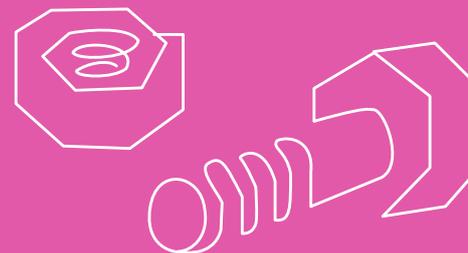
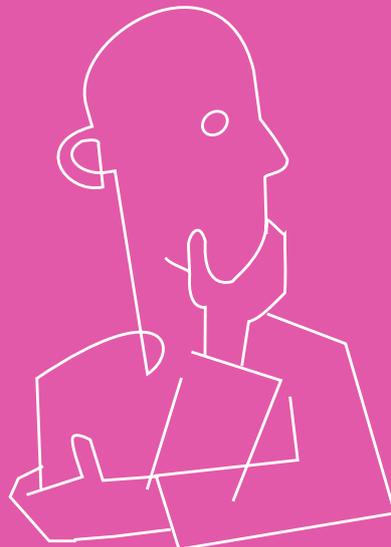
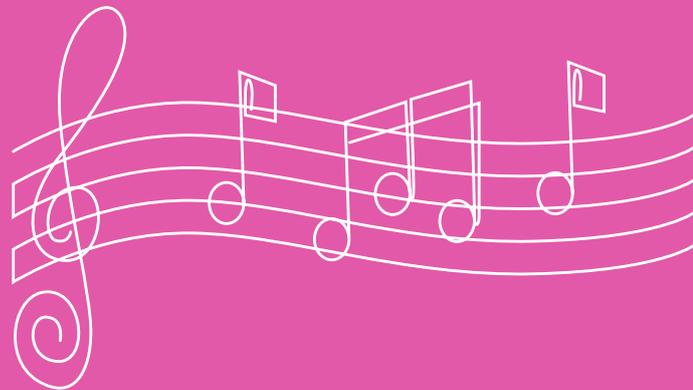
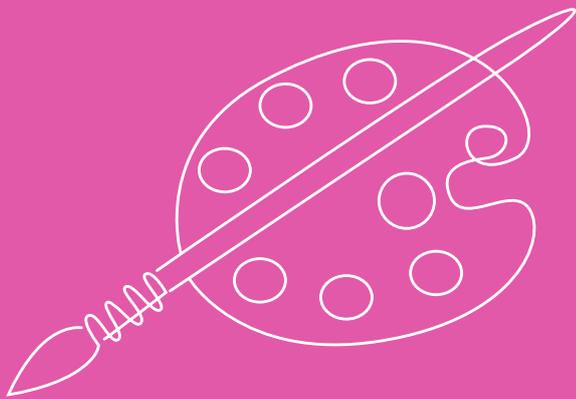
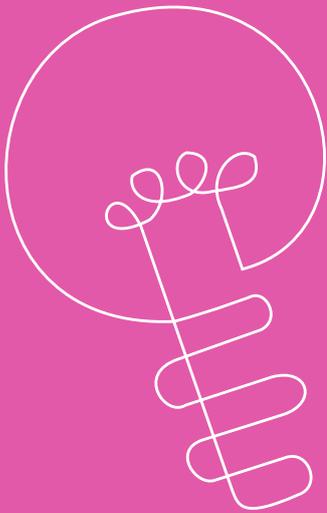


Guidelines

for Teachers of Students with
General Learning Disabilities

Introduction




NCCA

National Council for Curriculum and Assessment
An Chomhairle Náisiúnta Curaclaim agus Measúnachta

Contents

Introduction	3
School and classroom planning	4
Communication and language	12
Assessment	17
Supporting teaching and learning through ICT	24
Managing challenging behaviour	37

Introduction

This is a companion document to the Guidelines for Teachers of Students with General Learning Disabilities. Its primary purpose is to look at some of the wider issues that affect the teaching and learning of these students. As with the guidelines themselves, it is intended for use by all teachers, and should also be accessible to a range of other personnel directly involved with the student's education, whether in mainstream primary and special primary schools, post-primary schools, or other educational settings.

The introduction is divided into five sections:

<p>Section 1: School and classroom planning</p> <p>This section looks at the key elements in school planning for inclusion of students with general learning disabilities. Information on classroom planning explores the many different ways to differentiate teaching and learning.</p>
<p>Section 2: Communication and language</p> <p>This section looks at the issues around communication and language development, and explores the common causes and conditions of language disorders.</p>
<p>Section 3: Assessment</p> <p>This section outlines various methods of assessment and looks at the different ways they can be used to construct a detailed picture of the student's learning needs and achievements.</p>
<p>Section 4: Supporting teaching and learning through ICT</p> <p>This section looks at various ways ICT can facilitate and increase access to learning and communication for students with general learning disabilities.</p>
<p>Section 5: Managing challenging behaviour</p> <p>This section addresses the main issues relating to challenging behaviour and outlines the various stages in planning an intervention.</p>

Section 1

School and classroom planning

School planning

Effective whole school planning is essential to ensure that the learning needs of all students are identified, adequately resourced and responded to effectively. At the centre of this planning process is the student as a person and as a learner. School planning is an on-going process in which policies and plans respond to the changing and developing needs of learners. The important role that school planning plays in promoting school effectiveness has been stated in the Education Act¹, 1998. A suggested model for school planning involves

- reviewing existing curriculum delivery in light of its strengths and weaknesses
- designing school plans and strategies which detail how the curriculum content, teaching methods and resources can be used to meet the learning needs of all students, including students with general learning disabilities
- outlining a course of action to support teachers in meeting the students' learning needs
- reviewing and assessing at regular intervals whether the goals outlined in the school plan are being achieved.

The school plan outlines the way in which teachers can work together in planning and adapting the curriculum to meet the students' individual learning needs. Facilitators from the School Development Planning Support (SDPS) primary, www.sdps.ie are available to assist primary schools in addressing their self-identified planning priorities, including curriculum and/or organisational issues. Similarly, the School Development Planning Initiative (SDPI) post-primary, www.sdpi.ie offers information, guidelines and resource materials to support the process of development planning in post-primary schools.

Embracing new content, changes of emphasis, teaching approaches and methods, presents a challenge to schools. The commitment to providing students with special educational needs with an integrated educational experience in mainstream schools has added a further dimension to the range of curriculum provision required in primary and post-primary schools. Managing effective planning in mainstream or special schools in this context involves decisions in the selection of starting points and appropriate areas for development. Where students are integrated in mainstream settings, it is important that the school's policy on inclusion is part of the school plan. The need for communication with parents/guardians and other relevant personnel should also be a feature of the plan.

Professional development of staff

School staff face a range of particular challenges when working with students with special educational needs and ongoing professional development plays an important role in assisting staff in meeting those challenges. As well as working with parents/guardians, the class teacher may liaise with professionals from other disciplines such as educational psychologists, speech and language therapists, visiting/resource teachers, occupational therapists, physiotherapists and Special Educational Needs Organisers (SENOs). Teachers will often be working with multidisciplinary teams and need a clear understanding of the roles and views of other professionals and organisations. In reviewing reports on students, teachers need to become familiar with medical and psychological terminology.

¹ Education Act (1998), Department of Education and Science, Dublin: Stationery Office.

It follows that staff need certain knowledge and skills to work with students with special educational needs. Support for ongoing professional development through in-service training at primary and post-primary level is provided by the Special Education Support Service (SESS), www.sess.ie. The following activities may help support the professional development of staff:

- liaising with principals and teachers from other school settings to share ideas and expertise
- inviting guest speakers or staff members with expertise to address staff meetings or on designated curriculum development days
- encouraging staff to participate in continuing professional development in the area of special education including courses and conferences
- encouraging staff to share strategies, ideas and experiences with colleagues
- organising training for special needs assistants and any new groups of support staff as sanctioned by the Department of Education and Science or the Board of Management
- identifying and sharing useful websites
- establishing a section on special educational needs in the school library.

Working with special needs assistants (SNAs)

The special needs assistant is a vital member of the school team, and can make a valuable contribution to the educational experience of students with special educational needs. It is important that teachers work closely with the special needs assistant and provide him/her with a sense of direction. The school plan outlines the role and responsibilities of the special needs assistant.

5

Involving parents/guardians

Establishing good working relationships with parents/guardians is a key element in meeting the educational needs of all students. Planning successful learning experiences for students with general learning disabilities will benefit greatly from the input of parents/guardians. Parents/guardians can provide a wealth of information about their child and by following the approaches taken in school, particularly in relation to reading, writing and mathematics, parents/guardians can help to practise and reinforce new skills at home. Schools can refer parents/guardians to the NCCA's DVD *'The What, Why and How of Children's Learning in Primary School'*, which shows parents how they can support their child's learning at home during the years of primary schooling.

