities to succeed. It is important that all students are included in decisions about their learning, have the opportunity to develop the attributes of the learner profile and to understand themselves as learners.

Other considerations for learning

Before assuming that a student needs to be assessed for a learning “difficulty”, it is important to consider if there are any other issues that may be hindering learning or causing students to exhibit challenging behaviours.

- Is the student new to the school? Could sadness, grief, anxiety or culture shock be influencing learning? A peer buddy can support the student in understanding what is acceptable and unacceptable in the new culture, and help the student to find his or her place and promote a sense of belonging.
- Has the student had a consistent learning background? How many schools has he or she attended? It is crucial to look carefully at the previous educational experiences and identify where there may be gaps or overlaps in learning if new learning experiences are to be relevant.
- Are levels of working English being masked by good speaking levels? Some students learning additional languages may not yet be ready to speak but may write well; some learners will speak without fear of making mistakes; other students will not speak until they feel that their spoken language is acceptable. When a student cannot express himself or herself it can threaten their self-image, leaving them without anything to say and with no apparent sense of humour. Language profiles and language mapping (*Language and learning in IB programmes*, 2011:27) can give information as to the true levels of all-round language development and assist in developing the knowledge of how best to help the student settle in.
- Are medical issues the reason why student learning is not optimal or why challenging behaviours are being exhibited? Screening for sight and hearing should be considered. In cases where students have more complex needs or are non-verbal, consider undiagnosed pain to explain unusual behaviours.

In any of these cases, understanding and patience will be necessary if learning is to progress.

Please note these are suggestions only and are intended to assist you in considering all barriers to learning. It is not an exhaustive list and does not constitute professional or diagnostic advice.

Attention deficit disorder/attention deficit hyperactivity disorder (ADD/ADHD)

While every student can sometimes be boisterous, excitable and inattentive, students with ADHD experience high levels of inattention and/or hyperactivity and impulsiveness at home, school and in the community. ADD refers to those students whose main challenge is that of inattentiveness. While research into the causes of ADHD and ADD remain inconclusive, they are considered to have a neurobiological basis and a student will have to meet a set of key criteria in order to be identified with ADHD or ADD.

Possible challenges	Teaching strategies	Resources
<ul style="list-style-type: none"> • easily distracted • difficulties settling to activities • always "on the go" • interrupts and talks out of turn • noisy • fidgety • restless • daydreams • seems to be "in a fog" • unaware of transitions. 	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support the students in overcoming challenges and to optimize learning experiences. • Teach in line with the IB's approaches to learning and the IB's four principles of good practice. <p>The ideal educator:</p> <ul style="list-style-type: none"> • is open and understanding of challenges experienced • has a sense of humour • has a positive and patient attitude • knows the students well • listens and works with the students • harnesses the positive qualities of being dynamic and determined • protects the students from excluding themselves through their own behaviour • is always positive but enforces rules calmly • does not use sarcasm • reinforces positive behaviour • allows headphones and music • is attentive to learning styles • builds in activity wherever possible 	<p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information.</p> <ul style="list-style-type: none"> • http://www.everydaywithadhd.com.au/Home.htm • http://www.attentiondeficitdisorder.ws/adhd_usa_resources.htm • http://www.adhdcanada.com/what.html • www.addiss.co.uk • www.chadd.org • www.livingwithadhd.co.uk

Possible challenges	Teaching strategies	Resources
	<ul style="list-style-type: none"> • allows the students to stand or scribble when listening • is attentive to frustration, stress and fatigue levels • uses clear, understandable language • controls without controlling • always gives immediate and consistent behaviour feedback • works on a behaviour plan/contract with the student • uses previously discussed and arranged signals when behaviour needs modifying • is open to giving planned breaks from classroom activity • "picks battles" carefully and avoids minor disruptions. 	
Hyperactivity	<p>Specific strategies to support hyperactivity include the following.</p> <ul style="list-style-type: none"> • Allow fiddling by providing stress balls, etc. • Allow doodling/drawing. • Provide breaks every 15 minutes or so. • Use excess energy in a positive way—a walk-about job, share an idea, visits to help in other rooms. • Explicitly teach in-class and out-of-class modes of behaviour. • Provide calming down periods after transitions. • Be aware when the classroom climate is becoming distractive. • Provide a time-out corner/facility that the students can retire to when arousal levels are high. 	<ul style="list-style-type: none"> • Time-out and quiet areas for calming down. • Workspaces free from distraction.

Possible challenges	Teaching strategies	Resources
<p>Impulsivity</p>	<p>Specific strategies to support impulsivity include the following.</p> <ul style="list-style-type: none"> • Use a timer to keep on task. • Set tasks that are realistic and achievable. • Explicitly discuss safety and the use of dangerous equipment such as scissors, as well as science and PE equipment. • Arrange peer support. • Put into place a behaviour management programme. 	<ul style="list-style-type: none"> • Timers. • Prompt sheets/graphic organizers. • Supportive peers. • Behaviour management programme—there are many behaviour management programmes available. Contact school support services for recommendations for your context or alternatively search on the Internet.
<p>Inattention difficulties</p>	<p>Specific strategies to support inattention include the following.</p> <ul style="list-style-type: none"> • Have positive, realistic expectations and use these to build self-esteem and self-belief. • Think about where the students are best placed for learning in the classroom. • Pay attention to background noise and eliminate wherever possible. • Work with the students to find strategies that support learning and socialization. • Use previously discussed prompts to support the students and keep on task. • Ask the students to repeat back instructions. • Help the students to plan, and encourage the use of planners and diaries. 	<ul style="list-style-type: none"> • Diaries. • Timetables. • Schedules. • Calendars. • Planners. • Mind Maps®. • Graphic organizers. • Stress balls/toys. • Assistive technologies. • Headphones. • Music.

Possible challenges	Teaching strategies	Resources
	<ul style="list-style-type: none"> • Check diaries and planners regularly. • Provide support with homework. • Work with parents to support homework. • Keep the pace, tasks and activities varied to meet interest and activity levels. • Make sure that resources (prompt sheets and step-by-step instructions) are easily located. • Praise and prompt with positive cognitive feedback. • Respond quickly when tasks are completed. • Encourage Mind-Mapping® and other diagrammatic representations. • Use visual clues, music, etc to stimulate. • Use timers to support students both in extending time on learning tasks and in learning breaks. • Use assistive technologies where needed. • Provide plenty of lead time before transitioning to the next activity. 	

Autism

Autism is a spectrum disorder and, despite core similarities in areas of challenge, there are vast differences along the spectrum. While students with low-functioning autism may display significant challenges and may be non-verbal, those at the higher end of the spectrum may not be identified because of the hidden nature of their challenges. The difficulties experienced, often described as a “triad of impairments”, affect social interaction, communication and imagination (rigidity of thought).

Many students will experience sensory issues that may impact on emotional and well-being states, and behaviours should be understood in the context of the environment, sensory issues, and modes of effective communication. Challenging behaviours are usually not wilful or intentionally oppositional but may be the result of neurological, internal-processing difficulties or stressors.

Students with Asperger’s syndrome, while on the autistic spectrum and experiencing difficulties with social interaction, communication and imagination, display advanced language skills in areas of vocabulary and syntax but experience difficulties in areas of conversational skills and intonation. They may also display advanced skills in other areas.

