SUPPORTING THE SPEECH, LANGUAGE AND COMMUNICATION DEVELOPMENT OF CHILDREN WITH DOWN SYNDROME IN MAINSTREAM POST-PRIMARY SETTINGS

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Introduction:

If you are reading this booklet you probably have a student with Down syndrome in one of your classes, or about to join your school. If this is your first time teaching a student with Down syndrome, you may be apprehensive, wondering whether you have the skills to meet their needs and help them learn. You may be concerned about how to meet their academic needs, which will differ from those of the other students. You may worry how to accommodate a student who may be working towards a different exam or portfolio assessment. You may even wonder if this is the right school for them. This booklet is intended to inform and reassure. There are many other resources on our website which address some of these topics in more depth, from research papers to pre-recorded webinars. You can also contact Down Syndrome Ireland by phone or email to discuss individual issues.

International research indicates that students with Down syndrome have better academic, behavioural, and speech & language outcomes when educated alongside typically developing peers, not just at primary school, but throughout their education. [1][2] Research suggests that inclusive school placement is more relevant than IQ scores in predicting language and academic outcomes for students with Down syndrome. Learning is a dynamic process, and outcomes depend not just on the student's innate abilities, but also on their opportunities. For example, in the recent past when there was no expectation that people with Down syndrome could learn to read, most were not given the opportunity. Today's students are showing that underestimating people with Down syndrome was a mistake, and we owe it to them to give them the chance to achieve the best possible outcomes from their education. This means that mainstream schooling should be the default option for as many students as possible, while we work towards a fully inclusive education system which is equipped to meet the learning and support needs of all students.

Real inclusion of a student with significant additional needs in mainstream post-primary settings may seem daunting, and we recognise that teachers may face systemic barriers and additional challenges in an already demanding role. However, the benefits of inclusion for the student could be lifelong. Inclusion in your local school is not just about education, although this is important. It is about belonging, about being part of your local community. It is about knowing and being known by your peers locally. It is also a vital element in achieving broader social inclusion, by ensuring that all students grow up with the assumption that society can and should be designed to include everyone.

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[1] Gert de Graaf, Geert van Hove and Meindert Haveman, 'Effects of Regular Versus Special School Placements on Children with Down Syndrome: A Systematic Review of Studies' <https://www.researchgate.net/profile/Gert-De-Graaf/publication/280444652_Effects_of_regular_versus_special_school_placement_on_students_with_Down_syndrome_A_systematic_review_of_studies/links/56f11faf08aee94ad4de795c/Effects-of-regular-versus-special-school-placement-on-students-with-Down-syndrome-A-systematic-review-of-studies.pdf>.

[2] Gert de Graaf and Erik de Graaf, 'Development of Self-Help, Language, and Academic Skills in Persons With Down Syndrome: Skill Development in Down Syndrome' (2016) 13 Journal of Policy and Practice in Intellectual Disabilities 120.

The impact of Speech, Language and Communication disorders

One of the areas of greatest need for most students with Down syndrome is in speech, language and communication skills. Every student is an individual, and there are many factors which influence speech and language development, including genetics, hearing, working memory, sleep, and physical health. However, language environment – the quality and quantity of language and learning experiences – is an important factor, and it is one that you, as a teacher, can influence.

Ideally, teachers and SEN co-ordinators will have regular access to a Speech and Language Therapist (SLT) who knows the student well, and can help with understanding their needs and setting appropriate targets. At the time of writing, this support is often unavailable. However, there are many ways that teachers can target language development directly for students with Down syndrome, as well as adapting the communication environment and differentiating the curriculum. It is also worth noting that Developmental Language Disorder in otherwise neurotypical students is underdiagnosed, and the measures you put in place to support the student with Down syndrome are likely to benefit any student who is struggling with language in your classroom.

Difficulties with speech and language impact not only understanding and accessing the curriculum, but also the communication of needs, thoughts, concerns and opinions. These difficulties can also impact on behaviour for several reasons.

Students may struggle to understand social rules and constructs that are expressed through language, or to pick up inferences or assumptions around classroom etiquette which are not explicitly taught. Reliance on visual and behavioural cues can lead to mistakes, with students acting in ways that might be appropriate amongst peers in informal situations, but are inappropriate in the classroom.

