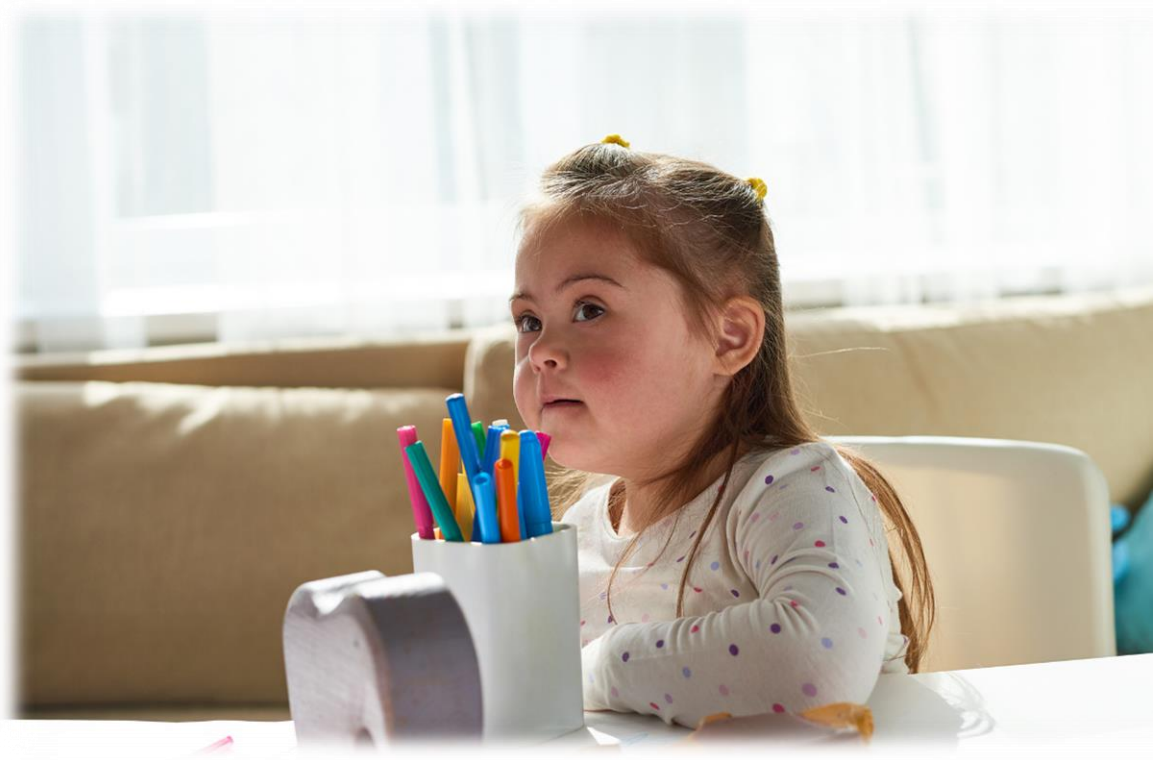
SUPPORTING THE SPEECH, LANGUAGE AND COMMUNICATION DEVELOPMENT OF CHILDREN WITH DOWN SYNDROME IN THE CLASSROOM



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1) Introduction:

If you are reading this booklet you probably have a child with Down syndrome in your class or school. If this is your first time teaching a child with Down syndrome, you may be apprehensive, wondering whether you have the skills to meet their needs and help them learn. You may even wonder if you are the right school, the right teacher, 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 us by phone or email to discuss individual issues.

International research indicates that children with Down syndrome have better academic, behavioural, and speech & language outcomes when educated alongside typically developing peers[1]. Once you understand the importance of inclusion, and the impact it can have on the life of a child with Down syndrome, your responsibility to create a supportive learning environment and increase your understanding of the likely strengths and needs associated with Down syndrome becomes clear.

One of the areas of greatest need is in speech, language and communication skills. Every child with Down syndrome 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 their teacher, can influence.

Ideally, teachers will have regular access to a Speech and Language Therapist (SLT) who knows the child well, and can help with understanding the child's needs and setting appropriate targets. At 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 typically developing children is underdiagnosed, and the measures you put in place to support language development are likely to benefit any child who is struggling with language in your classroom.