Possible challenges	Teaching strategies	Resources
Learning environment	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support students in overcoming challenges and to optimize learning experiences. • Teach in line with the IB's approaches to learning and the IB's four principles of good practice. 	<p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information.</p> <ul style="list-style-type: none"> • www.maapservices.org • www.asperger.org • www.nas.org.uk • www.makaton.org • http://www.bild.org.uk/05links.htm (includes links to other websites for learning disabilities) • http://senteachers.co.uk/links-for-sen-teachers.htm (includes links to many websites) • http://www.aane.org/asperger_resources/educators_toolbox.html (excellent resources, a toolbox including visual guides for students and video resources) • Temple Grandin on TED—appreciating diversity, http://www.ted.com/talks/lang/en/temple_grandin_the_world_needs_all_kinds_of_minds.html • Dr Shore—principles of good teaching, http://www.learner.org/courses/neuroscience/common_includes/si_flowplayer.html?pid=2393

Possible challenges	Teaching strategies	Resources
<p>Social interaction</p> <ul style="list-style-type: none"> • may be socially isolated • social demands of others may cause anxiety • may find social cues difficult to read • may behave in a socially inappropriate way • may lack the strategies to initiate, establish and maintain friendships • may cause offence without being aware • may appear egocentric or insensitive • may not know how to read into or react to others' feelings. 	<p>Specific strategies to promote social interaction include the following.</p> <ul style="list-style-type: none"> • Build up awareness, educate students, staff and other parents so that everyone can help to meet needs. • Use role play to teach socialization skills. • Give students tasks based on strengths to elicit participation. • Use snack and lunch times to encourage turn-taking and social interaction. • Reward appropriate behaviours, eg sharing, showing consideration. • Encourage interaction through the use of games, sharing and turn-taking. • Create opportunities to discuss feelings, eg circle time, personal, social and health education (PSHE) lessons, music, art and drama. • Use social skills training and Social Stories™ (Carol Gray). • Teach how behaviour affects others; soap operas can be useful. • Teach about tone of voice, facial expressions (The Transporters) and personal space using role play as well as real situations. • Give a role of responsibility. 	<ul style="list-style-type: none"> • For Social Stories™ contact Jessica Kingsley Publishers. • www.thetransporters.com

Possible challenges	Teaching strategies	Resources
<p>Communication</p> <ul style="list-style-type: none"> • may have spoken language that is formal and pedantic • voice may lack expression • may not understand implications of different tones of voice • may have difficulty using and understanding non-verbal communication • may take things literally • may be unable to understand implied meaning • may have difficulties understanding the roles of authority. 	<p>Specific strategies to promote communication include the following.</p> <ul style="list-style-type: none"> • Create the need to communicate, eg asking for time to explore a special interest, request for food or object, etc. • Make expectations explicit. • Use simple direct language. • Instead of saying “no” tell the students what it is you want them to do. • Reward appropriate responses. • Check for understanding; do not make assumptions. • Limit choices; too many choices can cause confusion. • Teach social use of language, such as turn-taking in a conversation. • Show visuals of authority structure. 	

Possible challenges	Teaching strategies	Resources
<p>Imagination, rigidity of thought</p> <ul style="list-style-type: none"> • may have unusual and absorbing special interests • may insist on certain rules and routines • may have a limited ability to play and think creatively • may have problems transferring skills from one setting to another. 	<p>Specific strategies to promote imagination include the following.</p> <ul style="list-style-type: none"> • Work with family, staff and peers to ensure consistency and common expectations. • Incorporate special interests into activities wherever possible for maximal success and participation. • Use prompt cards with pictures, texts and symbols. • Plan for change using visual timetables and social stories. • Give structure to the day using visual timetables and checklists. • Have clear start and finishing times for events or activities; use egg timers or a traffic light system. • Use start and finish boxes. • Clearly define classroom areas for certain activities. • Give clear visual instructions about the procedure at times of transition, eg physical education (PE), break etc. • Use special interests as a reward. • Examine special interests carefully for age appropriateness and safety. • Consider the environment and the timetable: where are problems likely to occur, where are the barriers to learning? Try and get the balance right between times of stress/demand and time out. 	

Possible challenges	Teaching strategies	Resources
<p>Other challenges that may impact on emotional/well-being states and learning</p> <p>Challenging behaviours that are not wilful or intentionally oppositional; they are the result of neurological internal-processing difficulties or stressors.</p> <p>Sensory issues (visual, auditory, tactile, taste/smell, vestibular, proprioceptive and proxemic differences (keeping distance))</p> <ul style="list-style-type: none"> • may be affected by hyposensitivity (undertuned sensitivity) • hypersensitivity (acute and sometimes overwhelming) • inconsistency of perception (levels of sensitivity fluctuate from not being present, hypo to hyper) • difficulty in recognizing that his or her thoughts may differ to others • may focus on attention to detail without seeing the whole • may be unable to see “the big picture” • may be able to read without comprehension (hyperlexia) • may be able to perform mental arithmetic and prediction at high speed • may experience difficulties in making a plan and working through the logical steps to achieve the goal 	<p>General teaching strategies</p> <ul style="list-style-type: none"> • Understand your students, understand their psychological functioning and neurological processing, understand the challenges to their learning and translate this into effective strategies for teaching and care. • Use less talk when the students are stressed or upset. • Warn students about surprises such as class festivities, fire drills, etc. • Preview changes in routines. • Allow extra time for classroom changes and moving around school facilities during chaotic periods. • Promote having “a go” and making mistakes as an approach to learning. • Make daily activities into routines. • Give written/picture cards/timetable prompts to support independent learning. • Use cartoons and comic strip conversations to teach various viewpoints. • Have high but realistic expectations. • Give visual clues for learning. • Give meaningful and motivational rewards. • Be predictable, consistent and reliable. • Check for understanding. 	<ul style="list-style-type: none"> • Known “safe spaces” both in and out of the classroom. • Known “safe people”. • Alternative places to eat lunch with peers if the environment is overwhelming.

Possible challenges	Teaching strategies	Resources
<ul style="list-style-type: none"> • may experience difficulties in controlling impulses • may experience difficulties in self-organization in order to settle down to work—this can be a huge hurdle • may experience high anxiety levels. 	<ul style="list-style-type: none"> • Avoid abstract terms, jokes, figures of speech or sarcasm. • Encourage the wider social circle to adopt the same approaches. • Provide opportunities for the transfer of skills. • Create a sense of calm and order in the classroom. • Pay attention to artificial lighting and where possible use natural light. 	
<p>Subject difficulties that could be experienced include the following.</p> <p>English—fine motor skills/handwriting, creativity/ imagination, comprehension, grammar, speaking and listening, drama.</p> <p>Mathematics—abstract patterns/concepts, estimating, applying concepts, precision and dislike of having “a go” and making mistakes, mental arithmetic skills may appear to be better than they actually are.</p> <p>Humanities—literal interpretation of instructions, lack of evaluation skills, use of colour, fine/gross motor skills and coordination, concept of space/time, the other, appreciating the work of others, other cultures, time zones, climate changes, validity and validity tests, applying concepts, hypotheses, seeing someone else’s point of view.</p>	<ul style="list-style-type: none"> • Regularly review expectations. 	

Dyscalculia

Despite the provision of appropriate learning opportunities, students with dyscalculia will experience persistent challenges when dealing with numbers. Dyscalculia is to mathematics what dyslexia is to literacy: it is the general term used to describe a specific learning difficulty in mathematics. Significant difficulties will vary from student to student so that some students will be able to multiply but not divide and vice versa, and others may be able to do maths at a high level but find it difficult to subtract simple numbers. What is experienced as a success one day may appear to have been forgotten the following day. The challenges do not always reflect the student's cognitive abilities and students will display strengths in other areas.