While we think of language primarily as a tool for communicating with others, we also use language for thinking. Most of us think in words. When the use of language is a challenge, students may be unable to think through and predict the consequences of an action, and may act impulsively. The ability to regulate behaviour in anticipation of future consequences requires a level of understanding and verbal reasoning which is likely to come later for students with Down syndrome than for their peers.

Being unable to communicate effectively often causes frustration and confusion, which can play out as stubbornness, withdrawal, or refusal to transition.

For these reasons, it is important to focus on supporting language development alongside academic and social targets, as some challenges may be related to speech, language and communication, and may only resolve as these skills improve.

Characteristics of speech and language development in students with Down Syndrome:

Down syndrome selectively impairs speech and language, so students with Down syndrome will have speech and language disorders over and above what would be expected for their intellectual ability. Read that sentence again, and try to imagine how frustrating it must be to be continually underestimated because of poor speech and language.

Speech and hearing

While most students with Down syndrome will have delayed speech development and some will have speech production difficulties and speech sound disorders which persist into adulthood, the majority of people with Down syndrome will be primarily verbal communicators. Even so, all forms of communication are possible, and should be equally valued, including the use of signing, written language, or AAC devices.

Speech may be unclear for various reasons. It can be difficult to hear all the sounds in a word; difficult to make those sounds; difficult to remember the order of sounds and syllables; difficult to coordinate movements and breathing; difficult to say words fairly consistently so that people can understand. However, with the right supports and opportunities to practise, speech clarity continues to develop and improve into adulthood.

While the student is struggling to make themselves understood, it is important to focus on the content of the message and promote positive communication experiences. Few of us

would persist with communication if every time we spoke, our pronunciation or sentence structure was corrected. However, reinforcing communication attempts by repeating back to the student can be helpful for a couple of reasons. Firstly, they will know what you have understood and have the opportunity to agree with your interpretation or try again. Secondly, they hear a model of what they were trying to say with clearer production and grammar (this is called recasting).

The student with Down syndrome needs to have opportunities for successful communication, and also opportunities to practise speaking with a variety of people, whether through conversation, reading aloud, structured activities, or classroom discussion. If the student is reluctant to contribute verbally in the classroom, using resource time to rehearse, to practice questions and answers which can then be used in class, can be an effective strategy to build confidence and competence.

All complex motor tasks, including speech, become easier with practice. Ensure that the student has opportunities to practise saying words in a relaxed context, and do not get discouraged if progress is inconsistent. Speech clarity can vary considerably day to day, and even at different times of day. Speech is an extremely complex fine motor task, involving precisely timed co-ordination of movement and breath. If the student is tired or unwell, or simply focused on another aspect of their task, speech clarity can be reduced.

Hearing will also impact speech development and speech clarity. As well as listening to other people, we also use our hearing to self-monitor our own words, and some types of hearing loss can make this difficult. Changes in hearing status may be noticed first in school, as this is a challenging environment for students with hearing loss. As well as lack of response to sounds, some signs that hearing may need to be checked include: the new onset of issues with balance, a consistent deterioration in speech, and increased or reduced volume when talking.

Most students with Down syndrome will have some degree of hearing loss at least some of the time, and this will impact on their ability to access education. Do look for support from a visiting teacher for the hearing impaired, as classroom adaptations may be available. Also consider classroom strategies such as:

- **Positioning.** Ensuring that the child is at the front of the class, facing you, rather than at the back with an SNA is helpful for both hearing and attention.
- **Hearing aids.** Ensuring that the student is wearing their hearing aids is a care need which is the responsibility of the SNA in the early years, but older students may still need reminding.
- **Background noise.** This can be very challenging for students with a hearing loss, so keeping noise to a minimum and teaching new vocabulary in a quiet environment may help.

When teaching a student with Down syndrome, it can sometimes be difficult to identify whether they are struggling with hearing, with understanding concepts or vocabulary, with auditory memory or language processing, with attention or concentration, or with any

combination of these. Understanding the complexities of spoken language for students with Down syndrome is key, and while speech and language development is likely to be an ongoing process, adjustments to your own communication style and classroom set-up can be quickly implemented.