Where behaviour problems exist, it is important to ensure consistency in management between home and school. Parents/guardians can often shed valuable light on the nature of a student's behaviour problem. This is valuable information that needs to be taken into account in any strategy developed to address inappropriate behaviour.

Planning for transition from primary to post-primary education

The focus of planning for transition should be on preparing for change before it happens. Three phases can be identified in this process of planning for the transition of students with general learning disabilities from primary to post-primary education: **Communication, Consultation, and Consolidation.**

Communication

Ongoing contact between the schools involved, whether mainstream primary schools or special schools, and the post-primary mainstream school is vital. This contact may be part of ongoing liaison with feeder primary schools. The SENO, in communication with the principal, parents, and with support from the National Educational Psychological Service (NEPS), will plan how best to support the transition and help the school to prepare to meet the learning needs of students prior to their arrival in the school.

Consultation

Once the school becomes aware that a student with general learning disabilities will be transferring from a primary or a special school, a process of consultation needs to take place to gather information about the learning and other needs of the student. This information may be sourced from Individual Education Plans (IEPs), NEPS assessment reports, from parents/guardians, from social services where relevant, and from the school from which the student is transferring. In consultation with the SENO, the support, time, resources and personnel that have been available to date can be ascertained and the support which will be available to the school for the student beginning junior cycle can be planned for.

Other considerations at this stage of the planning process could include

- the possibility of developing a buddy system for first year students
- use of withdrawal and in-class support as appropriate
- sharing of information and feedback between learning support staff and other staff involved
- how homework can be supported
- building in time to communicate with parents.

Key personnel in this phase include all staff with responsibility for special education and those with particular responsibility for first year students (tutor or year head). Towards the end of this stage, all teaching and ancillary staff that will be in contact with the student in their first or subsequent years in post-primary school should be informed and involved.

Consolidation

This third phase involves the bringing together and co-ordination of the relevant aspects of the school plan and ensuring that the desired outcomes are achieved prior to the arrival of the student in the school. The plan will need to be monitored and developed throughout the student's school career. This is consistent with the idea of school development planning as a cyclic rather than a linear process. Once the student arrives in the school the communication and consultation phases are consolidated within the ongoing planning process.

Classroom planning

Within the overall framework of school planning, teachers plan for the implementation of the curriculum. This, in part, involves interpreting and adapting the curriculum where necessary to meet the needs, aptitudes and interests of their particular students. Each student assessed as having special educational needs will require an IEP. But it is important that a balance is achieved between giving priority to individual needs and providing access to a curriculum that is as broad and balanced as possible.

The curriculum for some students with general learning disabilities reflects a developmental rather than a chronological approach to learning. By revisiting knowledge and ideas already acquired, as the starting point for new learning, it allows for the gradual refinement of concepts and skills. In many instances, the student's age will not be related to his/her developmental level. Teachers will identify suitable entry points for students in each subject. However, teachers will need to be alert to age-appropriateness when planning learning outcomes and activities and in choosing resources.

Teachers may find the following general strategies useful to support their student's learning:

- present a range of activities that will interest and motivate the student
- differentiate teaching approaches, methods, materials, resources and learning tasks according to individual, group and whole class student needs
- make the beginning and end points of tasks clear, and avoid ambiguity
- consider using a model or picture of the final goal or end product, so that the student knows what is expected
- use visual cues to highlight meaning; present tasks using symbols, or give instructions with a written/pictorial list or prompt cards
- present tasks in small, manageable, clearly identifiable steps
- introduce skills one at a time
- develop a hierarchy of sub-goals and sequence activities towards the learning goal
- modify tasks to harness and build on the student's strengths; tasks can be graded so that they make increasing demands on the student
- be explicit when giving instructions; do not assume that the context will help to make the meaning clear
- make explicit the connections with previous skills or knowledge
- build on opportunities for the student to generalise knowledge and skills
- gradually introduce choice, thereby encouraging decision-making
- teach routines through a structured approach
- be positive, patient and aware of how and what you communicate to the student.

Planning for individual educational needs

In providing for students with general learning disabilities, planning to meet their individual educational needs is vital. The generation of an Individual Education Plan (IEP) is an effective way of doing this. It provides a comprehensive record of the student's learning needs, goals and progress and is developed within the overall context of the school plan. The National Council for Special Education (NCSE) has published guidelines to support schools and teachers in generating IEPs (see www.ncse.ie).

The IEP is a working document that is useful, available and comprehensible to all those working directly with the student. The following are essential elements of planning for individual educational needs:

Current level of performance

Formal and informal information is gathered about the student from every possible source as a starting point in planning for individual needs.

Student's strengths and needs

All strengths and needs are listed; they should be relevant to the student's learning and expressed in a positive manner.

Priority needs and long-term learning goals

The student's priority needs are collaboratively established by the staff team working with the student and are expressed as long-term goals. Ideas on how the student's strengths can be used to achieve these goals are also discussed.

Short-term learning objectives

In planning short-term objectives, the more specific the objective, the easier it will be to monitor progress and make changes as necessary. Objectives should be realistic, achievable, observable, and directly related to specific areas of the curriculum.

The learning goals should have a clearly stated target date and be regularly monitored and evaluated. It is important to remember that while the IEP is concerned with priority needs, the student will have other learning needs that will not require the same intensive degree of planning and monitoring. In planning programmes of study that cater for a student's specific priority needs, as many areas of the curriculum as possible should be included. This will maximise access to a broad and balanced curriculum while still catering for the priority need. It will also facilitate integration of the student in group work within the class, where there may be different objectives for each student as they work together on a particular activity.

Differentiation

The term 'differentiation' refers to the process of varying content, activities, teaching, learning, methods and resources to take into account the range of interests, needs and experience of individual students. Differentiation applies to all effective teaching but is particularly important for students with special educational needs. Within any group of students there will be a wide range of ability and experience. Learners vary in their intellectual and physical capabilities and in their motivation, interest, health, and backgrounds. This variation calls for flexible approaches, allowing for differentiation to provide challenges and successes for all students, while accommodating those who are experiencing difficulties and those who are in need of further challenge.

Differentiation is a process that allows for variation in

- **content:** what we teach
- **process:** the methods, materials and activities we use to give students opportunities to practise and learn the content
- **product:** the way in which students show us what they have learned.

Effective planning for differentiation

Effective planning for differentiation depends on an accurate assessment of the student's previous level of achievement in order to plan learning objectives appropriate to future learning needs. The teacher begins by establishing the student's prior learning experiences (what he/she already knows or can do); his/her interests (what the student likes, what the student is good at) and his/her learning profile (more personal information about the student and the factors that affect how the student learns). In planning for differentiation teachers need to be guided by three key considerations:

- what the student **could** know and do
- what the student **should** know and do
- what the student **must** know and do

The needs of individual students may be different even if their physical, sensory or learning disability is the same. In differentiating tasks, teachers need to consider the student's personality, motivation, and level of concentration. Adopting a differentiated approach should not result in individuals or small groups being isolated or excluded from the main work of the classroom. Students can progress well in carefully structured situations that take account of their individual needs but also permit them to be part of a wider group of peers.

Different ways to differentiate

There are many ways to differentiate teaching and learning approaches to meet the individual learning needs and experiences of students. Different subjects and topic areas will lend themselves to various forms of differentiation that are consistent with the overall aims and objectives of the curriculum. However, given the realities of classroom life, the teacher will have to choose which differentiation methods are best suited to different classroom contexts.

Differentiation by level and pace enables students to work on a similar topic at a level and pace that reflects his/her previous achievement in that area. This could, for example, be in a mathematics lesson about money, where one group is working on concepts of addition and subtraction of money amounts, while another group works on the recognition of coins, while yet another group is engaged in shopping activities.

Differentiation by interest involves tapping into the student's own interests in order to motivate and enhance the learning experience. This could involve, for example, teaching bar charts by allowing different groups to represent their own favourite topics: pop groups, television programmes, football teams, favourite foods.

Differentiation by access and response involves students accessing and responding to the same curricular content in ways that are modified to suit individual needs and competencies. This can be demonstrated where one group responds to a given picture by writing a descriptive story, while another group describes the picture orally onto a tape, while another group re-creates the picture pictorially, or by using suitable software.

