

THE

ACCESSIBILITY



GUIDE



By The Accessible Schools Network
An initiative by Idhant Mittal

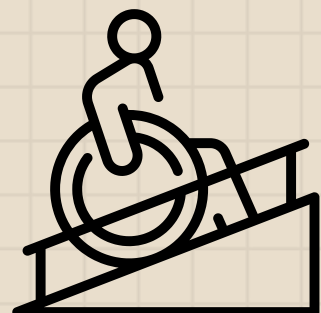
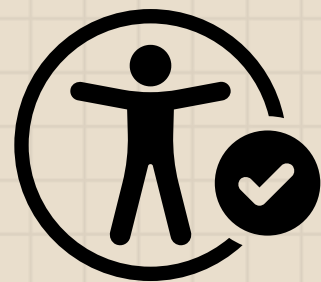
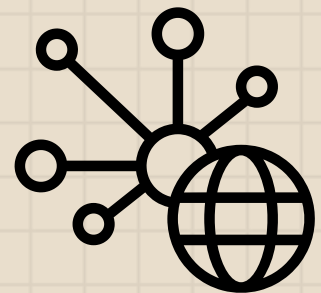
Content

- **Supporting Spaces** 3-4
- **Convenient Classrooms** 5-6
- **Cooperative Curriculums** 7-8
- **Assist and Adapt: Technological Aids** 9-10
- **Mindful Management** 11-12
- **Strategies for Success** 13-14

Supporting Spaces

Promoting accessibility in public and community spaces is extremely important to meet the needs of people with disabilities and other physical, neurological, and intellectual difficulties. Making physical spaces accessible to all fosters a sense of inclusivity and belonging, something all human beings need and crave. There are some simple principles that can be kept in mind while developing universal designs in physical spaces. These first and foremost principles are equitable and flexible use. Public spaces should be developed to be accessible to individuals with diverse needs and abilities. They should be designed in a way that allows them to be utilized with varying abilities and skills. For example, creating wide doorways and ramp ways can ensure that people with walking aids like walking sticks and wheelchairs. Another key principle is simple use. These accessibility interventions should be usable for individuals with different levels of knowledge, language skills, concentration, and experience. Making these interventions easily navigable is important as complex steps may frustrate and demotivate people with disabilities. The third principle is providing perceptible information on how to use a particular design feature. It is important to keep the information provided easy to understand for individuals who may have sensory difficulties, intellectual disabilities, and even issues with eyesight and vision.

To provide accessible design elements for people with mobility disabilities, entries to buildings and other areas must have wide ramps and wider doorways to allow the use of walking aids. Additionally, if the building requires you to enter an access code, the code entering device should be placed at a lower height, for people in wheelchairs. Handrails on ramps and stairways are also important, to reduce the chance of tripping and provide support to those who require it. Automatic doors are another great addition to add to the accessibility of a building. This not only helps people with disabilities, but also anyone who is carrying things with them. Investing in non-slippery floors by utilizing coarse or textured flooring material is a great idea to prevent any falling hazards. For the visually impaired, it is essential to provide any information in braille. Utilizing large fonts and graphics to explain the information can also be helpful! This is for information such as timings of a building or park, instructions on how to operate a certain mechanism such as an elevator, and general dos and don'ts of an area. Providing signage is actually extremely important too. We don't want to assume that a person knows about how a certain feature works, we want to provide comprehensible information to people who may not be familiar with how an element functions.