Possible challenges	Teaching strategies	Resources
<ul style="list-style-type: none"> • Understanding and remembering mathematical concepts, rules, formulas, sequences • order of operations of addition, subtraction, multiplication and division and basic mathematical facts • mental arithmetic • abstract concepts of time and direction • difficulties with long-term memory, both retention and retrieval • recalling schedules • sequences of past or future events • keeping track of time, always being late • substitutions, transpositions, omissions and reversals when writing, reading and recalling numbers • remembering names • matching names to faces • substituting names beginning with same letter • working out change when shopping • money and credit • financial planning • tests and quizzes • whole-picture thinking • understanding mechanical processes 	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support the students in overcoming challenges and optimize learning experiences. • Teach in line with the IB's approaches to learning and the IB's four principles of good practice. • Be aware of states of stress and have strategies in place to support and de-stress. • Link mathematics to real life. • Support multi-sensory learning—write it, talk it through, and explain it back. • Provide teaching notes to circumvent copying. • Offer pre-teaching to support new learning. • Offer post-practice sessions to consolidate learning. • Offer support and feedback on a regular basis. • Offer practice materials when necessary. • Give immediate feedback so that recording and decoding mistakes do not interfere with mathematics learning. • Offer to proofread work to pick up recording and decoding mistakes. 	<p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information.</p> <ul style="list-style-type: none"> • http://www.stevechinn.co.uk/articles.html • www.dyscalculiainfo.org/ • http://www.lbctnz.co.nz/sid/dyscalculia/index.html • http://www.dyscalculia.org/dyscalculia/letter-to-math-prof (student voice: "Letter to my math teacher")

Possible challenges	Teaching strategies	Resources
<ul style="list-style-type: none"> • visualizing location such as numbers on the clock face, location of cities, countries, oceans, etc • orientation, poor sense of direction, losing things, appearing absent-minded • coordination—dance steps, sport rules, ball skills, etc • keeping score during games • remembering whose turn it is while playing games • strategic planning in games • sight reading of music • learning to play an instrument—fingering difficulties. 	<ul style="list-style-type: none"> • Be aware of the organization and the presentation of written work to students on handouts, whiteboards, etc; keep it simple and uncluttered. • Ensure that assessments are assessing what is intended and do not clutter with distracting calculations, type and figures; keep it simple. • Give extra time for completing work. • Provide scrap paper. • Be patient and understanding when learning appears to be inconsistent. 	

Dyslexia

Despite the provision of appropriate learning opportunities, students with dyslexia will experience persistent challenges in learning to read, write and spell. Significant challenges will vary from student to student and these challenges do not always reflect the student's cognitive abilities; usually a student will display strengths in areas outside of the written curriculum. What is experienced as a success one day may appear to have been forgotten the following day.

The material for this table has been reproduced with the kind permission of the British Dyslexia Association, www.bdadyslexia.org.uk.

Possible challenges	Teaching strategies	Resources
<ul style="list-style-type: none"> • low self-esteem • high stress • underachievement • atypical behaviour • slow speed of processing: spoken and/or written • poor concentration • difficulty in following instructions • forgetful of words • difficulty in remembering anything in sequential order • poor hand-eye coordination. <p>Young students may have continued difficulties in getting dressed and putting shoes on the correct feet, difficulty with clapping a simple rhythm and exhibit delayed speech development.</p> <p>Older students may continue to experience the same problems as in the primary/elementary school as well as having difficulty in planning and writing essays. They may suffer poor confidence and low self-esteem, have issues with organizing life around a timetable and have obvious good and bad days.</p>	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support the students in overcoming challenges and to optimize learning experiences. • Teach in line with the IB's approaches to learning and the IB's four principles of good practice. • Be aware of states of stress and have strategies in place to support and de-stress. • Link work to real life and interests. • Support multi-sensory learning—write it, talk it through, and explain it back. • Offer pre-teaching to support new learning. • Offer support and feedback on a regular basis. • Offer practice materials when necessary. • Give immediate feedback so that recording and decoding mistakes do not interfere with learning. • Teach phonological aspects. • Promote attention and listening. • Develop spoken language. • Develop fine motor skills and handwriting, sequencing and directionality. • Develop short- and long-term memory skills. 	<p>Studies from the National Institute of Child Health and Human Development (US Department of Health and Human Services) have shown that multi-sensory teaching methods and resources provide the most effective approach to teaching.</p> <p>Multi-sensory teaching methods are characterized by:</p> <ul style="list-style-type: none"> • visual, auditory, kinesthetic and tactile involvement • a sequential, step-by-step approach • cumulative progression with the previous steps providing a foundation for the next step • over-learning—a series of repetitive activities to help the learner achieve mastery. <p>Multi-sensory teaching methods include:</p> <ul style="list-style-type: none"> • <i>Alpha to Omega Pack: Teacher's Handbook and Student's Book</i> by Hornsby, Shear and Pool • <i>The Bangor Dyslexia Teaching System</i> by Elaine Miles • <i>The Hickey Multisensory Language Course</i> by Margaret Combley.



Possible challenges	Teaching strategies	Resources
<p>Students may experience challenges with written work compared with oral ability. This may be seen through one or more of the following.</p> <ul style="list-style-type: none"> • Work may be messy with many crossings out and words tried several times, eg wippe, wype, wiep, wipe. • Persistent confusion with letters that look similar, particularly b/d, p/g, p/q, n/u, m/w. • Poor handwriting with “reversals” and badly formed letters. • Makes anagrams of words, eg tired for tried, bearded for bearded etc. • Difficulties setting out written work with the margin ignored. • Poor pencil grip. • Produces phonetic and bizarre spelling not typical of age or ability. • May show unusual sequencing of letters or words. 	<ul style="list-style-type: none"> • Be aware of the organization and the presentation of written work on the board and in handouts. • Use planning structures (graphic organizers or Mind Maps®) to develop writing. • Support and encourage the use of assistive technology. • Provide written photocopied notes of key ideas covered in class. • Accept that spelling is a difficulty. • Mark only key vocabulary when correcting and offer a correct model when wrong. • Consider the use of alternative methods of presentation and assessment such as tape recorders, Dictaphones and voice-activated software. 	<p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information. Understanding dyslexia:</p> <ul style="list-style-type: none"> • http://www.learner.org/courses/neuroscience/common_includes/sj_flowplayer.html?pid=2451 • www.interdys.org (US website, go to Information>Interventions & Instructions at the top left for teaching information) • http://www.interdys.org/ewebeditpro5/upload/Multi-sensory_Structured_Language_Teaching_Fact_Sheet_11-03-08.pdf (a paper that discusses multi-sensory approaches) • http://www.thedyslexia-spldtrust.org.uk/ (extensive UK website with access to online training modules) • www.dyslexiaaction.org.uk (information) • www.dyslexia-teacher.com (teacher resource website) • www.bdadyslexia.org.uk (UK website) • http://www.bdadyslexia.org.uk/files/dfs_pack_English.pdf (teaching pack) • www.dyslexiaassociation.org.au • www.dyslexiaassociation.ca • www.dyslexiacanada.com • http://www.dyslexia-international.org/WDF/Files/WDF2010-Tibi.pdf (reflections on “Good Practice” in Dyslexia in Arabic, UNESCO publication) • http://www.nichd.nih.gov/Pages/index.aspx

Possible challenges	Teaching strategies	Resources
<p>Reading challenges may include:</p> <ul style="list-style-type: none"> • poor reading progress, especially using look and say methods • difficulties blending letters together • difficulties in establishing syllable division or knowing the beginnings and endings of words • unusual pronunciation of words • poor expression when reading • poor comprehension skills • hesitant and laboured reading • missing out words when reading, or adds extra words • failing to recognize familiar words • losing the point of a story being read or written • having difficulty in highlighting the most important points from a passage. 	<ul style="list-style-type: none"> • Use simplified text wherever possible. • Divide reading into sections and check for understanding after each section. • Encourage and allow the use of a ruler or paper guide when reading. • Pre-teach or provide subject-specific vocabulary. • Allow extra time for both reading and comprehension. • Reading aloud should be on a voluntary basis. • Increase print size to help the reader. 	<p>Software suggested by IB school practitioners but not endorsed by the IB</p> <ul style="list-style-type: none"> • www.inclusive.co.uk • www.kirzweiledu.com • www.texthelp.com • www.freeology.com (graphic organizer) <p>If appropriate, allow the use of computers and portable writing aids to circumvent handwriting difficulties.</p> <p>Use format options on computer screens and interactive whiteboards.</p> <p>Add speech functions to hardware.</p> <p>Research information about software available to support learning: text to speech, talking books, texthelp, literacy games, on-screen word banks, Clicker5, predictive tools, Mind Maps®.</p> <p>Consider font and colour formatting.</p> <p>Consider alternatives to writing.</p> <p>Introduce typing and keyboard awareness programmes.</p>
<p>Numeracy challenges may include:</p> <ul style="list-style-type: none"> • confusion with number order, units, tens, hundreds • confusion with symbols such as + and x signs • remembering anything in a sequential order: multiplication tables, days of the week, the alphabet. 		