Differentiation by structure involves the teacher planning small steps of learning for some, while others are learning in whole blocks of integrated curricular content. When planning learning objectives for any area of the curriculum, the teacher may outline the objectives with four levels in mind: minimum, median (average), extension (additional), and optimum (highest level possible). In this way the learning is structured to meet the learning needs of students who need support and to challenge those who are exceptionally able.

Differentiation by sequence involves allowing students to access different parts of subject content at different times throughout the year. This could be planned in advance in consultation with the students and other support personnel.

Differentiation by teaching style involves students experiencing various approaches and different styles of teaching and forms of response. These may include didactic teaching approaches, class discussion, investigation, student presentation, research using the Internet, the use of film/video. The teaching style should facilitate the inclusion of students with different learning strengths and disabilities.

Group work and individual work

All types of groupings can be used in a differentiated classroom. To use groupings effectively, the type of work to be carried out in groups needs to be carefully selected. An initial step towards working in groups will be the development in students of an increased awareness of the needs of others. Working in pairs can be a first move towards developing this awareness.

It is important that time is given to consider the tasks to be presented for paired work and the skills of the students to be paired. While pairing a more skilled student with one of greater need can have mutual benefits, it is important that the more skilled student does not assume the role of carer but allows the other to interact in the learning process. It will be important to agree rules for working in pairs and groups. These could relate to taking turns, keeping noise levels down and being respectful of each other's contribution.

For the student with general learning disabilities, interaction with his/her peers will form a central part of social development. In planning the curriculum for students with such diverse needs, finding the balance between group work and individual work can be difficult. Some students will require one-to-one attention, particularly when learning new tasks, or when working on areas of priority need. However, working as part of a group also has much to offer the student.

The benefits of collaborative learning in small groups or as a whole class include

- awareness of group identity and the development of a sense of belonging
- opportunities for interaction with peers
- opportunities for learning from peers
- increased responsibility for making individual contributions within the shared task
- effective use of staff time if students are working on the same task or concept.

Grouping students within the class

When organising any group work for students with general learning disabilities, careful thought needs to be given to the following considerations to ensure the effectiveness of the group:

- matching the size of the group to the activity and to the students involved
- clarifying what each student is working towards within the activity
- grouping students who will not disrupt each other unduly
- grouping students who are working towards a common goal in the activity, at similar or at different levels
- choosing tasks that are easily observed and imitated in order to maximise peer learning
- choosing students who are at, or approaching, the stage of being able to benefit from peer learning
- considering the concentration span of the students in the group (break periods can be built in to the activity for a very hyperactive student)
- considering the communication needs of the students (some may require one-to-one assistance).

The Tic-Tac-Toe choice menu

The Tic-Tac-Toe choice menu (see table 1) is an enrichment/extension approach where students are asked to choose three activities and to colour in each square as the activity is completed. This strategy can readily be adapted at post-primary level when planning a topic or as a way of differentiating homework.

Table 1. The Tic-Tac-Toe task choice menu

Make something	Teach or demonstrate	Compare
Model, design, collect artefacts, produce artwork of an aspect of your study.	Teach something you have learned to someone else or to the class.	Select and then compare different elements of your study. Find similarities and differences.
Record creatively	Graph	Demonstrate
Use photos, video, or a collage of your work for a presentation.	Create a visual record of some aspects of your work	Give a demonstration to show what you have learned.
Survey	Dramatise	Forecast
Gather people's opinions, feelings about some fact, idea or aspect of your study.	Organise a role-play on something you have learned.	Look to the future. How will your topic change in the next 10 years?

Section 2

Communication and language

All aspects of language are complex, yet language acquisition begins for the student long before his/her first words are spoken. By the time students are ready for school the majority have acquired most of the grammatical rules of their language, their vocabulary is growing at a considerable rate and they have acquired a substantial level of communicative competence. The stages that students progress through in acquiring language are remarkably similar across languages, as is their rate of progress.

There are, however, individual differences in the rate at which students progress from single words to forming meaningful sentences. Some advance through each of the stages at a relatively rapid pace, others take longer to progress from one stage to another. In the case of many students who have language-learning difficulties, language development may follow the developmental norms for language, but at a slower pace, while in the case of other students, language development may be delayed.

Speech, language and communication

Language is generally categorised into **receptive** and **expressive** language. The ability to understand someone else's speech/writing or gestures is called receptive language; creating a spoken, written or signed/gestured message that someone else will understand is called expressive language. In considering language learning, it is important to distinguish between the terms speech, language and communication.

Speech is the vocal production of language. Oral expressive language involves combining speech sounds to form words and sentences. Speech skills are closely linked with auditory perception, articulation and voice.

Language refers to the words and rules held in common by a group that enables people to share their ideas and express their wants and needs.

Communication refers to the exchange of messages between two or more people.

The key components of language may be identified as follows:

- **phonetics:** how sounds are perceived and articulated (e.g. /k/ = the 'c' as in cap)
- **phonology:** the component of grammar that determines the sound pattern of a language, the inventory of phonemes in that language, and the rules governing how they can be combined to form words in that language
- **morphology:** the component of grammar governing the internal structure of words and rules of word formation (how words are related to one another, e.g. dog, dogs, dog-catcher)
- **syntax:** the components of grammar governing the way in which words combine to form phrases and phrases combine to form sentences (e.g. using nouns, adjectives, verbs, singular, plural, comparative etc.)
- **semantics:** the way in which sound and meaning are related; the meaning contained in words, phrases, sentences and texts
- **pragmatics:** how language is used in a social context.

Normal language development

Developmental charts that show typical speech and language development are useful starting points for looking at language learning. An overview of the development of such language norms in the population is provided below. It is, of course, important to remember that every student is an individual and that, within what is regarded as typical or normal language development, there can be wide variation.

Language development

1. Production of sound

Behaviour is, initially, largely reflexive. Gaining neuromuscular control of the speech mechanism is important to the development of speech/language; so also are crying, cooing and babbling.

The child's

- cries provide the necessary exercise for the development of the speech apparatus
- cries, coos, gurgles precede speech/language
- babbling becomes more speech-like
- pitch and intonation appear
- babbling is aimed at self and others
- shouts attract attention
- vocalisations are later accompanied by pointing.

2. Awareness of sound

The child's responses to sounds, noises or voices provide an insight into their receptive language development. Listening is a learned skill and requires the child to attend to sounds. During the first months of life, the child

- coos in response to mother's voice
- reacts to loud/sudden noises
- turns his/her head in the direction of noise
- shows an interest in objects that make noise
- is able to perceive and discriminate between subtle speech-sound variations such as between /b/ and /p/ and between different vowel sounds
- reacts to the sound of his/her own name.

3. Interaction/communication

The ability to communicate is present from birth. Early communication occurs despite the lack of speech and language. Communication at this stage supports language development. Communicative elements/processes that develop within the first few months include

- eye contact and gaze exchange
- joint attention with caregiver's direction
- ability to fix the gaze of the speaker
- smiling as a response
- differential response to strangers and family members.

By approximately six months, the child is using sounds to gain attention and make responses. There is increased control of oral movements.

Language development

4. Phonology

The child

- vocalises pleasure and displeasure by giggling, laughing, crying, whining
- babbles loudly and can modify babbling according to the environmental setting
- imitates adult vocalisations
- babbles syllables that begin to resemble words
- reduplicates in babbling, sounds such as 'mama', 'baba'.

5. Semantics

The child

- attaches meaning to some common words used in context, e.g. ball, doggie
- understands/follows simple instructions, especially where accompanied by physical or visual cues
- responds to his/her own name
- responds to requests such as 'wait', 'come here'
- will hand/seek an object on request e.g. ball, shoe
- indicates wants/needs by pointing/vocalising
- uses early words to fulfil many functions.

Typically, first words emerge at the end of these developments.

6. Pragmatics

Communicative abilities developed during this stage aid the development of later pragmatic skills.

The child

- employs routines for gaining the attention of others
- reacts to facial expressions and changes in tone of voice
- differentiates familiar from strange faces
- understands gestures that communicate particular meaning such as 'bye bye', shaking head to indicate 'no'
- enjoys games such as peek-a-boo
- uses pointing plus vocalisation
- demonstrates affection to familiar caregivers
- is conscious of caregiver's reactions to unfamiliar happenings or events, the location of caregiver, etc.

Language disorders: common causes and conditions

When considering language disorders two broad groups of students can be identified: those for whom a specific speech/language problem is their primary difficulty; and those for whom it is a secondary condition. Development in the first group is normal except for the area of speech and language. This group of students is described as having a Specific Speech and Language Disorder. Students in the second group have other conditions that affect the development of their speech and language. Examples of such conditions are hearing impairment and Down Syndrome. Many students with general learning disabilities also experience language difficulties. Language problems in students can have far reaching consequences. They can impact on the student's social, emotional and educational development. Language difficulties that persist to adulthood can impact on occupational and recreational development.