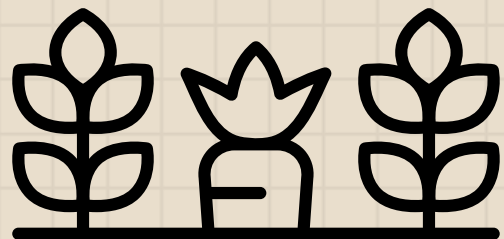
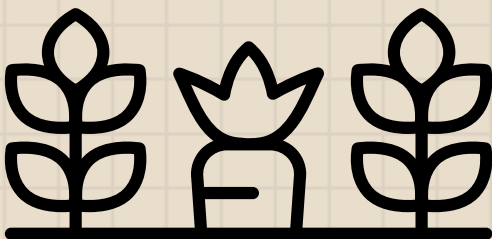


Supporting Spaces

Lighting is another key element to focus on, especially in outdoor areas such as gardens, parks, and walkways. Illuminating these areas with powerful lights will allow individuals with visual disabilities and mobility issues to walk around safely in the evening, and would prevent falling, slipping, or tripping. Placing these lights in a way that it illuminates the area without being too harsh is important. Individuals with sensory problems find it difficult to deal with harsh lighting, so keep that in mind!



Playgrounds and gardens are areas frequently used by children. These areas must incorporate elements conducive to children with sensory problems. Inclusive playgrounds must contain sensory-rich details such as brightly colored swingsets, textured playground equipment such as sandboxes, and open spaces. Creating zones in the playground is also a great way to engage children with sensory-problems. Providing a quiet zone is essential, this is a place children can go to when the noise and activities in the other areas get too overwhelming. Adding colorful flowers and plants with different textures and smells in this area is also a great way to engage children's tactile senses and the sense of smell, which can help in calming anxiety. Activities offered in inclusive playgrounds must have multiple levels of challenges to promote diverse abilities. Utilizing non-slip and shock absorbing flooring can help prevent falls and can reduce the impact of falls as well. These playgrounds provide a space for children to interact, so it is a great idea to provide social activities such as playground equipment that requires multiple children to function.



Sources:

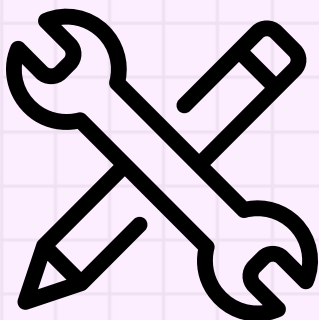
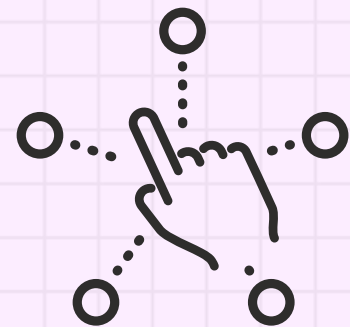
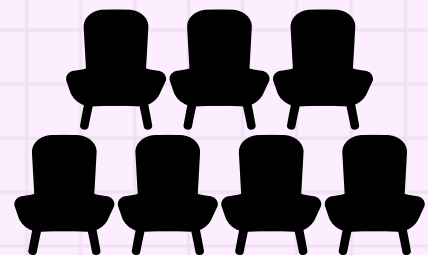
1. <https://www.hurix.com/transforming-physical-spaces-for-accessibility/>
2. <https://oxford-review.com/the-oxford-review-dei-diversity-equity-and-inclusion-dictionary/accessibility-in-public-spaces-definition-and-explanation/>
3. <https://www.linkedin.com/pulse/five-ways-build-accessible-inclusive-spaces-all-ages-bradley-schurman/>
4. <https://playworld.com/blog/the-importance-of-inclusive-playgrounds/?lang=can>

Convenient Classrooms

Ensuring that children with ranging physical abilities are all able to participate in classroom activities begins with creating a learning environment that is accessible and inclusive. By providing the correct systems and infrastructure, a classroom is better equipped to accommodate the diverse needs of a large group of young learners. This chapter explores how classroom spaces can be optimized for students who use wheelchairs and other assistive devices, or require tactile and sensory aids. By listing methods like flexible seating options, modified traditional desks and chairs and the right storage options, this guide will assist users in creating functional and welcoming classrooms.