Possible challenges	Teaching strategies	Resources
<p>Time challenges may include:</p> <ul style="list-style-type: none"> • difficulty in learning to tell the time • poor timekeeping and general awareness of the time • poor personal organization • remembering what day of the week it is, the student's birth date, seasons of the year, months of the year • difficulty with concepts—yesterday, today, tomorrow. 		
<p>Skills challenges may include:</p> <ul style="list-style-type: none"> • motor skill challenge leading to weaknesses in speed, control and accuracy of the pencil • understanding of non-verbal communication • confusion with the difference between left and right, up and down, east and west • unsure of hand preference • inconsistency in performance on a daily basis. 		<ul style="list-style-type: none"> • Specialist therapies including speech and language therapy, and occupational therapy.
<p>Behaviours that may be exhibited include:</p> <ul style="list-style-type: none"> • work avoidance tactics, such as sharpening pencils and looking for books • seems to “dream”; does not seem to listen • may be extremely tired and irritable due to stress. 	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Check for understanding on a regular basis, especially if the students are not on task. • Be aware of signs of stress and tiredness, and support students in overcoming these symptoms. 	

Dyspraxia—developmental coordination difficulties (DCD), motor learning difficulties

Developmental dyspraxia is best described as an immaturity in the way the brain processes information. This immaturity results in messages not being properly or fully transmitted and is associated with perception, language and thought, resulting in challenges with planning what to do and how to do it.

The material for this table has been reproduced with the kind permission of the Dyspraxia Foundation, www.dyspraxiafoundation.org.uk.

Dyspraxia challenges	Challenges at school	Teaching strategies
Hand to eye coordination	<ul style="list-style-type: none"> Handwriting 	<ul style="list-style-type: none"> Practise multi-sensory letter formation, eg sandpaper letters, sky writing, rice trays. Use pencil grips, writing lines, stencils.
Hand to eye coordination	<ul style="list-style-type: none"> Dressing and fastening clothes Using tools, utensils and cutlery 	<ul style="list-style-type: none"> Suggest loose-fit easy on/easy off clothing and Velcro fastenings. Break down each task into small sections to be mastered one by one.
Large muscle movements	<ul style="list-style-type: none"> Walking in a straight line, bumping into people and things Running, hopping, jumping, catching/kicking balls 	<ul style="list-style-type: none"> Provide balance or wobble boards, walking on the line and hand-to-hand throwing using bean bags or water-filled balloons.
Attention/concentration	<ul style="list-style-type: none"> Reacting to all stimuli without discrimination Attention span is poor Distracted in open-plan environments Flitting between activities Disturbing others 	<ul style="list-style-type: none"> Allow students to choose activities that meet their own interests. Avoid disturbing students when on task. Avoid fluorescent lights, fluttering ceiling displays. Keep wall displays to a minimum. Promote a “no-disturbance” culture showing respect for each student’s work space.
Conceptualization	<ul style="list-style-type: none"> Understanding concepts such as “in”, “on”, “in front of” 	<ul style="list-style-type: none"> Play farm/zoo/journey games with command cards such as “cow in front of barn” with correct picture on back of card.
Personal organization	<ul style="list-style-type: none"> Generally poorly organized 	<ul style="list-style-type: none"> Supply timetables, daily diaries and instructions for specific activities in sequenced picture cards.

Dyspraxia challenges	Challenges at school	Teaching strategies
Communication	<ul style="list-style-type: none"> Unable to remember and/or follow instructions 	<ul style="list-style-type: none"> Get the attention of the students before giving instructions. Use simple language with visual prompts. Provide time to process the information. Use activities, demonstrations and pictures.
Speech, language and communication	<ul style="list-style-type: none"> Explaining needs or answering a question Retelling an incident 	<ul style="list-style-type: none"> Provide visual supports to help recollection of personal experiences. Use closed questions rather than open-ended questions.
Social skills	<ul style="list-style-type: none"> No concept of personal belongings Keeping friends Judging how to behave in company 	<ul style="list-style-type: none"> Role play to develop understanding of the concepts of private and public. Have consistent explicit classroom rules. Use social stories to explain the social rules and expected behaviour.
Creativity/imagination	<ul style="list-style-type: none"> Artwork and storytelling immature Time, sequencing “before”, “after”, “future” 	<ul style="list-style-type: none"> Use role-play and drama to explore different outcomes and scenarios. Timelines can help fix events in students’ minds. Teach from “concrete” to “abstract” by making concepts relevant to students’ own experiences.
Social skills and flexible thinking	<ul style="list-style-type: none"> Sudden changes, leading to anxiety 	<ul style="list-style-type: none"> Give advance notice of any changes. Use visual timetables. Give clear rules and consequences.
Flexible thinking	<ul style="list-style-type: none"> Understanding the feelings of other people and the effect of their own behaviours on other people 	<ul style="list-style-type: none"> Work on understanding emotions. Use strategies such as comic strip conversations and mind reading, etc.

Dyspraxia challenges	Challenges at school	Teaching strategies
Flexible thinking	<ul style="list-style-type: none"> Using a learned skill out of the learned situation 	<ul style="list-style-type: none"> Teach each skill in all the possible contexts and in different ways.
Sensory perception and flexible thinking	<ul style="list-style-type: none"> Resistance to certain activities or situations 	<ul style="list-style-type: none"> Prepare for the change. Introduce the sensation gradually. Provide other options if the students cannot overcome the sensory difficulty. Introduce new sensory experiences using the students' interests, eg messy play making aliens to get used to slimy texture.
Sensory perception and social skills	<ul style="list-style-type: none"> Finding it difficult to concentrate 	<ul style="list-style-type: none"> Provide a distraction-free learning environment. Reduce the social demands while learning. Permit time out if students are becoming over-stimulated.
Social skills, flexible thinking and communication	<ul style="list-style-type: none"> Play skills and following game rules 	<ul style="list-style-type: none"> Identify and focus on teaching necessary play skills such as turn-taking, negotiating, etc. Introduce a circle of friends or buddy system to help the students in building relationships.

Gifted and talented or exceptionally able

Students identified as gifted and talented or exceptionally able (this document will use the term “gifted and talented” for ease of reading) may be globally gifted, gifted in specific areas or indeed be gifted in some areas but experience learning challenges in other areas. Special talents need to be encouraged, nurtured and extended, and students need to be challenged to think laterally about complex ideas, issues and situations even if a student is receiving learning support in other areas. Creating opportunities for extension may well involve seeking out and working with local universities, local organizations or online providers. Curriculum and learning choices should be made in collaboration with the students and their parents.