Language delay/language disorder

With language delay the student's language develops more slowly than that of his/her peers but it does follow the normal developmental sequence. Language delay is more common than language disorder. With language delay speech and language present like that of a younger child. Language disorder is less common. Unlike language delay, it does not follow a known pattern of development. Language disorder can persist for many years and can impact on areas related to socialisation, literacy and learning.

Other specific speech and language disorders, and conditions that affect the development of speech and language may include

- Receptive language disorder
- Expressive language disorder
- Verbal dyspraxia
- Word retrieval difficulties
- Cleft lip/palate
- Dysarthria
- Down Syndrome
- Autism Spectrum Disorder (including Asperger's Syndrome)
- Fragile X Syndrome
- Fluctuating hearing loss.

Talking to parents about speech and language problems

Where students with special educational needs experience language delay or a language disorder, effective communication and co-operation between parents and teacher around questions of language learning is particularly important.

This communication can be enhanced if the teacher

- talks to parents in language which is jargon-free yet is consistent with professional usage
- provides guidance for parents about the normal development of speech and language and how parents can help to stimulate communication
- helps parents recognise that there may be a problem with the student's speech/language/communication
- encourages active parental involvement in their child's education, particularly in their speech/language/communication development
- is open, non-judgemental and sensitive to the concerns voiced by parents

- informs parents about class and school rules so that parents can help their child to understand what is expected of them
- encourages the use of a communication journal between home and school for the student who is unable to communicate wants/needs/feelings or his/her experiences in/out of school
- agrees strategies with the parent that the student might use to communicate: such as pointing, signing or choosing from pictures or symbols. The same approach should be used in school and at home
- assures parents that each time they stimulate their child's language they are helping their child learn
- reassures parents that in some cases students experience language difficulties for a period of time only
- helps parents appreciate that the reasons why some students have difficulties learning to speak are unclear and that they should not feel guilty or blame themselves for the difficulties their child is experiencing
- encourages parental involvement in shared reading activities with their child
- identifies, with the help of parents, ways of developing skills of independence
- provides information for parents about the student's strengths, needs and priority learning needs, particularly in relation to language and communication
- provides oral and written feedback for parents about the student's progress in speech/language and communication.

Section 3

Assessment

When used as part of teaching and learning, assessment enables teachers to make critical decisions about differentiating the curriculum for students with general learning disabilities. It can play a crucial role in acknowledging the student's potential and in celebrating his/her progress and achievement.

Assessment is the ongoing process of gathering, recording, interpreting, using and communicating information about a student's progress in developing knowledge, concepts, skills and attitudes. The four main purposes of assessment are, summative, formative, diagnostic and evaluative. Summative assessment (assessment **of** learning) is traditionally associated with examinations and tests, and is used to provide a summary of the achievements of the student. Formative assessment (assessment **for** learning or AfL), on the other hand, is the kind of assessment associated more often with the classroom. It involves using the whole process of assessment to provide feedback to the student on the progress of his/her learning so that he/she can learn more effectively. As such, AfL can be a powerful tool in supporting the learning of students with general learning disabilities (for more information on AfL see www.ncca.ie).

Assessment also provides the essential information that will form the basis for reporting to parents/guardians on their child's progress and achievement. This enables parents/guardians to help to ensure that the student's experience at home and in school complement each other. The involvement of the student in the assessment process is at the heart of promoting student learning. Discussion with students regarding their individual goals and their progress enables the student to be actively involved in the learning process. In the case of students with general learning disabilities the teacher may need to provide additional support to familiarise students with the terms used when giving and receiving feedback. Group work and interactive learning will be of primary importance in facilitating the development of learning skills for some students with general learning disabilities. Effective assessment recognises the positive achievements of students and informs planning.

Planning for assessment

When planning for effective assessment of students with general learning disabilities. It is important that assessment

- is meaningful and appropriate to the age of the student
- takes place throughout the range of curriculum areas and experiences
- concentrates on the whole student and not just on his/her areas of difficulty
- takes account of a wide definition of progress
- takes account of the student's preferred learning styles
- supports effective communication between parents and professionals
- is part of the teaching and learning cycle
- identifies the need to re-evaluate learning targets.

Assessment provides information to support the development and ongoing review of the student's targets as set out in his/her Individual Education Plan (IEP). It is important to use a broad range of assessment methods in order to gather information to construct a detailed picture of the student's achievements and learning needs. As well as the information gathered from school-based assessment and from parents/guardians, the input of psychologists, therapists and other professionals will add further dimensions to the assessment process. Some possible methods of assessment are explored overleaf.

Methods of assessment

The class teacher's own assessment of the student will begin by trying to establish the student's present level of academic, physical and motivational functioning. Most assessment information is gathered by the class teacher using a range of assessment methods, while diagnostic testing usually requires specialised training and is usually carried out by the Learning Support/Resource teacher. The methods of assessment should be suitable for the learning that is being assessed. Methods of assessment discussed in this section include

- teacher observation
- teacher-designed tasks and tests
- portfolios
- self-assessment
- peer-assessment
- standardised testing
- diagnostic testing.

Teacher observation

Observation is the form of assessment most commonly used by the teacher. It involves observing how students interact, co-operate, work independently and ask questions. The teacher monitors the student's ability to acquire attitudes, values and dispositions, to handle materials and tools, and the level of his/her commitment and personal involvement with the task at hand. The teacher liaises with the student's special needs assistant, as he/she will also have a significant amount of observational information. This form of informal observation is vital in planning to meet the individual learning needs of students with general learning disabilities.

Teacher-designed tasks and tests

These are activities designed specifically by the teacher to assess the student's understanding of particular concepts or skills based on

- the nature of the learning being assessed
- the needs and abilities of the student
- practical and organisational factors.

Teachers may find it useful to allow students with general learning disabilities to use a range of communication modes to complete the tasks or tests. The special needs assistant can support the student in carrying out his/her chosen mode. Some students may require specific prompting in order to do the tasks or tests. The learning outcomes of a task or test can be produced in a variety of forms: oral, written, pictorial, building a model, taking a photograph. For some students, working in pairs or in groups to carry out the task or test may be beneficial. Additional time can be given to students who require it.

Portfolios

Good assessment benefits from good recording. But recording need not always be a record of student work or progress kept by the teacher. It can also be a record kept by the student. A portfolio is a collection of samples of work which records progress and/or achievement. The keeping of a portfolio is strongly recommended for students with general learning disabilities. It provides them with concrete evidence of their progress/achievements, which they can discuss, review and share with teachers parents/guardians and peers, and this in turn can enhance their self-esteem. A portfolio can serve as

- a record of work completed
- a basis for reporting to parents
- a basis for an award/certificate
- evidence of progress over time
- evidence of future learning needs
- evidence of achievements in different contexts
- a source of positive feedback
- information at the point of transfer to another teacher, class or school
- a basis for student self-assessment
- an important home-school link.

The development of a portfolio allows for personal engagement by the students with the learning process. A portfolio captures a unique picture of how much and how well an individual has learned. The criteria for including items in the portfolio need to be clearly specified and agreed with students. Students should understand the criteria used by teachers to assess portfolio work, whether it is simply making explicit the sub-scores from which the overall score has been derived or providing a description on the student's work that the assessor particularly liked. A modification of this process would be to allow the students to assign a grade themselves, using agreed criteria. Some students with general learning disabilities may require pre-teaching of the different components used in the criteria.

Self-assessment

Self-assessment, with clearly defined aims and criteria can enable the students to identify their own strengths and needs as learners, to evaluate the progress they have made, and to suggest steps for improvement. Recording may range from indicating preferences for activities to a simple factual record of *'things I can do now'*, to a more perceptive analysis of their own strengths and needs. Self-recording creates a valuable link between teaching and learning and increases the student's self-esteem.

Suggestions for improvement by students themselves are integral to the self-assessment process. In addition to the portfolio strategy for recording and reporting, a record sheet based on the outcomes of a lesson/module of work can be a useful resource for student self-assessment. The completion of this record sheet as part of the lesson will also support student awareness of the learning outcomes. Providing a personal record sheet in pictorial form for students with general learning disabilities can facilitate self-assessment of their performance. While some students with general learning disabilities may have difficulty in managing self-directed learning, they should, if possible, be encouraged to monitor and assess their own progress. The special needs assistant can play an important role in supporting the student to engage in self-assessment.