Speech generating AAC devices are used by some people with Down syndrome as an alternative or in addition to their spoken language. These devices are usually highly individualised, and changes should not be made unless there has been training and prior consultation with the student, their SLT, and other communication partners (such as family members). Even small tweaks can result in an alteration in layout which can severely impact the person's ability to use the device effectively. Imagine if someone decided to change the qwerty keyboard on your laptop to an alphabetic layout, to help you find the letters. While this may seem logical, all of the muscle memory that you use when typing would immediately become redundant, making your use of the device frustrating by slowing you down, and increasing the number of errors to the point where it may become completely unusable. In order to avoid this, when new topics or concepts requiring additional vocabulary are required, time must be allocated to identify additional words and link with the therapist or family so that they can be added to the device without compromising its function. If a student is using an AAC device to communicate, it is not appropriate to remove this device from them, any more than it would be appropriate to remove glasses, wheelchair, or hearing aids from a student.

Receptive language and auditory processing

While the receptive language (comprehension) skills of students with Down syndrome are often better than expressive language, both are usually significantly delayed compared to peers. It is difficult to imagine how much of a barrier delayed receptive language is for the student. Perhaps the easiest analogy is to imagine how you yourself might behave in a situation where you are given information in an unfamiliar language. You understand a little of the vocabulary, and many of the non-verbal cues, but do not understand the significance of sentence structure, word order or context. If you also experience working memory difficulties, and are struggling to remember exactly what was said, it is clear that this is a challenging task. You might only really get the first part or the last part of the information, and get things wrong. You might become exhausted and zone out, or get bored and frustrated. Any or all of these reactions are understandable if a student with Down syndrome is placed in a primarily verbal learning environment with little differentiation or visual support.

When struggling to process spoken language, the student may focus on a few key words within a sentence and try to work out the meaning. To support this strategy, try to keep important instructions short and clear, and phrase in the positive. For example, the instruction 'don't **run** in the corridor' may be counterproductive, as the key word in the sentence is 'run'. 'We **walk** in the corridor' is likely to be easier to understand, and so more likely to have a desirable outcome.

Most students with Down syndrome will require additional time to process spoken language before responding and this needs to be sensitively managed. Allowing the student time to process without repeating what you said or rephrasing, while using body language and facial expression to show that you are actively listening, will support the student to persist. Offering lots of options verbally (multiple choice), or giving two options (Would you like A or B?), may not help, as it increases the length and complexity of the spoken language the student needs to process and may lead to a response such as echoing the last option, rather than making a real choice. Some students may benefit from having a question written down as well as hearing it, or by seeing the options as written words or pictures.

Receptive vocabulary development, while delayed, can be a relative strength for students with Down syndrome. It is also an easily defined, measurable target for education, which supports the development of other language and literacy skills. Students with Down syndrome, like many students with Developmental Language Disorders, will usually need explicit teaching of new words, as they may struggle to infer meanings from context. Vocabulary depth as well as breadth should be targeted, by explicitly linking new words to existing vocabulary. It's not enough to learn the name of something, you also need to know some of the salient features, and what category it belongs to. It's not enough to learn a new verb, you also need to know how this changes in different contexts, for example in the past or future tense.

When choosing vocabulary targets, focus on words relating to the curriculum along with personal words on topics of high interest to the student. These can be used to create personalised reading materials, further reinforcing learning. Key vocabulary and concepts should be targeted in advance of the topic, rather than concurrently or afterwards. Generally, using resource time to pre-teach rather than catch-up reduces frustration and maximises learning. Word-finding can be an issue for some students, so brainstorming single words connected with a topic prior to a discussion can support the student to take part in exploring and discussing the topic further.

Understanding of grammar is usually a relative weakness, delayed in comparison to other language skills. This has significant implications for understanding instructions and accessing the curriculum. Grammatical markers are often short and unstressed, and can be difficult to hear and process. If you say the words "walk" and "walked" out loud, and really listen, the difference between the two is mainly a short, quiet, fairly high-pitched sound at the end of "walked". The difference between "tidy" and "untidy" is a short, unstressed sound at the beginning. Many students with Down syndrome will need to be explicitly taught receptive grammar rules like these, using the written word as well as spoken language. In the meantime, you may need to consider your topics and ensure that there are no unintentional barriers to understanding. For example, using words like "safe" and "unsafe", "acceptable" and "unacceptable", "appropriate" and "inappropriate" could cause real confusion when tackling topics around behaviour or relationships. You may need to either pre-teach the grammar or use alternative vocabulary, depending on the abilities of the student.