Possible challenges	Teaching strategies	Resources
<p>While gifted students may excel in some areas, they may be experiencing challenges in other areas of learning.</p> <p>Nature of ability and implications for learning—students may:</p> <ul style="list-style-type: none"> • reason well (good thinker) • learn rapidly • have extensive vocabulary • have an excellent memory • have a long attention span (if interested) • be sensitive (feelings hurt easily) • show compassion • be perfectionists • be intense • be morally sensitive • have strong curiosity • ask lots of questions • draw inferences • invent things • love challenges and complexity • have a high degree of perseverance in their interests • have a high degree of energy • prefer older companions or adults 	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support the students in overcoming challenges and to optimize learning experiences. • Teach in line with the IB’s approaches to learning and the IB’s four principles of good practice. • Support learning in areas in which less satisfactory progress is being made. <p>Teaching strategies should:</p> <ul style="list-style-type: none"> • ensure learning extension in areas in which the student’s exceptional ability is demonstrated • ensure students are challenged to go deeper, with the content taking into account pace, depth and complexity, as opposed to providing more of the same • create opportunities for students to undertake studies and or programmes at a higher level in areas of exceptional ability (via other organizations and universities) • allow students to undertake studies in different and additional areas of interest. 	<p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information</p> <ul style="list-style-type: none"> • http://www.teachingexpertise.com/gifted-talented • www.nagc.org/ • www.hoagiesgifted.org • www.gifted.uconn.edu/ • http://education.wm.edu/centers/cfge/ • http://daretodifferentiate.wikispaces.com/Planning+for+and+Managing+Differentiation • The Western Australian department of education has extensive information on gifted and talented education (teaching models and activities) http://www.det.wa.edu.au/curriculum-support/giftedandtalented/detcms/portal/ <p>Gifted and talented competitions</p> <ul style="list-style-type: none"> • http://www.learningplace.com.au/deliver/content.asp?pid=13541 • http://gtcasa.asn.au/wp/2012/03/big-science-competition-registration-open/ • http://www.cde.state.co.us/gt/gtOtherProgsComps.htm

Possible challenges	Teaching strategies	Resources
<ul style="list-style-type: none"> • have a wide range of interests • have a great sense of humour • be early or avid readers (if too young to read, love being read to) • be concerned with justice and fairness, often with a well-developed sense of justice • be keen observers • have a vivid imagination • be highly creative • tend to question authority • enjoy number work/games/puzzles • be good at puzzles. 	<p>Differentiation for meeting the learning needs for this group of students should take into consideration the teaching and learning models designed for working with gifted students. These models include the following.</p> <ul style="list-style-type: none"> • The Autonomous Learner Model (George Betts) • The Creative Problem Solving Process (Osborne Parnes) • The Enrichment Triad (Joseph Renzulli) • Schoolwide Enrichment Model (Joseph Renzulli) • Multiple Menu Model (Joseph Renzulli) • Lateral and Creative Thinking (Edward de Bono) • Multiple Intelligence Model (Howard Gardner) • Multiple-Talent Model (Calvin Taylor) • Over-Excitabilities (Kazimierz Dabrowski) • Taxonomy of Affective Domain (David Krathwohl) • Taxonomy of Cognitive Domain (Benjamin Bloom) • Cognitive Curriculum (Diane Montgomery) <p>The above is not an exhaustive list of teaching models but provides a useful start when considering differentiation strategies and choosing a model that will suit the student and your school context.</p> <p>Contact with local gifted and talented student organizations will support you with materials and information relevant to your context.</p>	

Possible challenges	Teaching strategies	Resources
	<p>Information technology (IT) can support the learning needs of this group of students in a number of ways.</p> <ul style="list-style-type: none"> • Students can work at a rate appropriate to their needs—consider online learning. • IT supports opportunities for distance and online learning. • Individual learning styles can be accommodated. • Higher thinking skills can be developed and practised. • Opportunities are provided for research. • Structured opportunities are available for individual and collaborative investigations of real-life problems. • Possibilities for linking up gifted and talented students around the world are created. 	<p>The site below considers the use of information and communication technology (ICT) with regard to supporting student learning, and includes a section on gifted and talented students.</p> <ul style="list-style-type: none"> • http://www.ncte.ie/SpecialNeeds/CT/AdviceSheets/ExceptionallyAble/

Hearing impairment/deafness

Students who are deaf have no hearing at all as opposed to those students who are hard of hearing. The term "hearing impairment" refers to the whole group of students, including those who have an auditory processing disorder. A student who is deaf may have little or no speech and this will depend on how severe the hearing loss is and the age of onset. Appropriate accommodations will vary between students dependent upon the level of the impairment, and by academic activity. Consistent, early use of visible communication modes (such as sign language, finger-spelling, Cued Speech) and/or amplification and aural/oral training will support those learners who are deaf or have high levels of hearing impairment. Students with hearing loss will usually use an oral (speech, lip-reading, and the use of residual hearing) or manual means (sign or finger-spelling) of communication or a combination of the two.

Possible challenges	Teaching strategies	Resources
<p>Implications for learning are pervasive across the whole curriculum, and the learning of vocabulary, grammar, word order, idiomatic expressions and other aspects of verbal communication will be particularly challenging.</p> <p>Because of differences between English and sign language, English may be considered as a second language.</p>	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support the students in overcoming challenges and to optimize learning experiences. • Teach in line with the IB's approaches to learning and the IB's four principles of good practice. • Make sure the students can always see your face; avoid unnecessary movement and avoid covering lips or face with hands and objects. • Make sure the students are seated optimally. • Stay away from windows as the glare can be distracting and prevent the students from lip-reading. • Repeat discussion questions and statements made by other students. • Speak clearly. • Provide clear and well-organized written outlines, assignments, lab instructions, summaries, homework, etc, and distribute them beforehand whenever possible. • Provide lesson plans, films, and learning materials to support staff on time so that they can arrange for necessary supports. • Enhance participation by pre-teaching vocabulary. 	<p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information.</p> <ul style="list-style-type: none"> • http://www.asha.org/public/hearing/treatment/assist_tech.htm • http://www.washington.edu/doiit/Faculty/Strategies/Disability/Hearing/ • http://nichcy.org/schoolage/iep/meetings/special-factors/considering-hearingloss • http://www.learner.org/courses/neuroscience/common_includes/si_flowplayer.html?pid=2392 <p>Assistive technologies are designed to allow students to circumvent difficulties that may prevent them from performing to their full potential.</p> <ul style="list-style-type: none"> • http://www.abilityhub.com/hearing/index.htm

	<ul style="list-style-type: none"> • Use the board/overhead projector/notes to provide visual instructions and information. • Use visual aids with few words, large images and fonts. • Keep extra noise to a minimum. • Eliminate unnecessary background noise. • Have only one person speak at a time. • Provide opportunities for the students to clarify meaning and ask questions. • Provide opportunities to participate in electronic discussions. • Ensure that specialist speech, language and auditory training takes place. • Provide teacher and peer education in alternate communication methods. • Provide an interpreter for those students who use sign language. • Provide a note-taker enabling the students to attend fully to instruction or copies of notes. • Provide amplification systems where necessary. • Provide captioned films/videos. • Have a back-up plan in place when hearing aids/sound systems are lost or broken. • Change auditory computer signals to flashes and contrast changes. • Ensure that the labs are fitted with visual warning systems for emergencies. 	
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Medical conditions/chronic illness

Medical conditions include: allergies, asthma, arthritis, lupus, epilepsy, petit mal seizures, grand mal seizures, diabetes, cancer, chronic middle ear infections, hypertension, anxiety disorders and HIV/Aids. Each of these medical conditions is a chronic illness that interferes with daily functioning and the student's activities for more than three months in a year. Frequent and/or prolonged absence from school may lead to students feeling isolated and different, and learning may suffer. Treatments can be painful and even frightening and the side effects of medication may have implications for learning.