Peer-assessment

Peer-assessment may involve assessment of one student by another or mutual assessment by a group of students engaged in an activity together. For students with general learning disabilities it is important to provide support so they are familiar with the language necessary to give feedback to their peers. Some students may require support to build up their confidence to take feedback from their peers in a positive manner. Where students work in groups, a common score could be assigned to each student within a given group. This form of group assessment presents the student with general learning disabilities with the opportunity to experience achievement and success and to develop good peer relationships.

Standardised testing

Standardised tests are norm-referenced, enabling the teacher to get an indication of a student's achievement with reference to students of a similar age or class group. These tests are used regularly to measure students' reading and mathematical skills. Teachers interpret the test results such as raw scores, standardised scores, STEN scores and percentiles as set out in the test manual. Primary schools carry out standardised tests of students at two points—at the end of first class/start of second class, and at the end of fourth class/start of fifth class.

In assessing the learning needs and progress of students with general learning disabilities, it is important to take into account the inherent perceptual and reading difficulties that may impede their overall performance. It is important also to know the limitations of the test and to use the information appropriately. For a small number of students with general learning disabilities, it may not be appropriate to make an assessment against standardised test profiles. As standardised tests are usually carried out as whole class groups, it is important that students who are not taking the standardised test do not feel excluded. The teacher can set a test that suits the student's learning needs or engage the student with an alternative task during the testing.

Diagnostic testing

Diagnostic testing differs from other methods of assessment in that it is usually administered by the learning support or resource teacher and is used to identify specific information about a student's needs and strengths in particular areas of learning. The importance of early diagnosis for students with general learning disabilities is critical in order to provide and plan for the student's individual needs.

Used in conjunction with other methods of assessment, these tests can be useful in identifying the best course of action for a particular student and in referring him/her for learning support teaching. The results of diagnostic tests should not be seen in isolation, but as part of a student profile containing background information relating to his/her health, physical, sensory and emotional development, as well as his/her progress with the curriculum.

Recognising progress and attainment

Progress is about change and development for all students, including students with general learning disabilities. For most students with general learning disabilities, progress can be demonstrated in the form of new skills and increased knowledge, understanding and awareness. For some students with general learning disabilities progress may be difficult to predict as these students may follow the same development pattern as their peers, but not necessarily at the same rate.

Defining progress

Although progress usually implies vertical movement through a hierarchy of concepts and skills, for some students with general learning disabilities it may

- follow the same pattern as for other students but take longer
- take place in some areas but not in others
- be evident through increased awareness and response, leading to interaction and participation
- be evident through a student's ability to demonstrate the same achievement on more than one occasion
- be evident through reduced need for support, moving from gestures and verbal prompts to natural cues and independence
- be evident in the student's ability to cope with new situations and environments
- take place when the student transfers learning from one setting to another
- occur when challenging behaviour is reduced or replaced by more appropriate behaviour.

It is important to note that the students' responses may change from lesson to lesson, from day to day or may be dependant on the time of day, the equipment being used, a familiar/unfamiliar environment, the health of the student or a preference for working with different members of staff.

The value of experiencing and responding to activities needs to be recognised by those involved in assessing students with general learning disabilities. Attainment can be recognised and recorded in a number of ways. The following table suggests a framework for recognising progress and/or achievement for some students with general learning disabilities (see table 1).

Table 1. A framework for recognising progress and/or achievement.²

Encounter	Students are present during an experience or activity without any obvious learning outcome
Awareness	Students appear to show awareness that something has happened and notice or attend to an object, event or person
Attention and response	Students attend and begin to respond often not consistently, to what is happening
Engagement	Students show more consistent attention to, and can tell the difference between, specific events in their surroundings
Participation	Students engage in sharing, taking turns and the anticipation of familiar sequences of events
Involvement	Students actively strive to reach out, join in or comment in some way on the activity itself or on the actions or responses of the other students
Gaining skills and understanding	Students gain, strengthen or make general use of their skills, knowledge, concepts or understanding that relate to their experience of the curriculum

² Planning, teaching and assessing the curriculum for pupils with learning difficulties, General Guidelines (2001), The Qualifications and Curriculum Authority, London.

Recording assessment information

For some students with general learning disabilities, the often apparent lack of progress makes it vital for the teacher to find a way of identifying and recording progress that is sufficiently sensitive to each student's level of ability. Methods of recording are structured by the teacher to suit their own classroom situation, activity and student. Particularly in areas of priority need, where there is a careful breakdown of achievable and measurable steps in each target area of the curriculum, the teacher keeps a record of progress. This helps the teacher to identify possible reasons why the student is not performing to his/her full potential in some areas and to make the necessary changes in curriculum content and teaching methods to give greater support to the student.

At the end of a learning period, the results of tests are usually formally recorded by the teacher and used to write reports, as well as contribute to the student's cumulative record in his/her personal file. The results of standardised tests or teacher-designed tests are examples of this kind of information. Schools should maintain a record-keeping system that allows for detailed recording of progress.

Reporting assessment information

Having gathered and recorded assessment information, teachers share this with the student, parents and other teachers to the degree that this is possible. Parents who are well informed of their child's learning successes and challenges can reinforce and build upon their child's school learning at home. Reporting is an opportunity for teachers to provide specific suggestions to parents on how best to do this.

Where reports of an interdisciplinary nature are under discussion, it is important to remember that different professionals will use different terminology and stress different aspects of the student's performance. The avoidance of unnecessary technical language by the professionals involved can support more effective sharing of information, not alone with parents, but also between the various professionals involved.

Relating reporting to targets set out in IEPs enables teachers and parents to see where the child's learning is successful and where additional support may be necessary. Reporting should emphasise progress and improvement rather than point out failings and shortcomings. The focus should be on what the child can do and has achieved. Given help as necessary, students can play an active part in creating their own records of achievements.

A celebration of learning

Assessment can be an enabling process but, is also a celebration of the student's progress and achievement. The celebration of achievement is also extremely important for the student himself/herself. While some students with general learning disabilities may not appear to respond to acknowledgements of their progress, their inner reactions may well be ecstatic. This is extremely important in shaping the perceptions of adults in the student's environment. The focus of some parents may be solely on their child's needs rather than their strengths. Seeing their child as an achiever can be a motivating and enriching experience for them.

The following activities may be helpful in celebrating achievement:

- using photographs or videos to show achievement
- making a tape recording of a student's vocal or musical achievement
- using the computer to create a certificate of achievement for a particular activity
- making a portfolio or chart with objects, pictures or symbols to show what the student can do.

Photographs can be used by schools for display purposes and to allow students, parents and visitors to view activities pursued by the students. Photographs are also increasingly being used as a rich form of evidence to place in the students' record of achievements or portfolios. With the advent of lightweight digital video and camcorders, many schools use videos to record students' achievement over time and these can form a valuable source of assessment evidence to share with parents. Whichever activity is selected it needs to be meaningful and age-appropriate for the student.

Section 4

Supporting teaching and learning through ICT

Information and Communications Technology (ICT) has the potential to transform the educational opportunities and life chances of people whose special educational needs may otherwise marginalise them. The term ICT includes the hardware and software devices and programmes that allow people to access, retrieve, store, organise, manipulate, and present information by electronic means (e.g. personal computers, assistive technology, scanners, digital stills and video cameras, multimedia, image editing, database and spreadsheet software). It also includes the communication devices through which people may communicate and collaborate (including mobile devices, video conferencing, social software).

Assistive/adaptive technologies (AT) which facilitate access to learning and communication for students with special educational needs are included in the term ICT. AT includes 'products, devices or equipment, whether acquired commercially, modified or customized, that are used to maintain, increase or improve the functional capabilities of individuals with disabilities...'³. The National Centre for Technology in Education (NCTE) has provided information on resources and advice on the range of assistive technology options available for students with special needs. These are available on the NCTE website at <http://www.ncte.ie/SpecialNeedsICT/ResourcesAdvice/AssistiveTechnology/>. In addition, the SOLAS project, one of the NCTE's Schools Integration Projects (SIP) has produced a website on assistive technology which is available online at: <http://www.enabletech.ie>

Principles of learning with ICT

In the discussion paper, *Curriculum, Assessment and ICT in the Irish Context* (2004), the NCCA identified a set of guiding principles for teaching and learning with ICT.

ICT is most effective with students when it supports

- active involvement in learning
- higher order thinking skills
- learning in authentic environments
- interest and engagement in learning
- differentiated learning
- collaborative learning
- assessment of and for learning.

³ Assistive Technology Act 1998, USA.

These principles are the basis for developing the ICT Framework. The ICT Framework, under development by NCCA, provides a structured approach to using ICT in curriculum and assessment. The purpose of the framework is

- to provide support for principals, teachers and students in planning for, teaching and learning with ICT
- to identify the learning outcomes (knowledge, understanding, skills and attitudes) for ICT that all students should be enabled to attain by the end of compulsory education.