[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) The impact of Speech, Language and Communication disorders

Difficulties with speech and language impact not only the communication of needs, thoughts, and opinions, but also understanding and accessing the curriculum. These difficulties can also impact on behaviour, particularly in the early primary school years, for two main reasons:

Firstly, being unable to communicate causes frustration, and acting out may be the only way to express this. It creates a situation where people have to stop and pay attention to your distress and address the issue!

Secondly, while we think of language as a tool for communicating with others, we also use language for thinking. We think in words. When language development is delayed, children may be unable to think through and predict the consequences of an action, and may act impulsively. We instinctively know this with typically developing children. We don't attempt to teach young toddlers to think ahead, instead we adapt their environment and take responsibility for their safety until they are at an appropriate developmental stage. 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 children with Down syndrome than their peers.

For these reasons, it is important to focus on supporting language development from the start, as other problems which seem more urgent may only resolve as speech and language skills improve.

3) Characteristics of speech and language development in children with Down Syndrome:

Down syndrome selectively impairs speech and language, so children 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 children with Down syndrome will have delayed speech development and some will have speech production difficulties which persist into adulthood, the majority of people with Down syndrome go on to become primarily verbal communicators.

Speech may be unclear for various reasons. It can be difficult for the child 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; and difficult to say words fairly consistently so that people can understand. Many children will supplement their speech with signing and other forms of communication, at least in the early years, but with the right supports and lots of practice, 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 child can be helpful for a couple of reasons. Firstly, the child 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).

Use of speech generating AAC devices can also support speech development, possibly because the child hears exactly the same production of the word each time. These are usually individualised to the child, and any additions or changes need to be done carefully in consultation with the child, their SLT, and any communication partners such as family members. If a child is using a device to communicate, it is not appropriate to remove this device from them or make changes without permission.

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

All complex motor tasks, including speech, become easier with practice. Ensure that the child can practice saying words in a relaxed context, using play-based learning where possible. Don't 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.

Most children with Down syndrome will have some degree of hearing loss at least some of the time, and this will impact on the speech sounds that they can hear. 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 sitting at the back with an SNA. This 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.** Background noise can be very challenging for students with a hearing loss, so keeping this to a minimum and teaching new sounds and words 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 many tasks 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.

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 maybe some of the non-verbal cues, but don't understand the significance of sentence structure, word order or context. Add to this difficulties in processing and remembering what has been said, and it's clear that this is problematic. You might only really get the first part or the last part of what has been said, 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 learning to process spoken language, the student may focus initially 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 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.

Auditory processing and auditory memory are often a challenge for people with Down syndrome, including specific difficulties in phonological processing. While basic phonics, such as letter-sound correspondence may be learned relatively easily, using those skills to blend sounds and segment or identify properties of words is likely to be extremely difficult, and early reading is usually through sight words.

Receptive vocabulary development, while delayed, can be a relative strength for people with Down syndrome. It is 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, and new words should be explicitly linked to existing vocabulary. When choosing vocabulary targets, focus on words relating to classroom topics along with personal words on topics of high interest to the child. These can be used to create personalised reading materials, further reinforcing learning. Classroom topic-based vocabulary should be targeted in advance of the topic, rather than concurrently or afterwards. Generally, using any individual or small group time to pre-teach rather than catch-up reduces frustration and maximises learning.

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 age and stage 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 reach of the areas above. Overall targets for receptive language (comprehension) and expressive language with individual targets for elements of each, such as vocabulary, grammar, sentence structure, speech sounds and written language will be needed.

Occasionally, teachers have held back on teaching reading, focusing on spoken language first. However, there is a bi-directional link between reading and talking, so don't delay reading targets because the child is not yet talking. Seeing the words written down is likely to provide visual support and help the development of spoken words and sentences. Reading is a relative strength for many people with Down syndrome as it can 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/online-education-seminars/

4) Strategies for mainstream teachers

Building a relationship

There are both benefits and challenges to having a student with Down syndrome in your classroom. While the developmental delays and challenges can often be the focus, it is important not to lose sight of the strengths. Many children with Down syndrome are eager to learn and eager to please, provided they have a good relationship with the people around them. It is worth spending time building this relationship.

Building a relationship with the child before setting targets for either communication or academics allows you to get to know their interests and strengths in a relaxed environment. All students can become stressed and withdrawn when overwhelmed, and this is detrimental to communication. Focusing on getting to know the student first will support their overall inclusion and promote communication and learning in the longer term.