Possible challenges	Teaching strategies	Resources
<p>Students who are unwell and/or taking medication may be:</p> <ul style="list-style-type: none"> irritable and worried weepy unable to concentrate or pay attention considered lazy as they are difficult to motivate and seem disinterested. 	<ul style="list-style-type: none"> Provide a safe, affirming environment to build confidence and self-esteem. Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support the students in overcoming challenges and to optimize learning experiences. Teach in line with the IB's approaches to learning and the IB's four principles of good practice. Create a positive accepting environment that understands the challenges that the students may experience. Aim to circumvent challenges and provide for success and a sense of belonging. Establish good communication and relationships between educators, parents/caregivers, learners and health workers. Be proactive in keeping in contact with the students. Look for ways to enhance access and participation when students are at home or in hospital. Consider psychosocial needs by listening and communicating effectively. Be knowledgeable about chronic illness. Develop action plans that take account of medical, social and academic needs. Encourage resilience but understand when a student has reached his or her limit. Deal with emotions, build self-esteem. 	<p>A key resource person can:</p> <ul style="list-style-type: none"> liaise with others to facilitate communication and confidentiality collect and distribute information to support the student and inform staff adapt and modify learning materials and adapt curriculum content keep colleagues informed about the ongoing nature of the condition make special arrangements for internal and external assessments. <p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information.</p> <ul style="list-style-type: none"> http://www.unicef.org/southafrica/SAF_resources_learnersill.pdf http://kidshealth.org/teen/your_mind/problems/deal_chronic_illness.htm http://www.lehman.cuny.edu/faculty/jfleitas/bandaides/healthed.html http://dsp.berkeley.edu/TeachStudentsWithDisab.html#6 http://www.nhlbi.nih.gov/health/public/lung/asthma/guidfam.pdf

Mental health issues

Mental health problems may affect up to one in ten students in schools, and teachers are often the first to realize that a young person is in need of serious help. The emotional well-being of students and their good mental health is essential if students are to learn, develop and eventually become adults who can cope with life and its struggles. Mental health conditions include a wide range of conditions, including, but not limited to, schizophrenia, bipolar disorder, depression, conduct disorder, self-harm, post-traumatic stress disorder, eating disorders, and obsessive compulsive disorder (OCD).

Possible challenges	Teaching strategies	Resources
<p>Signs of emotional distress include:</p> <ul style="list-style-type: none"> • changes in behaviour • disruptive behaviour • withdrawal • anger • hostility • difficulty concentrating • difficulty completing school and homework • tearfulness • poor school attendance. 	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support the students in overcoming challenges and optimize learning experiences. • Teach in line with the IB's approaches to learning and the IB's four principles of good practice. <p>Keeping students mentally well involves offering a classroom climate where students:</p> <ul style="list-style-type: none"> • feel cared for, trusted, understood, valued and safe • are listened to • are able to learn • find that learning is matched to their interests • have opportunities to succeed • have opportunities to be hopeful and optimistic • are happy and enjoy life • feel that they belong to the community • have control over school life. <p>Work with parents and specialists to create behaviour modification plans so that students can be taught appropriate strategies and given choices, helping them to avoid negative behaviours.</p> <ul style="list-style-type: none"> • Locate the support network in your area or school. • Ask the student what is wrong. 	<p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information.</p> <ul style="list-style-type: none"> • http://www.papyrus-uk.org/support/for-teachers • http://www.mentalhealth.org.uk/help-information/mental-health-a-z/C/children-young-people/ • http://acap.org/page.wv?name=Children+with+Oppositional+Defiant+Disorder&section=Fact+s+for+Families • http://www.nimh.nih.gov/index.shtml • http://www.mentalhealthcanada.com/
<p>Possible risk factors include:</p> <ul style="list-style-type: none"> • learning difficulties • fear of underachievement 	<ul style="list-style-type: none"> • Support and advisory services who offer specialized and professional advice. • Child protection agencies. 	

<ul style="list-style-type: none"> • difficult home circumstances • house/country move • changes in schooling or family life • bereavement • using drugs or alcohol • caring for relatives that involves taking on adult responsibilities • living in poverty • homelessness • being bullied • being abused, physically and/or mentally • experiencing discrimination • difficulties with sexuality • break-up with girlfriend or boyfriend • parents who are divorcing • long-term physical illness • having parents who are experiencing mental health issues, poor health, alcohol or drug dependency, trouble with the law. 	<ul style="list-style-type: none"> • Listen and take feelings/concerns seriously. • Show empathy. • Reassure the students. • Keep the dialogue open and ongoing. • Try to persuade the students to involve other people. • Inform the students where they can get help. • Understand that learning is not going to be optimal. • Understand that school work is not high on the students' agenda. • Encourage at-risk students to report their situation to an appropriate authority. • If disclosure may put the students at greater risk then consult with the colleague who is responsible for child protection. 	
<p>Suicidal feelings are difficult to identify but some clues include:</p> <ul style="list-style-type: none"> • self-inflicted injury • feelings of hopelessness • feelings of self-hatred • giving away possessions • talking or writing about dying. 		<p>In these cases, it is important to seek support from advisory services who offer specialized and professional advice and/or child protection agencies.</p>

Physical disabilities

The learning needs of students with physical disabilities will not necessarily correlate with the degree of their physical disability. Some students with severe physical disability will need minimal learning support and vice versa. Learning barriers may have more to do with students' concerns and worries about physical access, fatigue and belonging to their peer group. Be attuned to social and emotional states, especially if the condition is degenerative, and continue to foster social and emotional independence as physical dependence increases. Physical conditions that may cause learning disabilities include, but are not limited to, brittle bone disease, cerebral palsy, muscular dystrophy, spina bifida, cystic fibrosis and accidental injury.

Possible challenges	Teaching strategies	Resources
<p>Challenges will usually be related to coping with the physical environment, however, other difficulties that may be experienced include:</p> <ul style="list-style-type: none"> • verbal expression and articulation • poor sense of balance • difficulty in keeping up with work • lack of confidence • poor self-image • frustration at being treated differently • difficulty in participating in particular activities • fatigue • concentration • health issues • poor school attendance if there are health issues. <p>Some degenerative issues might be accompanied by:</p> <ul style="list-style-type: none"> • loss of coordination • muscle loss • impaired vision • hearing loss • slurred speech • curvature of the spine • diabetes • heart issues. 	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Teach in line with the IB's approaches to learning and the IB's four principles of good practice. • Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support the students in overcoming challenges and to optimize learning experiences. <p>The teaching strategies proposed below are generic to students experiencing a range of mobility issues; individual students will have differing needs.</p> <ul style="list-style-type: none"> • Collaborate with specialists and listen to students. • Where possible build therapies (physiotherapy, occupational therapy, etc) into the daily schedule. • Allow extra time for completion of tasks or for moving around the building. • Think about physical access and safety around the school building. • Keep students safe from being bumped into or knocked over. • Make sure that student dignity is safeguarded if there are bowel or bladder issues. • Praise and encouragement will help support those students with low self-image. 	<p>Assistive technologies such as text to speech recognition are designed to allow students to circumvent difficulties that may prevent them from performing to their full potential.</p> <p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information.</p> <ul style="list-style-type: none"> • http://www.schoolnews.com/2012/05/11/six-great-special-education-resources-for-parents-and-teachers/ (a great guide to assistive technologies) • http://www.kurzweiled.com/default.html (assistive technology) • www.cast.org (Universal Design for learning and assistive technologies) • http://specialized.about.com/od/physicaldisabilities/Physical_Disabilities.htm • http://www.healthinsite.gov.au/topics/Children_with_Physical_Disabilities <p>Allow the use of computers and portable writing aids to circumvent handwriting difficulties.</p> <p>Use format options on computer screens and interactive whiteboards.</p> <p>Add speech functions to hardware.</p>