The ICT Framework is for all students, including those with special educational needs, from infants to the end of junior cycle. Work on the Framework is accessible on the NCCA's Assessment, Curriculum, Teaching, Innovation On the Net (ACTION) website at <http://www.action.ncca.ie>

Benefits of using ICT

ICT can play a role as an administrative tool, diagnostic software can assist the teacher in identifying students' learning difficulties and some provide learning programmes that address these difficulties. Other software, can assist the teacher in developing individual education plans. The ways in which ICT may benefit students with general learning disabilities is dependent on the level of their disability. Table 1 below outlines how ICT may benefit students with general learning disabilities.

Table 1. How ICT may benefit students with general learning disabilities.

How ICT may benefit students with general learning disabilities	
<ul style="list-style-type: none"> • ICT can provide a non-threatening environment in which the level and pace of instruction can be differentiated for individual students. • Software programs can provide exciting and stimulating repetition that is often required for students to master skills. • ICT can offer graphics, sound effects and immediate rewards to help encourage the learner. • ICT may provide the needed support to effectively accomplish tasks in a variety of contexts and settings that the student may otherwise find difficult and stressful. • ICT can provide a means for some students with general learning disabilities to accomplish tasks independently, and therefore not have to rely continually upon others. 	<ul style="list-style-type: none"> • ICT promotes independence and communication, since for some students, technology may be the only method they have to communicate with the world around them. • ICT provides a multi-sensory approach to the teaching of essential skills and concepts in a variety of contexts and settings. • ICT reinforces the concept of 'cause-and-effect' and pre-reading and pre-number concepts. • ICT can be used to introduce and reinforce simple concepts, such as matching and sorting, as well as basic literacy and numeracy skills. • ICT facilitates the development of motor skills, eye tracking and hand-eye co-ordination. • ICT facilitates communicative situations and language development. • ICT facilitates social interaction and gives students an opportunity to experience turn taking and co-operative situations. • ICT provides motivating and stimulating learning experiences and gives instant feedback to students' responses. • ICT is non-judgmental and allows students to work at their own pace.

Planning to use ICT

A first step when planning to use ICT to support learning for individual students involves gathering input on the student's needs and the potential ICT solutions to address these. A number of people can provide advice, including the students themselves, their parents/guardians, teachers and special needs assistants, as well as ICT Advisors, AT advisors and, where appropriate, clinical personnel such as psychologists, occupational and speech therapists. Use of ICT will become part of the case management of the students, whose needs will change with age, ability, educational demands and advances in technology. The focus is on the student's characteristics, circumstances and environments in the first instance, rather than the technology.

Use of ICT should be appropriate to

- the student's functional and cognitive abilities
- the student's temperament, attitudes and motivation. The ICT used should be interesting and motivating to the student, for example, supporting student choice and adaptation
- the nature of the student's disability/disabilities.

The following questions may help in selecting the most appropriate use(s) of ICT:

- Does the student have difficulty with social interaction?
- Does the student have a communication difficulty in speaking?
- Does the student have a communication difficulty in writing?
- Does the student have difficulty in planning, organising ideas, and formulating language?
- Does the student have sensory or physical needs?
- Does the student have social, behavioural and emotional needs?
- Does the student have more complex multiple support needs?

Resources provided by the NCTE for Special Educational Needs and ICT include a set of critical factors to consider when matching technology. These are available on the NCTE website at <http://www.ncte.ie/SpecialNeedsICT/ResourcesAdvice/MatchingTechnology/>

Along with the analysis of students' needs and the potential of ICT to address these (described above), an analysis of **educational goals** is key to the planning process. Curriculum aims and expectations for students' learning and development are central to planning the types of ICT to be used with students, and for what purposes.

Planning ICT use for students will also address optimal seating and positioning to support their functional ability and health when using ICT. Achieving good ergonomic positioning may require some modifications and changes over time. Specialised tables, chairs, wrist rests, foot rests and anti-glare screens are available to improve students' comfort. When in doubt, advice should be sought from an occupational therapist or similar specialist.

The student's needs to communicate, read and write extend beyond the school. Planning to provide support for the student's use of ICT in the home will help parents/guardians become more actively involved in the education of their child.

ICT Systems

Many students with general learning disabilities can use a standard computer system for learning, provided suitable peripherals and software are available.

A peripheral is any device that can be attached to a computer, either for entering information and instructions or for the output of material and resources. Some students with general learning disabilities will need to use **specialised or adapted** peripherals to facilitate access to the computer. Input devices include the standard mouse, keyboard, scanner, digital stills and video camera, microphone, a range of alternative keyboards and mice, and touch-screens. Output devices include printers, computer monitors/screens, speakers, and CD/DVD.

Modifications can be made to the accessibility settings in the operating system of the computer to facilitate easier use of these standard input devices. Table 2 provides information on modifying the accessibility settings on common computer systems currently in use.

Table 2. Modifying accessibility options on your computer

Computer System	Where to go on your computer and on the Internet
Apple Mac (Mac OS X)	On your computer, select Apple Menu, System Preferences, Universal Access See also http://www.apple.com/accessibility/
MS Windows XP	On your computer, select Start Menu, Control Panel, Accessibility Options See http://www.microsoft.com/windowsxp/using/accessibility/ http://www.microsoft.com/enable/
MS Vista	See http://www.abilitynet.org.uk/raps/docs/Windows_Vista_-_Ease_of_Use_Centre.pdf

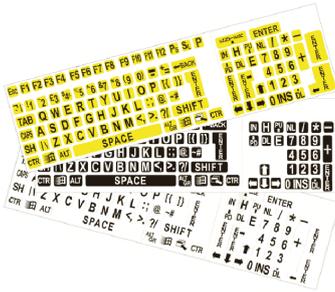
These modifications include altering the sensitivity of the keys on the keyboard, enlarging and rearranging the icons and menus on the screen, using simple shortcuts, altering the mouse setting by slowing down both double-click and mouse tracking speeds, enlarging the pointer on screen, and adding a trail for added visibility and detection.

Adaptive hardware devices

Modifying accessibility options as indicated above would help all students in the classroom. Even with these modifications, however, many students will need to use an alternative or adapted mouse or keyboard or other device. The following tables outline features and functionality of a variety of standard and alternative/adaptive hardware devices.

- Table 3. Keyboards
- Table 4. Mice
- Table 5. Touchscreens
- Table 6. Switches
- Table 7. Scanners, digital stills cameras, digital video cameras and microphones

Table 3. Keyboards

Description	Image
<p>Standard keyboard</p> <p>The standard keyboard can cause difficulties for many young students with general learning disabilities. It uses a QWERTY layout, has a variety of surplus keys, is labelled with capital letters and is quite large.</p>	
<p>Alternative keyboards</p> <p>Alternative keyboard options include compact or mini keyboards, lower-case keyboards and keyboards designed for students with larger, coloured keys, in either standard or alphabetical layout.</p> <p>Using a standard layout, when possible, will avoid the need for students to unlearn and relearn keyboard skills when they encounter the standard keyboard in school and in later life.</p>	
<p>Keyboard stickers</p> <p>Keyboard stickers allow the teacher to make lower-case and high-contrast keyboards as needed.</p>	
<p>Compact keyboard and trackball</p> <p>Some keyboards designed for students may have a combination of compact keyboard and trackball. All these keyboards will operate as standard keyboards and need no specialised software other than what meets the needs of the students.</p>	
<p>Key guard</p> <p>Some students may benefit from using a key guard. This is a plastic or metal cover with holes for each key, which can be positioned over the keyboard. This helps to eliminate unintentional keystrokes and prevent hand fatigue for the student.</p>	
<p>It may also be practical to use a keyboard glove or cover, especially for younger students. This fits over the keyboard and protects it from spillage and soiling by users. It can also be fitted on the inside with lower-case letters or blank coloured stickers to blank out unwanted keys.</p>	

Overlay keyboards

These can be used to replace or supplement the standard keyboard. These keyboards are touch-sensitive and can be used with standard or specialised software. Programs that facilitate by overlay keyboards will have pre-programmed overlays ready for use. In addition, overlay keyboards are generally supplied with content-free software, allowing the teacher to make personalised overlays for use with individuals or groups of students. Overlays can be used to display and use letters, words, pictures and symbols. They can contain alternative keyboard layouts. Content can be colour-coded or set out in categories. These overlays can be used to support language and communication and to practice and facilitate literacy, numeracy and cross-curricular skills.