Flexible Seating Options

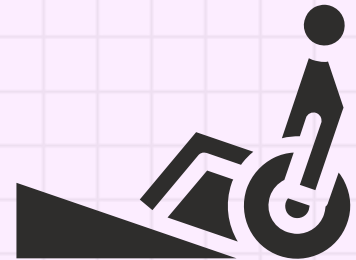
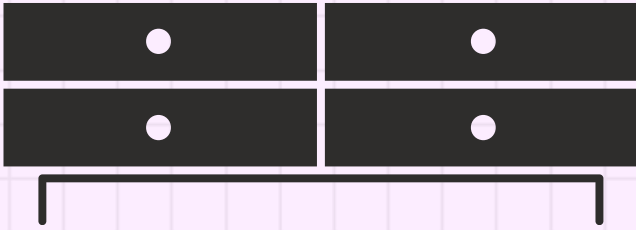
Flexible seating can offer a range of creative options that are designed to meet the needs of students with physical disabilities. These can include adjustable desks that allow students with mobility issues to choose between sitting and standing positions, which can improve executive function and also allow students with wheelchairs to tune their desks to a convenient height; movement-based seating such as pneumatic stools offer vestibular input, which help students to self-regulate and focus; or softer seating like bean bag chairs or cushions allow students with ADHD, autism or sensory processing disorders to have better tactile and proprioceptive inputs. Some children may also benefit from seating that is designed to provide the highest level of privacy to help them modulate sensory inputs or excessive stimulation.



Desk and Chair Modifications

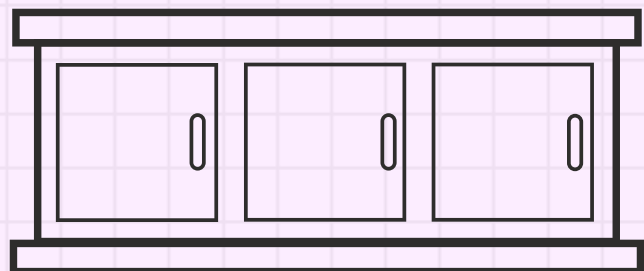
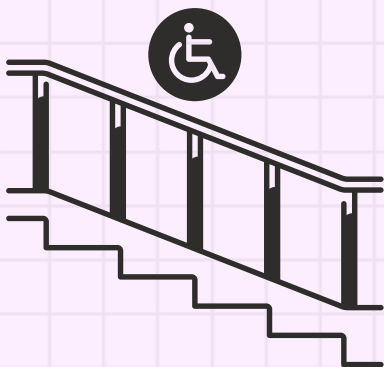
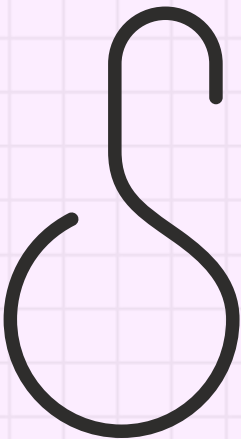
In addition to flexible seating options, it is possible to make adjustments to existing seating like traditional desk and chair classrooms. By adding a tilt-top to the desk, the desk is less prone to cause neck and back strains for reading and writing students. Installing side compartments or pull-out drawers can increase the storage space in desks, allowing children to bring more materials or resources, or store their learning aids, and therefore promoting more independence. The same can be done for chairs, like adding adjustable back rests, or beams for students to rest their legs. It may also help some children to sit on chairs that allow some movement, so that children with attention disorders can relieve pent up energy.

Convenient Classrooms



Accessible Storage and Floor Plans

Students with limited mobility sometimes struggle to reach storage options like storage bins, clothes hangers or door knobs. By installing lower shelves with easier pull-out options, hangers at mid level height and door knobs that are lower and require lesser effort can help students to maneuver the classroom with ease. Installing ramps for students with wheelchairs or other similar disabilities can also significantly improve their access and ability to participate. In order to meet the needs of children with visual impairments, teachers can label boxes with appropriately sized letters as well as Braille labels.