	<ul style="list-style-type: none"> • Adapt physical activities to promote participation. • If there are degenerative issues, consider building activities into the day to keep muscles healthy for as long as possible. • Collaborate with occupational therapists to ensure that seating arrangements are comfortable and appropriate. • Use strategies to allow students to keep up with the rest of the class, eg computers, graphic organizers, audio tapes. • Assistive technologies should be used wherever possible, eg adapted keyboards, page turners, word boards. • Foster friendships and social relationships. • Consider the height of displays and interactive boards if students use a wheelchair. • Place yourself at eye level when talking to students in wheelchairs. • Keep in contact (email, learning platforms) if a student has to work from home or hospital. • If a student has an aide or assistant it is imperative that the aide does not reduce independence, interfere in social contacts or the making of friends. • Develop student independence and self-care skills and involve those around the student where appropriate. 	<p>Research into the software available to support learning: text to speech, talking books, texthelp, literacy games, on-screen word banks, Clicker5, predictive tools, Mind Maps®.</p> <p>Consider font and colour formatting.</p> <p>Consider alternatives to writing.</p> <p>Introduce typing and keyboard awareness programmes.</p>
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Speech, language and communication needs (SLCN)

Difficulties with speech, language and communication are pervasive across the student's life and will impact on all areas of school life, including, but not limited to, understanding and being able to take part in school activities, reading and writing, thinking things through and managing feelings.

Students with SLCN may experience difficulties in any combination and at varying degrees of difficulty. Co-morbidity, that is, experiencing more than one developmental difficulty at a time (dyslexia, learning difficulties, ADHD, autistic spectrum, dyspraxia), appears to be the rule rather than the exception with SLCN.

Possible challenges for younger students (SLCN)	Teaching strategies	Resources
<p>Generally</p>	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support the students in overcoming challenges and to optimize learning experiences. • Teach in line with the IB's approaches to learning and the IB's four principles of good practice. 	<ul style="list-style-type: none"> • Speech therapists. • Communication games. • Role play. • Visual and graphic organizers. • Recorded texts. <p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information.</p> <ul style="list-style-type: none"> • www.thecommunicationtrust.org.uk (downloadable materials, teaching strategies, case studies, indicator list for identifying communication difficulties) • www.hello.org.uk • www.talkingtrouble.info • http:// www.bt.com/learningskillsresources • http://www.autismeducationtrust.org.uk/Resources.aspx (an extensive website, valuable links and classroom resources)

Possible challenges for younger students (SLCN)	Teaching strategies	Resources
Understanding language	<p>Specific strategies to help students include the following.</p> <ul style="list-style-type: none"> • Adapt spoken language to match the levels of understanding of your students. • Reduce background noise and distractions in the school/classroom environment. • Encourage students to question when they do not understand. • Regularly check on students' understanding. 	
Focusing on the important aspects of the lesson/concept	<p>Specific strategies to help students include the following.</p> <ul style="list-style-type: none"> • Face the students when giving information. • Use the students' names to make sure they are focused. • Use phrases such as "everyone needs to listen to this". • Give an overview of the work to be covered. • Point out when students need to listen actively. • Summarize information before going into detail. • Emphasize key words. 	
Extra time needed to listen and process language	<ul style="list-style-type: none"> • Provide extra thinking time. 	

Possible challenges for younger students (SLCN)	Teaching strategies	Resources
<p>Expressing themselves</p>	<p>Specific strategies to help students include the following.</p> <ul style="list-style-type: none"> • Listen positively and attentively. • Allow students the time they need and wait patiently; do not finish their sentences for them. • Give positive feedback. • Follow the students' lead and build on what they have already said. • Give the students lots of opportunities for real dialogue; take short turns but do not make the student speak in public. • If the students are experiencing difficulties in understanding, support them positively in finding alternative ways to explain things. • When asked offer help and support. • Do not rush or pressure the students. • Provide the correct model of spoken language, do not correct the students. • Focus and respond to what students are saying, not how they are saying it. • Offer sentence frames to model more complex language. 	

Possible challenges for younger students (SLCN)	Teaching strategies	Resources
<p>When communication is problematic</p>	<ul style="list-style-type: none"> • Offer praise when good listening skills are applied. • Teach students when it is appropriate to join in a conversation, eg a gap in the conversation, clear signals from the speaker, non-verbal cues, pauses, etc. • Explain what can happen when people break common rules for social communication (pragmatics). • Encourage participation through role play. • Model appropriate language, and useful phrases such as “sorry to interrupt but ...” and “sorry, please carry on” should be explicitly taught. • Support the students in understanding classroom rules and expectations for speaking in lessons. • Discuss with the students what is felt to be rude and why. • Explicitly teach negotiation skills. • Discuss how people manage emotions and how the tone of voice, body language and posture give clues to emotions. • Encourage the students to explore their feelings with regard to stories, news, current events, discoveries, etc. 	
<p>When there is not enough language for students to express themselves</p>	<p>Specific strategies to help students include the following.</p> <ul style="list-style-type: none"> • Focus on pronunciation. • Develop vocabulary. • When new concepts are taught, ensure that the vocabulary is taught and understood. 	

Possible challenges for older students (SLCN)	Teaching strategies	Resources
<p>Fluency</p> <ul style="list-style-type: none"> Students use concise responses with limited detail that may extend to written expression Students avoid oral presentations and reading 	<ul style="list-style-type: none"> Allow for private presentation to the teacher. Use video and audio taped responses. 	<ul style="list-style-type: none"> Video and audio equipment.
<p>Articulation/oral dyspraxia/apraxia of speech</p> <ul style="list-style-type: none"> Physical responses Spelling errors that are phonetic when writing Difficulty spell-checking words 	<ul style="list-style-type: none"> Promote the use of visual spelling strategies. 	
<p>Language information processing/semantics</p> <ul style="list-style-type: none"> Errors in syntax and morphology Difficulties in understanding synonyms, autonyms, multiple meanings, homonyms Difficulty with inferences and idioms 	<p>Organization and structure</p> <ul style="list-style-type: none"> Use thinking maps/graphic organizers. Give explicit instruction for vocabulary and concepts. Use Frayer Maps and semantic webs to teach and store vocabulary. Connect new learning to prior knowledge. Use pictures. Preview vocabulary. Use multi-sensory teaching strategies. 	<ul style="list-style-type: none"> Concept maps and Mind Maps®. Graphic organizers. Visual clues. Multi-sensory teaching strategies. <p>Materials listed are suggested useful support materials, provided solely for your information and convenience. The IB does not endorse any of these materials in any manner and has no control over their accuracy, legality or completeness of information.</p> <ul style="list-style-type: none"> <i>Alpha to Omega Pack: Teacher's Handbook and Student's Book</i> by Hornsby, Shear and Pool. <i>The Bangor Dyslexia Teaching System</i> by Elaine Miles. <i>The Hickey Multisensory Language Course</i> by Margaret Combley. http://www.longwood.edu/staff/jonescd/projects/educ530/aboxley/graphicorg/fraym.htm

Possible challenges for older students (SLCN)	Teaching strategies	Resources
<p>Pragmatics</p> <ul style="list-style-type: none"> • Students struggle with synonyms/multiple meanings • Students don't understand sarcasm • Difficulties with making inferences and idioms • Hyperfocus on favoured topics • Students have difficulties observing personal space boundaries 	<p>Social skills groups</p> <ul style="list-style-type: none"> • Social stories and comic strip conversations (visual representations of interpersonal communication) about relevant personal experiences. 	

Visual impairment

Students with severe visual loss can be dependent upon what can be touched or heard (unless there are hearing issues), and thus the world of experiences has to be brought to the students in a meaningful manner if they are to understand the world around them. A team approach that includes the students, parents and specialist support is likely to be the most effective way of meeting individual needs, especially with respect to advice about the use of Braille and other appropriate media, equipment and technology. Frequent and/or prolonged absence from school when attending specialist training or medical appointments may lead to students feeling isolated and different; therefore, it is important to ensure that academic, social, emotional and physical needs are met to optimize learning.