**On-screen keyboards**

On-screen keyboards can also be helpful for some students with general learning disabilities. They present the keyboard on the same plane as the on-screen activity and can be operated with the mouse or mouse alternative.

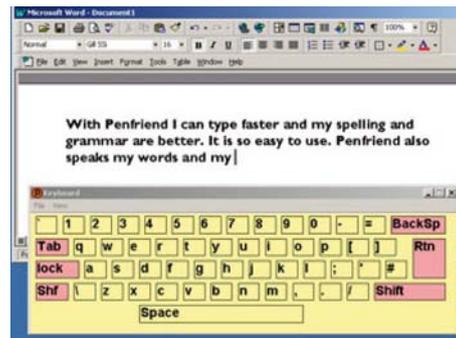


Table 4. Mice

Description	Image
<p>Standard mouse</p> <p>The standard mouse may prove difficult to use for some students with general learning disabilities, as its use requires a combination of physical, perceptual and cognitive abilities. Students need structured training and stimulating opportunities to practice this skill. On the standard mouse, the right mouse button may be switched off or reconfigured to prevent confusion.</p>	
<p>Mini-mouse</p> <p>Younger students may benefit from using a mini-mouse designed for smaller hands. A mouse mat should always be used, as it keeps the mouse clean and working efficiently and helps students keep the mouse in a suitable position.</p>	
<p>However, even with practice, some students with general learning disabilities may need to use an alternative mouse device, such as the rollerball or trackball, or the joystick.</p> <p>Rollerball</p> <p>The rollerball is essentially a mouse turned upside down. It is available in a variety of sizes and shapes. The advantage is that the device remains stationary, the user can see and control the movement of the pointer more easily, and clicking becomes a separate, distinct activity. This eliminates much of the difficulty of co-ordination and manipulation associated with the standard mouse. In addition, many rollerballs have a latching or drag-lock facility, which is very helpful for students using art and drawing activities or when using programs that require a click-and-drag response. Some rollerballs also have the facility to attach switches, which can be used instead of the buttons.</p>	
<p>Joystick</p> <p>The joystick is a similar device to the rollerball but has a handle on top instead of a ball. This type of mouse alternative is not the same as the joystick used to operate games consoles.</p>	

Table 5. Touchscreens

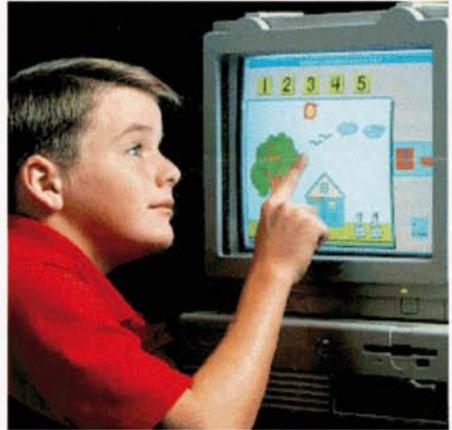
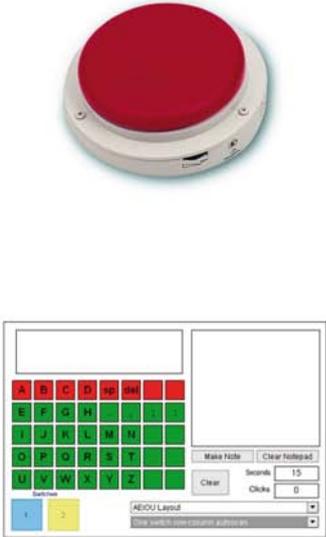
Description	Image
<p>Touchscreens</p> <p>Touchscreens also work as mouse alternatives. A touchscreen can be a touch-sensitive monitor or a touchscreen attachment for the standard monitor where the student's finger acts as the mouse. Any software that is mouse-accessed can be used with the touchscreen. It offers a direct link between the visual presentation and the effect of touching. However, not all students with general learning disabilities will have the manual dexterity to use them. Students should be able to move one or both hands to touch the screen. Touch-sensitive monitors are also available as a flat screen, which can be positioned to suit individual needs.</p>	

Table 6. Switches

Description	Image
<p>In assistive technology terms, a switch usually refers to an object that can be touched or activated by a body part in order to produce a simple message or give commands to a computer by a person with restricted motor control. Switches are also used to operate toys and everyday devices such as televisions, CD players and food mixers.</p> <p>Simple switch</p> <p>For students who cannot speak, switches such as the Big Mack can play a short pre-recorded message.</p> <p>Switches and scanning software</p> <p>With relevant software, a single body movement can operate a computer through a switch. This is normally achieved by using 'scanning'⁴ software, which involves the computer moving slowly through a range of options displayed on a computer screen and the user selecting the desired action by clicking the switch. For example, a switch can be used with an onscreen keyboard, which can perform all the functions of a standard keyboard.</p>	

4 This is different to using scanning software with scanner to scan in electronic copies of images or text from a paper copy.

Table 7. Scanners, digital video cameras and microphones

Description	Image
<p>Scanners, digital stills, digital video cameras and microphones can be very useful for teachers in developing resources and inputting information for use by students with general learning disabilities.</p> <p>With the support of their teachers, students can import photographs, and other pictures of personal relevance, into many content-free software packages for use. These pictures can also be manipulated on the computer and printed out to make communication charts, to produce desk materials for students to use away from the computer, to compile newsletters and presentations, and to support project and cross-curricular activities. This equipment will also facilitate the compilation and design of the school or class website.</p> <p>Older students will enjoy being involved in the process of capturing pictures and video to upload onto the computer, and to edit and showcase their work.</p>	

In addition to the input devices discussed above, some students with general learning disabilities may need to use some form of **alternative and augmentative communication (AAC)**. ACC refers to ways (other than speech) that are used to send a message from one person to another. We all use augmentative communication techniques, such as facial expressions, gestures, and writing, as part of our daily lives. In difficult listening situations (noisy rooms, for example), we tend to augment our words with even more gestures and exaggerated facial expressions.

Students with severe speech and language disorders/difficulties rely quite heavily on these standard techniques as well as on special augmentative techniques that have been specifically developed for them. Some techniques involve the use of specialised gestures or sign language or charts that represent objects with pictures, drawings, letters, words, sentences and/or special symbols. The teacher, special needs assistant, parents/guardians, speech and language therapist or other staff members could use the computer with suitable programs to assist them in producing these communication aids. Photographs can be scanned and printed. Symbols and pictures can be accessed and printed in different styles and layouts. Table 8 describes available electronic devices that can speak in response to entries on a keyboard or other methods of input.

Table 8. Alternative and augmentative communication devices

Description	Image
<p>Single message communicator</p> <p>These are the simplest way for students with speech problems to make themselves heard by using a single-press single-message communication device (e.g. BIG Mack). They are also a fun way to develop switch skills and assess a user’s understanding—can they produce a message at the right time? It is easy to change the message?</p>	
<p>Two or more message communicators</p> <p>Devices with a small number of messages may be the next step for users who can target more than one switch. Moving on to two messages can create more opportunities to interact, and also introduces the element of choice. Pictures or symbols on the buttons will help users associate them with spoken messages and develop their vocabulary.</p>	
<p>Symbols and sound communicators</p> <p>These are symbols supported by sound. A number of overlays are provided for different topics. For some models, you can design your own overlays.</p>	
<p>Text to speech communicators</p> <p>Just turn it on, type whatever you wish to say, and it speaks.</p>	

The process of using any of the above devices to support students will include ongoing monitoring and review of students’ needs, and time to practice using the new devices. As noted in the previous section on planning, the criteria for selection must begin with the needs of the student in the first instance, and the curriculum or individual programme for that student.

Digital Content

Judicious use of software and online digital content can enhance teaching and learning for students with general learning disabilities. Two categories of software: content-free and content-rich are described in detail in the NCCA's guidelines for teachers on *Information and Communications Technology in the Primary School Curriculum (2005)* available online at: <http://www.ncca.ie/uploadedfiles/ECPE/ICTEnglish.pdf>

Content-free software

Content-free software includes software applications used for cross-curricular tasks. Examples include using word-processing, multimedia authoring or presentation software, image editing and video editing, and concept mapping software to organise ideas.

For students with general learning disabilities, there are many multimedia authoring and presentation programs that can be used to make simple activities or talking books. Images, sounds, simple animation and special effects can be combined to produce personalised presentations and activities. One of the most commonly used types of content-free software in classrooms is word-processing software. This software can be personalised for students with general learning disabilities by selecting typeface and type size, text and background colour, speech output options, graphics and picture support, on-screen keyboards, and word lists and customised spelling checks.