Sources:

1. <https://aoda.ca/flex-seating-in-the-classroom-benefits-kids-with-disabilities/>
2. <https://miencompany.com/the-power-of-flexible-seating-for-students-with-special-needs/>

Cooperative Curriculum

Students in today's classrooms are increasingly diverse in their life experiences, learning styles, socioeconomic statuses, languages spoken, and cultural and religious backgrounds. What counts as education can encompass a wide range of topics, with students' interests often varying widely from one another. This need for inclusive pedagogy is especially strong in schools, where students learn much not only about their academic coursework but also about the larger world in which they will live, work, and participate as citizens.

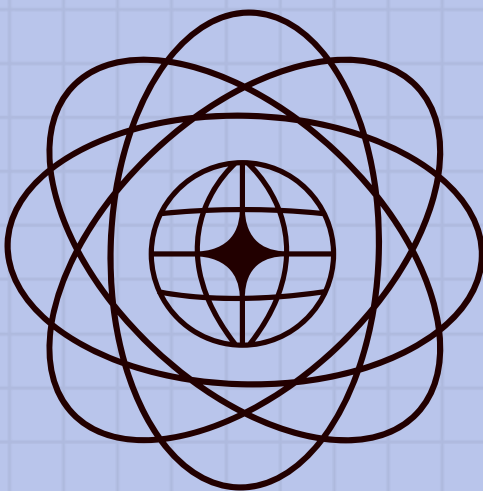
Universal Design for Learning

Educational approaches should enable students to effectively demonstrate what they have learned through universal design for learning. Planning for diversity is more efficient and fair when teachers consider potential student needs in all phases of the lesson planning process, including design, implementation, and evaluation. This approach ensures that every student has access to grade-level content by providing a variety of ways to learn or demonstrate what has been learned, including complex thinking.



Process Differentiation

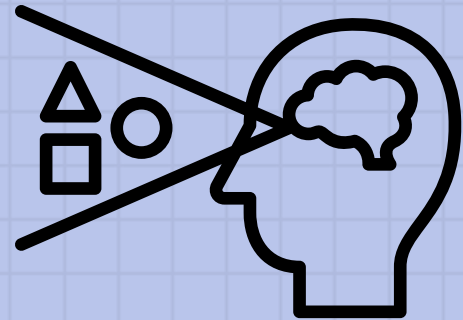
The 'process' in this context refers to the strategies and tasks teachers employ to help their students master the essential knowledge involved in the key concepts and generalizations of a lesson, unit, or subject. Process differentiation in teaching encourages higher-order thinking through the utilization of depth and complexity cards, extension learning menus, ready research opportunities, alternative trajectories, open-ended questioning, flexible grouping, independent study projects, science or mathematics fairs, content centers or stations, reflect and correct opportunities, advance organizers, advance questioning and summarizing strategies, and/or the use of tiered questioning during guided reading.



Cooperative Curriculum

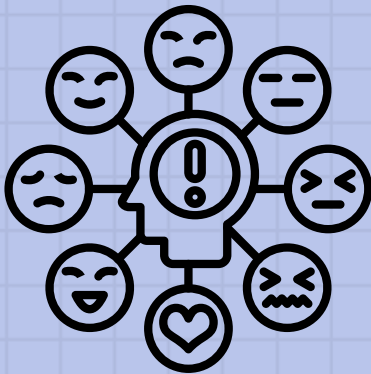
Visual Supports

Visual supports are designed to help students who struggle with language processing by showing expectations instead of verbalizing them. When visual supports are built into teaching, the need for constant verbal prompting and reminders is reduced. If students know what is expected of them in a given situation, anxiety levels drop, behavior improves, and instruction can be more effectively accessed. Using visual supports is not limited to students with Autism Spectrum Disorder or cognitive limitations. Virtually all students will benefit from some type of visual support at some point in time. Visual supports are commonly used to provide clear structure, support understanding, describe a concept, and provide a disciplinary alternative.