As you can see from the descriptions above, speech, language and communication development is complex, and while it will lag behind cognitive development, different aspects

will be impacted to different extents. This means that you will need separate targets for each of the areas above. Overall targets for receptive language (comprehension) and expressive language along with individual targets for elements of each, such as vocabulary, grammar, sentence structure, speech sounds and written language will be needed.

Occasionally, teachers still underestimate the ability of students with Down syndrome based on their slow auditory processing and difficulties in both working memory and spoken language. However, most students will have the ability to learn, and continue to develop their skills in adolescent and adult years. We are seeing students with Down syndrome achieving academic outcomes which would have been considered unattainable in the past. Written language is often a relative strength, as seeing the words written down provides visual support and helps the development of spoken words and sentences. It can also be easier to remember visual information than spoken words.

For more specific information about literacy, there is information available on the Down Syndrome Ireland website. See: https://downsyndrome.ie/resources/

Strategies for mainstream teachers

Building a relationship

There are both benefits and challenges to having a student with Down syndrome in your classroom. While intellectual disability, developmental delay and other challenges can often be the focus, it is important not to lose sight of the strengths. Many students with Down syndrome are keen to learn and to work with others, provided they have a good relationship with the people around them. It is worth spending time building this relationship. Other students will take your lead. If you view the student with Down syndrome as someone who has a right to be in your classroom and be given opportunities to participate and learn alongside their peers, you can create a supportive, inclusive environment. Conversely, if you see the student as a drain on your time and resources, as someone who is not capable of

learning anything in your subject, or someone who needs constant help from an SNA, the other students, particularly those who do not already know the student from primary school, will react similarly.

Building a relationship with the student allows you to get to know their interests and strengths before setting academic targets, and means that they are less likely to be excluded or underestimated. All students can become stressed and withdrawn when overwhelmed by a new situation, and post-primary is inevitably a larger, more complex learning environment than they experienced at primary school. Focusing on getting to know the student, and allowing them to experience the same range of options as everyone else, will support their overall inclusion and promote communication and learning in the longer term.

As with any student, issues need to be dealt with promptly and fairly, then let go. Traditional rules and sanctions may be incomprehensible to a student who is unable to process lengthy verbal explanations, or to understand that what they did or said three days ago is the reason for today's detention. Consequences need to be transparent and fair, taking into account difficulties with language, communication and memory.

Each lesson is a fresh start to be interested, welcoming and positive. Students with Down syndrome are often highly sensitive to emotions and non-verbal cues, and if you approach them dreading the lesson ahead, this can become a self-fulfilling prophecy.

Establishing routines and boundaries

The classroom can be a confusing space when you struggle to understand and process language, and may not understand the unwritten rules and expectations. Establishing roles, routines and boundaries creates security and predictability for the student which will underpin learning, particularly in practical subjects. Adults need to be firm, fair and flexible. Health and sensory issues may mean that the student's skills and abilities vary from day to day, and typically, as with many students, ability to pay attention will wane as the day progresses. Scheduling intensive and challenging activities towards the end of the day is setting the student up to fail.

Some students with Down syndrome may initially struggle to transition between classes. This happens for various reasons, including language and communication issues. It can also be an attempt to control a confusing and unfamiliar environment. Rather than viewing this as a behavioural issue, it can be useful to try to understand the student's perspective:

- Did they miss a verbal cue that change was imminent, so the transition comes as a surprise?
- Is every moment of their school day closely managed, leaving them no space to chill and watch others?
- Are they overwhelmed by crowds and noise during breaks/transitions?

- Is there a sensory issue – for example, visual processing difficulties making it difficult to navigate stairs?
- Are they heading for a 1:1 or small group session, while the other students are transitioning to something much more interesting?
- Does the student feel secure in the current class? Are they worried about transitioning to a new, potentially more difficult class?
- Is there a particular problem associated with specific people, environments or activities?

Using visual timetables and visual timers to alert the student prior to an impending change in activity can be helpful, as can allowing choice in the order of activities within a class where practical. Thoughtful scheduling is needed. Maybe they need to double up on practical classes, so that they can observe with one group, then participate in the repeated class. Choose carefully which other subject/class the student may miss due to doubling up, ensuring that they do not end up losing out on other beneficial classes and opportunities. Think about how you can link with the SEN team to manage some of the underlying issues, for example, by supporting the student to pre-learn vocabulary or practise potentially difficult tasks in a safe environment to build understanding, skills and confidence.