You need the student to be invested in maintaining their relationship with you as their teacher, so that they want to follow your directions and do the tasks you have defined. Having you take the lead can come as a surprise to the child, particularly in the early years. Parents may have been told to follow the child's lead, then add language to whatever they are interested in. While this approach can still be useful in the early days of school, you also want the child to follow your lead and engage with topics and routines you have chosen.

As with any child, issues need to be dealt with promptly and fairly, then let go. Each day 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 day ahead, this can become a self-fulfilling prophecy.

Establishing routines and boundaries

The classroom can be a scary space when you struggle to understand and process language, and may not understand the unwritten rules and expectations. Establishing roles, routines and boundaries is an important early target, as the security and predictability this creates for the student will underpin learning. Adults need to be firm, fair and flexible. Developmental immaturity and ongoing health and sensory issues may mean that the child's skills and abilities vary from day to day, and like all 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 child up to fail.

Many students with Down syndrome will struggle to transition between activities. 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 child'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 explore and watch others?
- Is there a sensory issue?
- Are the other students doing something much more interesting?
- Is the transition taking the student away from their peers?
- Does the student feel secure doing the current activity? Are they worried about transitioning to a new, potentially difficult activity?
- Is this a particular problem with specific people or activities?

Using visual timetables and visual timers to alert the student to an impending change in activity can be helpful, as can allowing choice in the order of activities. Thoughtful scheduling is needed. No student is going to want to leave the classroom when everyone else is about to do something they particularly enjoy. Scheduling activities the student tends to get stuck on towards the end of the day, or ahead of something they enjoy, can provide a positive incentive to move on. Think about how you can manage some of the underlying issues, for example, by practicing potentially difficult tasks in a safe environment to build the student's skills and confidence.

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 habit. If the student is occasionally allowed to continue with a preferred activity rather

than transitioning to a different one, they are likely to try every time, to see what happens. 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 a 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 an initial meeting, a system of regular communication should be established. The downloadable templates here may be helpful for this https://downsyndrome.ie/parent-teacher-communication/

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.

Encouraging peer interaction

Signing is often used in the early years to support communication. If the child with Down syndrome is primarily using manual signs to communicate, ideally all adults and children need to learn some key word signs. Hopefully you will have access to a Lamh course, or a handover from the Child's Early Years SLT which includes key word signs. There are some online resources available, such as the 'Lamh Time' app, and the RTE series 'Dizzy Deliveries' which could be enjoyed by the whole class, promoting the acceptance of signing as a valid way of communicating and helping children learn signs. Some children with Down syndrome may be keen to teach some signs to their peers, as this is an area where they could be the experts! Ensuring that your student with Down syndrome has both the shared language and the opportunity to engage with their peers is important.

Promoting peer interaction outside the classroom is also important. As well as encouraging signing, structured play is likely to be helpful, ideally play without too many verbal or cognitive demands, giving the student the opportunity to learn the language and social skills needed for break times, for example, basic ball games, lego, turn-taking games, etc. While this will often need to be facilitated by the teacher and SNA initially, the goal should be inclusive play 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.

Students may need to be explicitly taught the language and social conventions around play, including vocabulary, rules, joining a game, leaving a game, asking someone to play with you, etc. Some schools have found the '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 interact with others. 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 join in, but need additional support.

Peer communication is important both for inclusion and for language development. Depending on the age of the child's peers, it may be helpful to share some information about Down syndrome and different ways people communicate and learn, however we have found that in many cases, children are accepting and inclusive.

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 child, 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, often 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 interactions where they are 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 them 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 child focus and understand. Setting up visual alternatives and supports for the child's expressive language is also important. Traffic light 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 help, or 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 child education plan, and could include:

- Vocabulary linked to class topics and child interests

- Listening and attention skills
- Language for basic concepts which underpin areas of the curriculum (for example, big and small, more and less, 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, define…
- Question forms, and their expected answer types (a 'who' question is about a person, a 'where' question is about a place, 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 practiced 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 children

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/online-education-seminars/

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, even better if the visuals are personalised, so pre-teaching target vocabulary using images and objects is a good place to start. Make sure to include the written word alongside any pictures, even if the child is not yet reading.