Communication through devices or apps for non-verbal students

For some students, either on the autism spectrum or otherwise, verbal communication is very difficult. However, we must be very clear: auditory discrimination is not necessarily a problem with understanding itself. It is the link from understanding to reconstruction that they can have difficulty with. So, as they have something to say and understand, we need to give them a way to communicate. This is often done by helping them learn within the construct of object permanence that even if the object isn't in front of them, it exists and if they label it, someone will get it for them.



Sources:

1. <https://www.hmhco.com/blog/teaching-strategies-for-diverse-learners#:~:text=When%20determining%20how%20to%20meet,coming%20up%20with%20solutions%20to%20gether.>
2. <https://www.readingrockets.org/topics/differentiated-instruction/articles/how-adapt-your-teaching-strategies-student-needs>
3. <https://edwp.educ.msu.edu/te/wp-content/uploads/sites/49/2020/06/Designing-Lessons-for-Diverse-Learners.pdf>
4. https://www.researchgate.net/publication/247517390_Co-operative_Learning_for_Children_with_an_Autistic_Spectrum_Disorder_ASD_in_Mainstream_and_Special_Class_Settings_An_exploratory_study
5. <https://www.degruyter.com/document/doi/10.1515/edu-2019-0008/html?lang=en>

Assist and Adapt: Technological Aids

When it comes to making learning accessible, it is no surprise just how crucial a role technology plays, especially in the present day and in a country as widespread and reliant on connection as India. For students that have special learning needs, there are various tools and resources available which can aid them in making learning more accessible and effective. This chapter delves into exploring some of these technological aids.

Screen Readers

Screen readers are a form of assistive software applications that are used to identify and interpret what is being displayed on a computer screen for those who are visually impaired. These readers use a synthetic voice to vocalize the text and read it out in a text-to-speech format. Some even have Braille outputs. They can also be used to change text by changing its size and color scheme for better readability. Some examples of screen readers in India include NVDA (NonVisual Desktop Access) as well as JAWS (Job Access With Speech).

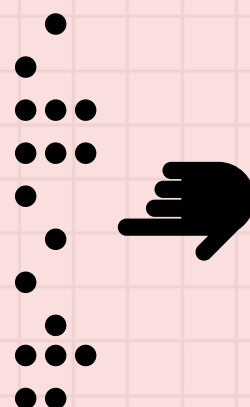
Voice Recognition & Other Text-to Speech Software

Another area where aids are coming to use is speech impairments. Tools like Dragon Naturally Speaking and Google's very own Voice Typing assist people with mobility (like writing) or speech based issues in changing spoken words to text. Technologies like voice and speech recognition helps read the info spoken into in-built device mics and convert them. This also helps with taking notes and completing time-based writing assignments and tests. On the other side, there is also text-to-speech software like Balabolka or Natural Reader that converts written text into spoken words, similar to how screen readers also work in relaying information. Apart from just increasing accessibility, these also help with hands-free navigation, learning different languages and also proofreading which make them more inclusive, especially in a country with so many cultures and language preferences like india.



Braille Displays

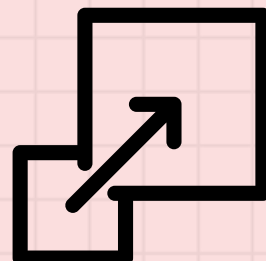
Braille is a system of raised dots which can be felt on fingertips and helps people with visual disabilities and blindness read and/or write. In India, displays like VarioUltra and Orbit Reader help immensely as they provide tactile feedback and allow people to even read digital content. These series of small cells form original Braille characters and sync with computers, smartphones and other devices to transform on-screen text into tangible output.



Assist and Adapt: Technological Aids

Screen Magnification & Large Print Books

Sometimes, increasing size helps a lot in the case of visual impairments in specific. In this regard, books with particularly enlarged and clear fonts as well as technologies like ZoomText and Windows Magnifier come in handy for people with low vision. By enlarging on and off-screen content, these resources help in making not only text but also images, diagrams, and artwork more visible and understandable. Software even offers the added personalization settings of changing magnification levels, color contrast and cursor edits to engage more effectively. Books on the other hand reduce eye-strain and are widely accessible through Amazon, Sugamya Pustakalaya and at public libraries.