Be aware that daily activities, such as finding things in a locker, eating lunch, and walking between locations could take longer, as could using the bathroom, particularly if there are crowds of other students trying to do the same in a limited space. This can be an additional barrier in terms of transitioning between activities and getting to lessons on time, and some accommodations may need to be put in place, such as extra time or a more accessible locker placement.

If the struggle around transitions becomes a habit, rather than a response to a problem such as those described above, you may need to examine the adult responses which may be unintentionally reinforcing this behaviour. Consistency of approach is key here. If different adults respond in different ways, issues with transitions are likely to continue and possibly escalate.

Linking with families

The link between home and school is particularly important when the student has difficulty communicating. Asking parents how their child communicates best, what their interests are, how they initiate communication, how they express distress or discomfort, how they ask for help, will all give valuable insights which you can build on when starting to work with a student who has Down syndrome. As well as initial preparatory meetings, a system of regular communication should be established. Frequent routine communication, rather than crisis-led communication should be the goal.

Families will know their child well and can be part of the team supporting learning. Ensure that communication works both ways. As well as giving information to parents, you need to be open to listening to their lived experience and learning from their expertise.

As the student gets older, they should assume some responsibility for home school communication, for example, making lists or taking photos as memory aids to promote conversation across different environments.

Encouraging peer interaction

Promoting peer interaction outside the classroom is important. Peer communication is important both for inclusion and for language development. Structured groups are likely to be helpful, ideally involving activities without too many verbal or cognitive demands, for example, basketball or football games, Lego clubs, library clubs, etc. While this may need to be facilitated by a teacher or SNA initially, the goal should be inclusive engagement with peers. Adult support which is too intense can hinder natural interaction with classmates, as both the student with Down syndrome and their peers may look to the adult to mediate, rather than interacting directly.

Given the cognitive and linguistic demands to the classroom, it is not unusual for students with Down syndrome to spend some or all of their break time alone. If this happens, it is important to establish whether this is by choice, or whether they would like to interact with other students but need additional support. Some schools have found a 'buddy bench' system to be useful, as it allows the student to decide whether they are happy taking a break from interaction or whether they would like to engage with others.

It may be helpful to share some information about Down syndrome with students and peers, looking at strengths and challenges, and asking students to reflect on their own assumptions

and behaviour towards people who are different. Conversations around universal design and the benefits of inclusion for both individuals and society can be thought provoking.

Role models are also important. Creating situations where students with Down syndrome can help, rather than always being the one helped, or inviting adults with Down syndrome to talk about their experience of further education or employment, can do more to change attitudes than lectures on empathy and inclusion.

Supporting functional communication

The speech, language and communication difficulties experienced by students with Down syndrome are well recognised. However, communication is a process which involves not just the student, but also their communication partners, in an environment which can support or hinder communication attempts. While the development of speech and language skills will take time and practice, continuing into adulthood, the skills of the communication partners and the nature of the communication environment are easier to change.

One of the most straightforward things to change is your own communication style. Allowing extra time to process by silently counting to 10 is a key strategy. Actively attending while the student processes language is important. The student with Down syndrome is likely to have experienced many situations where they are asked a question, but not given time to process, with the other person either rephrasing, answering their own question, or moving on to ask someone else. If you want students to actively engage with you and attempt to process your question, they need to know that you will give them the time they need. You do this by being a consistently active listener, and accepting all types of responses, including signing, pointing and single words.

Supporting your spoken language with visuals, such as signs, written language and pictures, is another way to help the student focus and understand. Setting up visual alternatives and supports for the student's expressive language is also important. Traffic light cards or emoji cards could be used to communicate 'I understand', 'I'm not sure' or 'I need help', for example.

Students with Down syndrome are likely to have to expend more effort than their peers to cope in the classroom, so working with them to develop a non-verbal method they can use to indicate they need a break can be very effective in preventing frustration.