Possible challenges	Teaching strategies	Resources
<p>Signs that students may be experiencing visual difficulties and need to be referred to a doctor or optician include:</p> <ul style="list-style-type: none"> • continued blinking or rubbing of eyes • squinting • headaches • dizziness • sensitivity to bright lights • holding head at a strange angle or very close to books/papers • red eyes • bumping into objects • poor balance • difficulty with handwriting or copying. <p>Implications for learning</p> <ul style="list-style-type: none"> • Any delays in concept development will impact on social, emotional, academic and vocational development. • As students are unaware of subtle activities in their environment, incidental learning and comprehension may be reduced. <p>Circumvent difficulties by teaching through strengths and offer alternative strategies, skills, mediums, equipment and technologies.</p>	<ul style="list-style-type: none"> • Provide a safe, affirming environment to build confidence and self-esteem. • Cooperative, knowledgeable, accessible schools that welcome parents into the learning partnership are best placed to support the students in overcoming challenges and to optimize learning experiences. • Teach in line with the IB's approaches to learning and the IB's four principles of good practice. • Be aware of when students need to wear glasses. • Provide access to a range of print that has optimal size print, and offers good contrast and layout. • Target other senses to reinforce learning; provide tactile materials such as three-dimensional materials (maps and diagrams), embossed text, coloured papers, pens, filters, overlays. • Focus on oral work and presentations. • Consult specialists and make arrangements to use technology when applicable. • Provide seating that takes into account the lighting. • Stand or sit in a position where the students can see you and avoid positions near to windows where silhouettes are created. • Consult with the students if layout changes to the environment are to take place. 	<p>Websites listed are suggested sites of useful support materials, provided solely for your information and convenience. The IB does not endorse any of these sites in any manner and has no control over their accuracy, legality or completeness of information.</p> <p>The following website is a worldwide listing of organisations for the visually impaired.</p> <ul style="list-style-type: none"> • http://www.mdsupport.org/resources/vis-imp.html • http://www.afb.org/section.aspx?TopicID=189&DocumentID=1344 • http://www.teachingexpertise.com/e-bulletins/supporting-the-child-with-visual-impairment-1951 • http://www.visionaustralia.org/info.aspx?page=1236 <p>Assistive technologies for the blind</p> <ul style="list-style-type: none"> • http://www.disaboom.com/blind-and-visual-impairment/assistive-technology-for-the-blind

Possible challenges	Teaching strategies	Resources
	<ul style="list-style-type: none"> • Students should not be left in a space where they have no point of contact; guide them to the wall or a piece of furniture. • Help students to negotiate and learn the routes to bathrooms, classrooms, etc; use trails along walls and school landmarks. • White lines may enhance navigation and accessibility. • Contrasting strips along the edge of steps may make going up and down stairs easier. 	

Questions for reflection when developing an inclusion/SEN policy

Programme standards and practices (2010) provides a set of criteria that both the IB World Schools and the IB can use to evaluate success in the implementation of IB programmes. As mentioned in the section on “Meeting student learning diversity”, the following practices require schools to demonstrate their support for a diversity of learning:

- A9 The school supports access for students to the IB programme(s) and philosophy.
- B1:5 The school develops and implements policies and procedures that support the programmes.
- B2:8 The school provides support for its students with learning and/or special educational needs and support for their teachers.
- C1:6 Collaborative planning and reflection incorporates differentiation for students’ learning needs and styles.
- C3:10 Teaching and learning differentiates instruction to meet students’ learning needs and styles.

Schools should develop and implement an inclusion/special educational needs (SEN) policy that is consistent with IB expectations, in accordance with local legislation and school policy, and is easily available to the whole school community. It should link with the school’s mission and pertinent school policies such as those of language, learning and assessment.

Just as IB World Schools differ in their size, facilities and available resources, so learning support provisions will vary from school to school. Documenting these learning provisions is not only good practice but imperative if all stakeholders, especially students and parents, are to be involved in learning partnerships. The inclusion/SEN policy will be an invaluable resource for all those involved with the students and will ensure that procedures and provisions remain consistent. In some national situations, an inclusion/SEN policy will be a legal requirement, and in some countries local educational districts or authorities will have produced one for their district or region. However, it remains important that the school details its own learning support approaches and procedures in an inclusion policy.

An inclusion/SEN policy celebrates the practices and procedures that support student learning in a school’s particular context.

Questions to ask when developing and implementing an inclusion/SEN policy

The following questions can be used to assist a school in developing and implementing inclusion/SEN policies and procedures.

School organization

- What are the local, national and international legal obligations on inclusion/SEN that have to be met?
- What are the local, national and international legal requirements of teachers in meeting the needs of students?

- Is the policy consistent with IB philosophy and practice?
- How is the philosophy on inclusion aligned with the school's mission statement?
- How does the school define inclusive education? (For more information about IB programmes and inclusion please refer to *Learning diversity and the IB Programmes: Special educational needs within the International Baccalaureate programmes* (2010).)
- How does the policy link to other school policies such as teaching and learning, assessment and language policies?

School development

- How is the provision for inclusion/SEN supported by professional development?
- What provision improvements are needed?
- What are the implications for school development?

Resources

- What expertise does the school have access to?
- What expertise is needed?
- Who are the staff experts and/or consultants who work with students and/or guide teachers to work with students with learning support needs?
- What resources are allocated to maximize inclusion?
- Who is responsible for finding, allocating and deploying resources?
- Which testing or screening tools does the school have access to?
- Which tests are staff qualified to administer?
- Which staff/stakeholders have specific responsibilities to maximize inclusive outcomes (state job title and responsibilities)?
- Is the school physically accessible? If not, is there a plan for creating accessibility?
- What are the budgetary implications?

Stakeholders

- Who are the stakeholders and outsiders to whom the inclusion policy will apply—management, teachers, students, parents/legal representatives of students, non-teaching staff, visitors?
- Which stakeholders are made aware of the inclusion policy?

Communication

- Who is responsible for notifying parents, students and teachers of testing results?
- Are students, parents/legal representatives of students aware of the inclusion policy?
- How is the school community made aware of the inclusion policy?
- Does the school have ongoing communication with parents of students with learning support needs? Are there any specific modes of communication?
- How is information communicated and coordinated during transition stages—changing schools, changing sections, changing campuses? (**Be aware of data protection and privacy legislation, including those with respect to student privacy and health information privacy.**)
- How are the inclusive policy and practices communicated to new staff?

Confidentiality

- How does the school communicate its policies and procedures regarding confidential information?
- How is information held on students, is any of the information confidential, where should it be held and who should manage it?
- Who has access to student files?

Learning

- What is the extent of student learning needs at present?
- How are the needs of existing students being met?
- How many students in the school have learning support/SEN needs? Are there more students in specific SEN categories?

Policy documentation

- How is inclusive/SEN provision documented?
- How is the provision for inclusion/SEN structured, coordinated and monitored?
- How is the overall access to curriculum, examinations and school activities reflected in the policy?
- How are individual educational plans reflected in the policy?

Policy processes

- What is the policy review process? How does it ensure that the inclusion policy remains a work in progress, keeping up to date with the needs of the student population and in line with learning needs legislation as well as roles and responsibilities?

IB resources for supporting student learning diversity

Candidates with special assessment needs (2011)—specific to the Diploma Programme

Language and learning in IB programmes (2011)

Learning diversity and the IB Programmes: Special educational needs within the International Baccalaureate programmes (2010)

Programme standards and practices (2010)

What is an IB education? (2012)

Further information can be found on the special educational needs page on the OCC.