Errorless learning techniques are recommended, where the student can benefit from explicit teaching and modelling, with supports gradually fading as the child learns. Children will disengage from activities that they perceive as too difficult, so small achievable goals are essential.

Children will often understand words before they can say them. Alternative ways of demonstrating learning such as matching or selecting objects or pictures will be easier than naming them, and still shows understanding.

Asking a student to repeat something they have already done successfully may cause confusion. If they successfully identified the picture of a cat from the four pictures in front of them, shuffling the pictures and trying again to ensure that it wasn't a lucky guess will leave some children assuming they made a mistake, and choosing a different picture. Instead, you will need multiple ways of teaching the same thing, to maintain interest and support consolidation. Incorporating target vocabulary and concepts into reading and spelling will help with this.

Sequencing and narrative are important in linking ideas and concepts. Rather than the typical sequencing activity cards, consider reading the same picture book to the child for a few days, then colour photocopying some of the pictures and putting them in order and retelling the story together. Or take photos while doing an activity such as baking or painting, then work with the child to sequence the photos and use them 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.

Most children with Down syndrome will not learn everything that you are teaching their peers, however all children 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 child could only learn one thing about this topic, what should it be?' How about the second thing, or the third thing?

Once you are clear about what you expect the child 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 child a foundation for learning.

As well as learning, you need the child 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 child's experience or their environment? We all learn things which are relevant to our own lives more easily.
- Can the child's family help?
- Are there practical activities or experiences which could underpin learning?

Family photos which can be used to make personal, digital books about the topic can be an excellent resource. For example, if you're teaching rivers of Ireland, and the child's granny lives in Wexford town, pictures of granny, her house, the nearby river Slaney, the wildlife, the sea, etc. can be used to make a personalised book. The family may be able to take a walk along a nearby river at the weekend and take photos. The child may only learn about one or two rivers, rather than all of them, but if they are relevant and familiar, the learning will make sense and is more likely to be retained. The books can be used for reading practice, giving additional opportunities for consolidation.

While you need to have high expectations about what children 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 child's interests, cognitive ability, and language disorder.

Addressing behavioural issues linked to communication

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

Visual cues can be an effective way of communicating your expectations. Even better if you can catch the child on camera 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, 'we're going to sit quietly in the hall for a story' accompanied by a picture of the child sitting in the hall will work much better than 'We're going to the hall now. Everyone be good. No shouting or pushing.'

The first tells the child what will happen and why. It gives clear expectations supported by a visual. The second leaves the child knowing where they are going, but not why, and introduces the idea of shouting and pushing.

It's important to keep in mind just how much attention and energy many children 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 child is approached with warmth and understanding, rather than sanctions, issues are more likely to resolve.

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/online-education-seminars/

5) Continuing Professional Development

The combination of language disorder, intellectual disability, 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. 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 children with Down syndrome. [2][3]

Professional learning on developmental language disorder is also relevant.

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

6) 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. Real inclusion requires a whole school approach to ensure that the child with additional needs is welcomed into the school community and that the teacher is 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 children who might be better at masking their struggles.

Always remember that education is a lifelong process, so even if progress is slow, provided you have engaged positively with the child and made sure that school is a welcoming environment, you have laid the foundations for learning.

7) Additional resources

Down Syndrome Ireland website

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

Information on speech, language and communication can be found here:
https://downsyndrome.ie/support-detail/speech-and-language-therapy/

https://downsyndrome.ie/support-detail/primary-school-slt/

There are other resources that may be useful in the 'education professional' section of the website:
https://downsyndrome.ie/support-detail/education-professionals/

Other resources

Developing language and literacy skills

See and Learn (Suggested for preschool and early primary school)
https://www.seeandlearn.org/en-gb/

Video demonstrating the use of the See and Learn Kits
https://www.youtube.com/watch?v=4oll1rHby18

Reading and Language Intervention programme

https://www.down-syndrome.org/en-ie/resources/reading-language-intervention/

https://dspace.mic.ul.ie/handle/10395/1848

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

https://www.advocatehealth.com/assets/documents/subsites/luth/downsyndrome/use-of-visual-supports.pdf

https://www.downsyndrome.org.au/wp-content/uploads/2020/04/VisualSupportsbookletv2-1.pdf

https://www.dsrf.org/resources/learn-at-home/visuals-and-down-syndrome-the-why-and-the-how/

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