Linking with a Speech and Language Therapist

If you do have the opportunity for SLT input, it can be tempting to look to the SLT for a programme of activities to deliver. While this can be a useful way to target very specific issues, language and communication are integrated into all aspects of learning, and supporting the development of these skills also requires an integrated approach. Also, students with Down syndrome may have difficulty with generalisation, so if they learn a skill in one context, they may not be able to readily apply it in another context. Rather than considering speech and

language development as its own topic, with its own curriculum, we need to look at the language within the curriculum and within the environment. Consulting with the SLT about key topics and identifying possible language barriers and ways to address these can be productive, as concepts and vocabulary learned in context are more likely to be understood and retained.

Targets for classroom language should be included in the student's education plan, and could include:

- Vocabulary linked to curriculum topics and student interests
- Listening and attention skills
- Language for concepts which underpin areas of the curriculum (for example, big and small, more and less, many and few, all and none, etc., to support number work).
- Processing tasks integral to classroom functioning, such as understanding instructions of increasing complexity, following directions, remembering one or more items, understanding order of events using 'first, next' or 'first, next, last'.
- Specific grammatical markers (for example, tenses, possessives, pronouns, prefixes)
- Social classroom language such as 'everyone', 'all', 'line up', names of locations around the school, etc
- Academic classroom language, such as underline, show me, describe, match
- Question forms, and their expected answer types (a 'who' question is about a person, a 'where' question is about a place, etc.)
- Learning strategies to support memory and comprehension, such as making lists, taking notes, looking up information, etc

Expressive language targets could include:

- Responding with a single word or sign

- Answering when their name is called
- Answering a question in class which has been agreed beforehand and practised in resource time
- Answering a question in class without practice
- Asking a question
- Indicating the need for a break
- Initiating a conversation
- Using greetings with adults
- Using greetings with other students

Working directly on speech, language and communication goals.

Once clear goals have been identified for some of the areas above, you will need to consider teaching methods which take into account the strengths and challenges which are part of the typical learning profile for students with Down syndrome. There are a series of webinars addressing different aspects of this learning profile which can be found here: https://downsyndrome.ie/resources/

Vocabulary underpins language, so the starting point for any target should be the relevant vocabulary. Students with Down syndrome are generally strong visual and experiential learners, so pre-teaching vocabulary using technology to access or create images is a good place to start. Make sure to include the written word alongside any pictures, even if the student is not reading well. We all recall the words we use most often more easily, while words we use less frequently may be difficult to retrieve. Practice in remembering and generating single words and short phrases related to topics until they become familiar should be built into vocabulary targets to aid consolidation.

Errorless learning techniques are recommended, where the student can benefit from explicit teaching and modelling, with supports gradually fading. Students may disengage from activities that they perceive as too difficult, and although persistence should be encouraged and praised, small achievable goals are essential.

Students are likely to understand more words and sentences than they can express. Alternative ways of demonstrating learning such as matching or selecting words or pictures will be easier than naming them, and still shows understanding.

Asking a student to repeat something they have already done successfully may seem like a good strategy to support consolidation, but it can cause confusion, with students assuming they made a mistake, and changing their response. Instead, you will need multiple ways of teaching the same thing, to maintain interest and support learning. Incorporating target vocabulary and concepts into reading and spelling practice exercises will help with this.

Sequencing and narrative are important in linking ideas and concepts. Rather than addressing this as a separate target, consider taking photos while doing an activity during a practical class, then work with the student to sequence the photos. This will create relevant and age-appropriate reading materials and can be used to show or tell a peer how to do the activity.

Differentiating the curriculum to accommodate both cognitive and language difficulties.

Differentiation is simply reducing the volume and complexity of work, including homework. Students with Down syndrome should be working on the same overall topic as the rest of the class, with differentiated targets and learning outcomes.

Most students with Down syndrome will not learn everything that you are teaching their peers. However all students will be able to learn something, if the content is differentiated.

In order to differentiate effectively, you need to be clear about the relative importance of what you are teaching. Prioritisation will be easier if you ask yourself 'if the student could only learn one thing about this topic, what should it be?' Depending on the student, you may also be able to ask yourself what about the second thing, or the third thing?

Once you are clear about what you expect the student to learn, identifying underlying concepts and vocabulary is the next step. Explicit teaching of key vocabulary, grammar and concepts ahead of classroom topics is essential to give the student a foundation for learning.

