



IN Focus

INCLUSION & INCLUSIVE PRACTICES

Inclusive teaching or **inclusive learning** is being discussed more and more in today's teaching circles especially given its numerous benefits. **Inclusive teaching** often referred to as **equitable** or **equality-focused teaching**, is a method in which educators create a **learning environment** where **all students - regardless of ethnicity, disabilities, gender, sexual orientation, background - have equal opportunities to succeed.**

Educators must identify blockers, barriers, or boundaries preventing students from partaking, completing assignments, & learning. All students must **receive equal treatment** and **respect**. Students must also be **afforded every opportunity to reach their full potential.**

Moreover, educators may self-assess to remove bias from their teaching method and appraise the

source materials to ensure diversity.

There are **common characteristics and features** that many inclusive classrooms share, like :

- Provide students with a *sense of belonging*
- Offer an *open & welcoming environment*
- Are *psychologically safe*
- Promote *active listening*
- Encourage *participation*
- Actively work to *combat biases*
- Focus on *boosting and maintaining student motivation*

You may be thinking that in order to employ all of these features you need to *invest a significant amount of time and effort*. This is, of course, true. But bear in mind that nothing worthwhile is achieved without some effort and the numerous benefits make **Inclusion** a worthwhile endeavour.

WONDER WORDS

* **INCLUSION** : Authentically bringing traditionally excluded individuals and / or groups into processes, activities and decision / policy making in a way that shares power. Inclusion promotes broad engagement, shared participation, & advances authentic sense of belonging through safe, positive, and nurturing environments. Inclusion is key to eliminating systemic inequality.

* **DIVERSITY** : The wide variety of shared and different personal and group characteristics among human beings. The concept of diversity encompasses acceptance & respect. It means understanding that each individual is unique and recognizing our individual differences. These can be along the dimensions of race, ethnicity, gender, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs, or other ideologies.

* **EQUITY** : Sometimes confused with equality, equity refers to outcomes while equality connotes equal treatment. More directly, equity is when an individual's race, gender, socio-economic status, sexual orientation, etc. do not determine their educational, economic, social, or political opportunities.

You have a responsibility to make inclusion a daily thought,
so we can get rid of the word '**inclusion**.'

- Theodore Melfi

QED Talk

NEP 2020's focus on **INCLUSION** Let's hear about it from 3 experts!

MS. NISHA GROVER

Hon. Founder Director - Akshar Trust ,
Akshar School for the Hearing Impaired ,
Akshar Centre for Teacher Training (for Deafness)



Statistics inform us that the majority of Children with Disability (CWD) are, or have been in regular schools. 70% of CWD (5-20 yrs.) have attended school at some point and 90% of these children have been in mainstream schools (World Bank, 2007) . These figures support the narrative that *though there are special schools, these are too few and expensive to run.*

Inclusive Education in India

Akshar has been mainstreaming students since 1981, this was much before the concept of Inclusive Education (IE) was part of the conversation. This process was, however, '*Integration*', wherein a student was prepared to enter a regular school. In 2012 Akshar took a survey of government schools under SSA in Vadodara District, both urban & rural. There were 295 schools in which CWD were included, and our focus was on the student with deafness.

Our findings revealed many issues that needed and still do, need attention. The most basic is that *educators, both special & general, need to develop more processes for collaboration.* There is also a dire *need for Cross Disability pre-service training* for special educators. This is because an educator who has a diploma in hearing impairment is also expected to teach a child with ID (Intellectual Disability or CP (Cerebral Palsy) . In SSA special educators are itinerant i.e. visit different schools in a week .Hence their interaction with the CWD is limited to only a few days. The general educators, with no background in special education, have the CWD for the rest of the week. As a World Bank Report (2007) has stressed, '*Special needs training cannot be underestimated*'.

What was also made clear is that disability support was limited with respect to assistive devices such as hearing aids and the mode of communication. Merely speaking with some gestures to children with hearing impairment would not achieve its purpose. It was evident that there was also *a need for pedagogy planning, accommodations for curriculum transaction and assessment.* The class-size was also a matter of concern.