Content-free software also facilitates teachers in creating templates for individualising and personalising activities for students with general learning disabilities.

Content-rich software

Content-rich software refers to applications that contain specific curriculum content and provide the student with opportunities to engage with this content using games, tutorials, practice problems, assessments, feedback activities, simulations and so forth. Examples of content-rich software include reinforcement software for revising mathematical concepts, reference software for researching a topic or idea, and exploratory software for simulating a science experiment.

For students with general learning disabilities the software content should be appropriate to ability and age, and should provide options for auditory and print output. The software package must meet the cognitive, access and learning needs of the students. Software should provide pictures of everyday objects and functional activities, symbols and pictograms for basic communication, speech and sound output and simple animations. It is important that options on access devices, colour contrast, rate of presentation, order and number of activities and rewards should be embedded within the content-rich software selected.

Reference software is one type of content-rich software that may be useful for students with general learning disabilities. It provides information on a particular subject or area of study. It may contain activities and interactive elements based on the content. Drill and practice software may also be useful for students with general learning disabilities for practising spelling, tables, mathematics and grammar activities.

In addition, content-rich software that allows the teacher to differentiate content, to monitor and record individual student's activities and which has supportive supplementary materials for use away from the computer, can also be very useful in a busy classroom environment.

Online resources

In recent years and with the ever increasing availability of broadband, more and more digital resources are being made available online, either freely available or at a cost. To date, the majority of this is content rich in nature. Increasingly, however, content free tools and resources are being made available online. Much of which is suitable for students with general learning disabilities.

Other online ICT tools which are gaining in popularity among young people include social networking websites where students can maintain blogs (online journals) and personal websites. They can also use chatrooms, webcams and email. These can enable students to express themselves and communicate with their peers. The school's Acceptable Use Policy will inform the appropriate use of these by students in terms of managing their safety and protection.

Software selection

Teachers, other staff members and parents often find it difficult to choose the most suitable software for specific students or classes. It is helpful to see a demonstration or preview of a program. In addition, the software used with students with general learning disabilities must be selected to

- meet the individual needs of the student
- meet the access needs of the student
- support the curriculum or programme being followed by the student
- provide interactive practice and learning
- present opportunities for choice and control
- provide motivation and stimulation
- support the learning style of the student
- support the teaching style and programme of the teacher
- provide an alternative, multi-sensory resource, for both teacher and student.

Students with general learning disabilities have a wide range of needs and abilities. The computer programs selected should provide a wide band of educational activities at different levels. Depending on age, abilities and needs, students may benefit from using programs that provide practice and support in developing

- the concept of cause and effect
- curiosity
- learning concepts
- language and communication competence
- literacy and numeracy skills
- cross-curricular skills
- the ability to generalise
- progression from concrete to abstract ideas and concepts
- life skills
- social skills and practices
- design and presentation skills
- leisure activities.

Additional advice on software selection is available on the NCTE website at www.ncte.ie. If suitable software is well selected and creatively used, it can enhance students' self-esteem, arouse their curiosity, improve their concentration and social skills, provide structured practice, and promote multi-sensory development learning. The teacher should ensure that the software selected has an adequate range of teacher and user options so that it can be tailored to meet the changing needs of individual students. The content and language of the software should be developmentally appropriate for the student. For all students, content should be evaluated according to the criteria of appropriate language, text, symbols, pictures, graphics, speech, and sound.

Section 5

Managing challenging behaviour

Social, emotional and behavioural difficulties can severely affect the learning process and make school life difficult for the student, for other students in the class, and for all those attempting to care for and educate the student. Challenging behaviour should be seen in the context of the student's overall educational, social and personal development. The use of agreed strategies by staff members and by the student's parents/guardians is critical when managing challenging behaviour. A good starting point for thinking about challenging behaviour is to remember that it is the behaviour, and not the student, that presents the challenge. The focus should be on enriching the student's life and enabling him/her to benefit from education.

Some students with social, emotional or behavioural problems will employ withdrawal and avoidance tactics and will often refuse to co-operate with others. This is easy to see in the student who is active and can physically demonstrate withdrawal and avoidance; but a very quiet, physically disabled student may also display such behaviour by refusing to respond or by closing off stimuli. Discovering the underlying reason for the behaviour will often lead staff and parents/guardians towards a method of managing it. Information can be gathered from

- the student himself/herself if possible
- observation of the student's behaviour in a variety of situations
- the student's likes and dislikes
- parents/guardians and carers
- previous teachers and special needs assistants
- other professionals who have been involved with the student
- results of diagnostic tests.

Challenging behaviour can be extremely difficult to manage, and the teacher and other personnel closely involved will require whole school support.

Finding out why

There may be medical reasons for the challenging behaviour, and medical help should be sought if this is suspected. Such causes can include chemical and/or neurological imbalance, illness or pain, sensory difficulties, depression or emotional difficulties. Environmental factors may also be responsible, or may contribute to the difficulty. These include the physical environment and the people in it. Physical influences such as noise level, heating, lighting, amount of space around the student and physical positioning should be examined. The influence of other students and staff may also be a cause or a contributing factor.

Communication difficulties can be a major contributory factor in challenging behaviour, especially with students who have significant communication difficulties themselves and whose ability to communicate effectively with others is often very limited. In this context, challenging behaviour may be caused by

- an inability to understand what is happening
- an inability to express needs and desires
- lack of choices
- lack of control.

Challenging behaviour may be the student's only effective means of expressing a particular need or desire. Attention-seeking behaviour can often escalate into challenging behaviour. Inactivity and boredom should always be ruled out as causes first, but very often attention-seeking behaviour is linked to communication difficulties. It may also be a learned behaviour, with a long history. It should be remembered that negative attention can be every bit as motivating for the student as positive attention.

Planning intervention

In planning intervention, gathering information from all possible sources is essential. There may be multiple causes for challenging behaviour and therefore observations and information should be as broad ranging as possible. These include verbal reports, written reports, and assessments from the student's parents, significant carers, former teachers, the principal, other professionals who have worked with the student or assessed the student and special needs assistants who have worked closely with the student. The student's own viewpoint should be sought where possible, but students with severe and profound general learning disabilities will rarely be able to articulate possible reasons for their behaviour. The teacher should then rely on information regarding the student's likes and dislikes, and on structured observation of the student's behaviour in a variety of situations. All information that enables the teacher to understand the student's perspective is extremely valuable.

The next step in planning intervention is to prepare

- a clear description of the challenging behaviour (or sequence of behaviours), including intensity, frequency and duration of the behaviour
- an outline of the history of the behaviour
- an outline of the student's cognitive, communicative, perceptual and motor abilities, social skills, self-care skills, family history, living arrangements, health and medical status.

The use of an ABC chart can be very helpful in gathering specific information about a behaviour that is being targeted for intervention. This records the **Antecedents** (what happened before or leading up to the incident), the **Behaviour** and the **Consequences** (planned and unplanned) of each incident of the targeted challenging behaviour. The records are examined for a pattern of behaviour over time. This pattern may highlight the cause of the behaviour, the conditions that perpetuate it and the purpose of the behaviour for the student. It may also be important to note when the behaviour does not occur. In analysing the information, the teacher may wish to seek the advice of others closely involved with the student. It may also be very helpful to get an objective opinion from a trusted colleague or group of colleagues.

Intervening

If triggers for the behaviour can be identified from a pattern in the antecedents, a plan can focus on avoiding these triggers, or on pre-empting the challenging behaviour when a trigger situation occurs. Patterns of reinforcing consequences can be examined to see how they might be avoided, what acceptable motivating activities could be substituted for the challenging behaviour, or how else the student might be enabled to achieve what he/she is currently achieving through the challenging behaviour. For example, in cases of extreme attention-seeking behaviour, understanding the behaviour and being able to anticipate when these outbursts are likely to occur enables the teacher or parent/guardian to put a plan in place whereby attention can be given before the student demands it.

The student should be physically shown how to gain attention appropriately before the crisis situation develops. Whatever the challenging behaviour, an agreed strategy that is consistently carried out in all relevant contexts is essential. Successful strategic and consistent intervention should include

- training for all involved on safety and good practice in relation to dealing with challenging behaviour
- prepared information about the targeted challenging behaviour and the student involved (see Planning intervention)
- a strategic intervention plan agreed by all and written out in detail: one where everyone is clear on what is involved and what their role will be
- discreet signals agreed by adults for alerting each other when action is needed, and for communicating during incidents
- careful recording of incidents, intervention and consequences
- evaluation and review of the plan.

Additional information on managing challenging behaviour is available on the National Behavioural Support Service website at www.nbss.ie and the Special Education Support Service website at www.sess.ie