Tactile Learning Resources

These are materials that are carefully designed in a way that they can be touched to be explored and thus guide students accordingly. The National Council of Education Research and Training (NCERT)'s tactile mapbook uses state-of-the-art techniques in producing embossed maps that can be understood through touch and feel. These maps have been tested and re-worked based on real feedback received from visually impaired students and now contains 7 maps covering physical, geo-politics and environmental representations of India. Additionally sensory bins can also help assist learning and communication; not only for students with disabilities but also developmental differences like autism. These bins are essentially any sort of container that come with materials like sand, beans or textured toys which help promote sensory exploration, motor movement, interaction and cognitive development by understanding the concepts of shape, size and more.

Thus, these are a few examples of current technological aids and adaptive resources that are helping make learning more inclusive and user friendly. By knowing of and using them, we can help ensure that every student has equal opportunities to develop and succeeding in their education.

Sources:

1. <https://divyangcareer.com/best-10-tools-to-help-people-with-disabilities/>
2. <https://risingkashmir.com/sugamya-pustakalaya-largest-online-library-for-blind-and-print-disabled/>
3. <https://ncert.nic.in/accessibility.php>
4. <https://www.webmd.com/parenting/what-is-sensory-bin-children>

Mindful Management

Controlling a classroom effectively is more than just keeping one's head above water; it is about providing that high quality learning environment in which every child feels appreciated, looked after and able to learn. The diverse requirements and experiences of students in any classroom render this a complicated issue where the traditional 'one-size-fits-all' disciplinary methods may not go far enough. A mindful management approach requires teachers to blend their understanding of students' mental and emotional needs into practical classroom skills. These work together to build an environment of respect, inclusion and productiveness.

Crucial to mindful management is recognizing the varying temperaments, processing speeds and sensory needs of students. We can no longer teach the way we learned, but rather must be empathetic guides who facilitate learning by being part of that dynamic classroom. This involves being flexible in our approach, and being dedicated to recognizing each student as an individual. For example, one student may require more input and guidance to process an instruction, but will spend more time in self-study mode once it is clear what they are meant to do. Another may require regular interventions or check-ins from the tutor. It may be that some are better in group activities whereas others ask for individual work modes. A teacher who is mindful takes these differences into account and plans for them in the set up of their classroom.

One of the areas where such practices are most vital is in behavior management, since punitive measures (e.g., reprimands, detentions or isolating students) are rarely efficacious and indeed can be harmful to the very population that they could serve best. Positive reinforcement and restorative practices can also be used as alternatives, focusing more on communication and understanding rather than punishment. This may involve asking questions of the student to find out why they are being disruptive rather than just handing them a punishment for their behavior. Maybe the student is worried, hyped up, stressed out. A possible solution is focusing on the root of issues, and not just behavior-based actions which only help momentarily.



There are a variety of ways to incorporate behavior management techniques that cater to the needs of all students. One way of doing this is by making routines more explicit, but also consistent and predictable which can help reel back any anxieties for students who love structure. Use visual schedules, reminders and verbal cues, since these things help students understand what is expected of them without placing undue stress on them. Giving students an activity that allows calming down can and does give them power over their feelings and allows for better control of actions and behaviors.

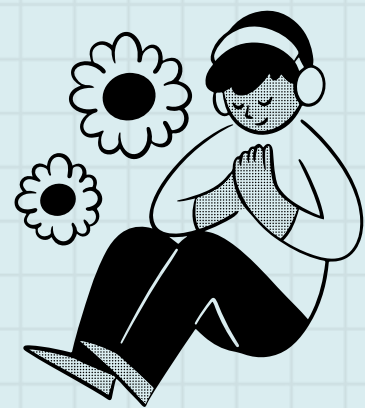
Mindful Management

Classroom management also applies to physical environment and sensory congruence. Many students who are highly sensitive to sensory stimuli need more support than a traditional classroom situation can give them. The bright lights, loud noises and constant motion in many schools can be overstimulating for students who suffer from a sensory processing disorder or ADHD. As a result, reducing the noise levels and creating conducive ambience can do wonders. Things as basic as softer lighting, noise-canceling headphones for students that need them, common areas in the room where overstimulated feel claustrophobic children can go play quietly.