The case for IE in India cannot be overstated. As our survey revealed that for each child with disability to be given their 'Right', some major shifts are required. The gaps listed above need to be addressed. The concept of *UDL (Universal Design for Learning)* should move centre stage. Technology has made this possible. Pre-service training for general educators, with some papers in special education, would be of value. *Mandated hiring of special educators by all schools would help.* The Delhi High Court had passed an order in 2009 towards this step.



The reality is that the understanding of IE is a bit like the blind men and the elephant. Sometimes it is translated into putting all children with disability into one space within a regular school. Then it could be admitting 5 or 6 students in different classes over 10 years. It could also mean giving admission to a young child but handing out a Leaving Certificate in a few years, when the student is perceived as '*not being able to cope*'!

A true understanding of IE endorses the fact that the *student with disability is not prepared for the mainstream school but the reverse*, that the school is prepared, in pedagogy and attitude.

Are we educators up to the task or is more home-work required? ***

MS. LATA IYER

Founder Director - REACH Centre for Autism and Other Intellectual & Developmental disabilities, Special educator and Dyslexia Therapist



Inclusion is practiced as segregation

I am first a parent of a special child who is on the spectrum; she is an adult of 24 years of age. My journey of special education started with her & then REACH!

I have done my *B.Ed in Special Education* from Mumbai University, followed by *Dyslexia Therapy from New Mexico*; i.e. from the Dyslexia Association of Mumbai in association with International Dyslexia Association, New Mexico. After this specialisation, when I came in 2004, there was not much awareness about special education and frankly speaking, there was no job for me. So, I joined mainstreaming schools and worked with them for almost 10 years.

Since my daughter Anoushka (on the spectrum) was growing up and had special needs, I thought it was time to start something which I really wanted to do for my daughter and the wider society. Subsequently, I went to Delhi and got trained in the *Mother – Child Training Programme* from Action for Autism – this is a national center that runs an effective mother child training program of Level 1 for 3 months + Level 2 of 6 months. During this training, I realised that Anushka knew many things which I never thought she could do! Feeling empowered, specialised and enriched in dealing with children with autism, also seeing and experiencing the effectiveness of the strategies and techniques, I decided that I should do something for similar parents, who are not able to get help from society.

So I started REACH. With my training, first-hand experiences and the techniques I learned through my journey as a special educator, I get almost 100% result with the children I have worked with. *There is no chance that we won't get results if the right approach is used and with early intervention.* After a few years, I started the Mother Child Training Program at REACH and that helped parents. Gradually, we could all see the difference in all the children.

Everybody knows about the word inclusion but the actual essence of inclusion? I don't think people understand the depth and true nuance of it. *Inclusion is where 100% opportunity is given to ALL the children, whether they are neurodiverse children or whether they are underprivileged students.* There are **3 types of inclusion**, one is **full inclusion** and second one is **partial inclusion** and third one is **mainstreaming**.

I felt immensely encouraged when I attended a conference on the **National Education Policy** in which I was one of the speakers as well as a panelist. *NEP 2020 & the NCFs are totally and completely in sync with and supportive of special education.* What they have proposed step by step for special education, is something we have been doing since 10 to 20 years. The government is pushing institutions to include children with disability, with others. But most schools and teachers are not well equipped; even the management is not well aware or equipped to embrace inclusion in the spirit that the NEP has proposed it.

One can see that in pre-primary schools there is inclusion, because no one notices any overt symptoms or no one realises that a child may have an issue at the time of admission into KG or even early primary. Usually after Grade 3 or so, teachers and peer students realise that there is something different about these children. *And THAT is where the segregation starts, instead of inclusion.* Either the child *drops out of the school*, or the parents are advised to *shift such children into special schools*.