As well as learning, you need the student to be able to retain and make sense of the information. Ask yourself:

- Can you personalise this topic in any way?
- Can it be related to the student's experience or their environment? We all learn things which are relevant to our own lives more easily.
- Can the student's family help?
- Are there practical activities or experiences which could underpin learning? For example, asking the family to ensure that the student watches the movie version of a book or play several times will help them get an overview of the narrative and facilitate their inclusion in discussions.

While you need to have high expectations about what students with Down syndrome can achieve over time, you also need to ensure that effort, inclusion and small steps towards targets are celebrated. Learning will continue into adulthood, as long as teaching is well differentiated, taking into account the student's interests, cognitive ability, and language disorder.

Addressing behavioural issues linked to communication

As discussed above, communication difficulties can lead to behavioural issues. Promoting and modelling the desired behaviour is likely to work far better than telling the student at length what they have done wrong.

Visual cues can be an effective way of communicating your expectations. Even better if you can show a video of the student performing the desired behaviour. Being able to show them not just what is expected, but that they are capable of doing it, can be very powerful.

For example, consider role playing and videoing expected behaviour in the cafeteria, or during class discussions. The video can be recorded individually in a safe way, then used as a prompt ahead of the real situation.

It's important to keep in mind just how much attention and energy many students with Down syndrome have to expend just trying to understand the language around them. It will be helpful to consider whether behaviour issues can be better understood as communication breakdowns, exhaustion, frustration, sensory overload etc. If the student is approached with empathy and understanding, rather than sanctions, issues are more likely to resolve. Any behaviour which receives attention (positive or negative) is being reinforced and is likely to persist.

The NCSE has excellent resources on positive behaviour supports which can be freely accessed here: https://ncse.ie/promoting-positive-behaviour-and-learning, as can our webinars on the topic https://downsyndrome.ie/resources/

Continuing Professional Development

The combination of language disorder, intellectual disability, vision and hearing deficits, health issues, etc., means that Down syndrome specific professional learning will be helpful in understanding and meeting the needs of a student with Down syndrome.

Down Syndrome Ireland regularly provides free live webinars, with the opportunity to submit questions. https://downsyndrome.ie/resources/upcoming-webinar/

We currently run joint in-person conferences together with the NCSE, which are eligible for substitute cover. There are also pre-recorded webinars and downloadable resources on our website.

Down Syndrome Education International provide useful resources and online training courses. https://www.down-syndrome.org/en-gb/. There is a specific course focused on supporting students with Down syndrome in mainstream schools.

The papers below give good insight into some of the specific language difficulties experienced by people with Down syndrome. [3] [4]

Professional learning on developmental language disorder is also highly relevant.

Conclusion

Students with Down syndrome have the right to be educated in their local school alongside typically developing peers, and research suggests that outcomes of inclusion are positive.

[3] Pauline Frizelle and others, 'The Understanding of Complex Syntax in Children with Down Syndrome' (2019) 3 Wellcome Open Research 140.

[4] Kari-Anne B Næss and others, 'Language and Verbal Short-Term Memory Skills in Children with Down Syndrome: A Meta-Analytic Review' (2011) 32 Research in Developmental Disabilities 2225.

Real inclusion requires a whole school approach to ensure that students with additional needs are welcomed into the school community and that teachers are given additional planning and preparation time to plan for learning success. Real inclusion means cultivating a curiosity about the student, figuring out who they are as an individual, and how they might best be supported to learn. It also means maintaining communication with the family of the student, allowing them to share their knowledge and understanding of their child, providing insights which allow learning to be personalised and reinforced.

Using the principles of universal design for learning, or UDL, means that some of the changes you put in place to support the student with Down syndrome will also support other students who might be better at masking their struggles.

Always remember that education is an ongoing process. Even if progress is slow, provided you have engaged positively with the student and made sure that school is a welcoming environment, you have laid the foundations for life-long learning.

Additional resources

Down Syndrome Ireland website

There are a number of online presentations and a resource list you can access at the following link: https://downsyndrome.ie/resources/

Other resources

Understanding hearing and vision issues

Boots hearing loss simulation:
https://www.bootshearingcare.com/hearing/hearing-loss-simulator/

Flintstones Hearing Loss Video
https://www.youtube.com/watch?v=wn3PnBWRC5cm

Vision Information
https://www.cardiff.ac.uk/downs-syndrome-vision-research-unit/get-advice/for-teachers

Visual supports

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