Sensory breaks are another critical feature of mindful management, in addition to adjustments to surroundings. They enable students to take a rest from all the rigorous academic work and re-set their sensory systems. For students who have sensory problems, even short breaks usually have a significant impact. This is more than likely to enable them to stay attentive and fully participate throughout the teaching session. Sensory breaks can include activities like whole-group stretching exercises, which can provide an opportunity to calm things when necessary. It could also be done privately through other methods such as reading, or other silent activities.

Teachers can utilize sensory breaks routinely and give them to all students. This provides a favorable picture of self-care and eliminates the negative connotation associated with needing or taking a break.

Additionally, the physical configuration and design of a classroom can foster an inclusive and mindful space. Clusters of desks promote free cooperation and communication, empowering students. Different types of seating like bean bags, standing desks or floor pillows can give students options that work for their comfort and sensory needs. In order to help students self-regulate in these situations, teachers may also consider setting up some sensory-friendly spots within the classroom including stress balls, fidgets or weighted blankets. By recognizing and adapting to the unique needs of their students, lessening environmental stressors, and introducing tools such as sensory breaks for all learners alike, teachers will be able to foster an environment that not only facilitates academic success but also mental health capacity in order for every student to thrive.



Sources:

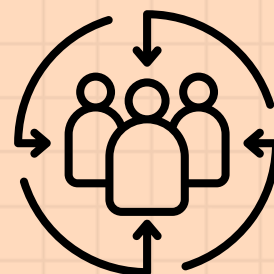
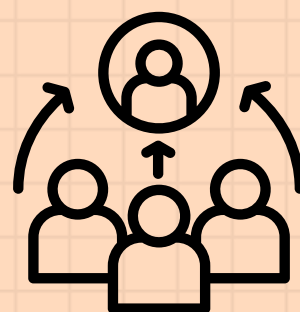
1. <https://medium.com/@ciaranpconnolly/mindful-classroom-management-cultivating-well-being-and-academic-success-b9fbb3381718#:~:text=Mindful%20classroom%20management%20is%20a,%2C%20understanding%2C%20and%20emotional%20intelligence.>
2. <https://blog.calmclassroom.com/mindful-approach-teaching>
3. <https://childmind.org/article/mindfulness-in-the-classroom>

Strategies for Success

Once equipped with the right environment, tools and resources, it comes down to the strategies that teachers themselves use to create inclusive and accessible learning environments. This chapter highlights two strategies that teachers can employ in order to help students to reach their full potential, including the highly recommended Universal Design for Learning and collaborative learning methods.

The Universal Design for Learning (UDL) is based on the idea that students require multiple means in three key areas – representation, engagement and expression.

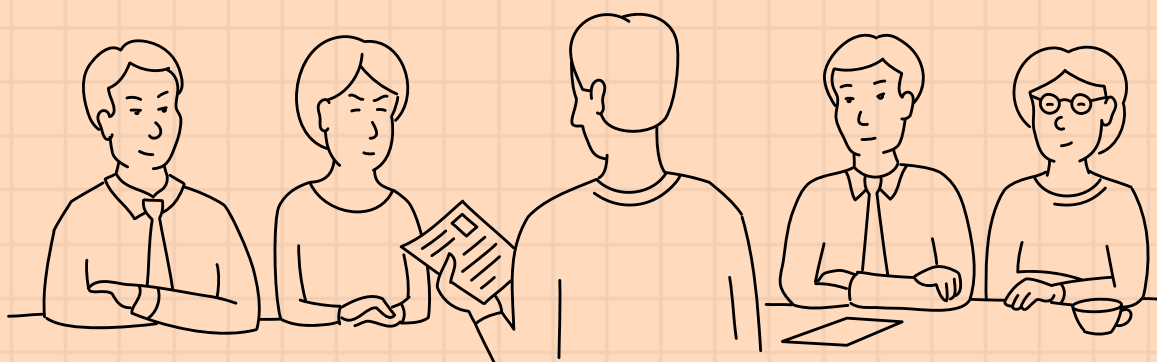
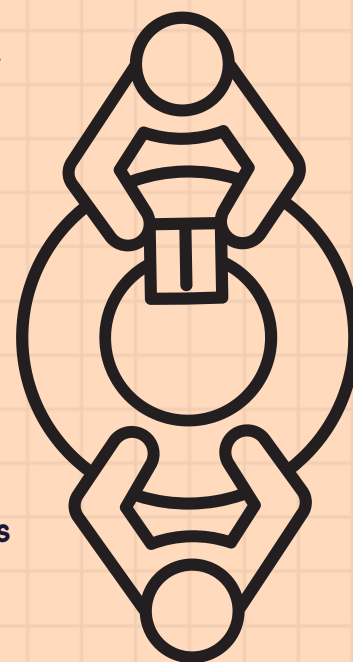
1. **Multiple Means of Representation:** This principle focused on offering various representations of information, so that students are able to approach it in multiple ways. The idea here is that there is no universal way to represent information, and no one way that all students learn it. By offering diverse materials like visuals, audio resources and hands-on activities, a wider group of students is able to access information. For example, by teaching students about ecosystems through readings, videos, simulations and real-world examples, a teacher can help all students– those who learn through audio, video, and tactile activities. In this way, barriers to learning such as language and comprehension can be dealt with actively.
2. **Multiple Means of Engagement:** Allowing students options when it comes to learning has been shown to significantly enhance their learning. By offering students the opportunity to decide how they will learn will help teachers to hold the attention, while also motivating students to learn more independently. Teachers can be sure to keep in mind the topics that students are required to learn about and encourage them to cover them all.
3. **Multiple Means of Expression:** It has long been proven that written tests are not representative of all students' ability to express what they have learned. By providing a range of opportunities for students to demonstrate their learning, teachers will be able to understand better what the student has or has not learned. Assessment methods like oral presentations, artistic projects and peer assessments allow students with more room to learn and remember, and tap into their own strengths. This also ensures that students grow up with a healthy confidence and are not encumbered by the stress of answering tests that require memory.



Strategies for Success

Collaborative Learning Strategies include group work, peer tutoring and cooperative learning activities, which mimic more natural learning patterns for humans. Throughout history we have learned about the world from each other and continue to learn from peers throughout our lives.

- **Group Work:** Structure group work allows students to discuss their ideas and share perspectives at the level of their age groups. This allows students not only to participate actively in class discussion, but also to understand ideas that others might have in response to the teacher's instruction.
- **Peer Tutoring:** In pairs, students can take turns as tutor and learner. This helps them to strengthen their understanding of concepts through teaching and by receiving personalized support.
- **Cooperative Learning Activities:** Activities like Jigsaw learning methods encourage teamwork and communication. For example, in a jigsaw activity, students learn different parts of a topic and then teach it to the group, thereby promoting engagement. In doing so, this third strategy combines the strengths of the two above.



By using the principles of UDL and employing collaborative learning, teachers can create environments that allow all students to succeed. The combination of the two has shown to create strong communities, where students will part of a larger group, boosting their social and personal development and providing them with the opportunity to build confident and self-assured identities.

Sources:

1. <https://www.texthelp.com/en-gb/resources/universal-design-for-learning/udl-guidelines/>

2. <https://teaching.cornell.edu/teaching-resources/active-collaborative-learning/collaborative-learning>

3.

https://www.researchgate.net/publication/374507086_'We_work_together_as_a_group'_implications_of_jigsaw_cooperative_learning