If they are sent to a special school, they certainly get special care and special attention so they do slightly better. Even in such schools there is *a challenge since special educators are trained in very specific areas* – e.g, suppose I specialised in Intellectual Disability, I would know more about dealing with children with intellectual challenges; but I may not know enough about handling children with autism, or LD or ADHD, or cerebral palsy or hearing / visual impairment. On the other hand, *suppose an autistic child is in a mainstream school*; the child may be excellent in many things but may not be able to express him/herself, sit in one place. The teacher may find it very difficult to include such children into the mainstream classroom practices. These *challenges restrict the efficacy of inclusive intervention for such children.*

We need to give each other the space to grow, to be ourselves, to exercise our diversity. We need to give each other space so that we may both give and receive such beautiful things as ideas, openness, dignity, joy, healing, and inclusion.

– Max de Pree

Teachers need to be trained very well. If I speak about autism alone, there are many things that teachers should be made aware of. We don't wish to label children or hide behind a diagnosis, but *autistic children usually have certain learning patterns, certain learning styles*. Many autistic and dyslexic children are visual learners (some may be auditory learners as well), so the *learning environment must support* a lot of visual aids. It finally all comes down to addressing the *kinds of accommodation we can provide for these children*.

The Govt and CBSE are doing a lot of work in this direction. CBSE have started continuous training workshops through *Gyan Sarovar Sahodaya* and *COE* by inviting special educators and psychologists. So, awareness is building up, but more focussed work is required. The B Ed in Special Education should ideally have 1 year of cross disabilities and then concentrate on a specific area of expertise. In general B Eds too, there should be 1 paper on cross disability + internships with NGOs or schools with successful inclusion, to get a hands-on feel of handling such children and seeing how inclusive education is run. The very first mantra *they must be taught in the way THEY learn*. Secondly, teachers should have very keen and alert powers of observation. In an inclusive set up with 30-40 children in a class of 40-45 mins, *teachers must use the first 2 months to keenly observe all children, with a special focus on children with challenges*. How is the child reading, writing – not writing, learning, spending time, engaging in activities or not? While I was teaching Math in a mainstream school, I had a child who was a mover in the class and I knew that he would not be able to complete all the Qs in the math drill at the end of a chapter. I marked just 4 random cross conceptual Qs and asked him to complete those, knowing that is all he COULD do. So *teachers need to build this strong bond of faith, trust, care and respect for each other* – more so respect for understanding the strengths and limitations of such learners. They have a very keen sense of *prediction* – they need to be made aware of a schedule, the task, the process, the how much of what to do.

Each one of these children is 'gifted' in some area & has potential. The core lies in identifying their innate interests, skills and talents. Teachers must realise that if a child is unable to perform as per the conventional norms of R-W, there would be SOME OTHER skill that the child would be good at, can do; and THAT is where the curricular accommodation needs to be made for that learner. *When you work with the child having identified the potential skills and strength areas, then the child will definitely respond and you will see success*. I have seen success over and over again; and that is an emotion / feeling that can't be beaten!

Inclusion can happen if we ALL come together, with the child at the centre; all the caregivers/supporters and well-wishers providing meaningful positive strokes; be they the parents, teachers, society, schools, the government. Typically, Schools invite our children for 1 annual Day or 1 Sports Day - I feel *inclusion has to be continuous, throughout the year, for all kinds of activities*. We need more data to address Inclusion challenges - how many children are in mainstream schools, how many've dropped out; how many are home schooled, how many in special schools, etc. If in mainstream schools, are they *truly learning*? Or are we wasting their time? Have the parents been integrated into the inclusion programme and how – since for such children the *parents ARE the best teachers*. Instead of us always REACHing out for events & awareness, society must reach **IN**to our spaces to see how well such kids are faring. ***



READ TO SUCCEED

FOR TEACHERS

From Tutor Scripts to Talking Sticks -
*100 Ways to Differentiate Instruction in K-12
Inclusive Classrooms*

- by **Paula Kluth & Sheila Danaher**

These ready-to-use, research-based adaptations enhance motivation and improve achievement for all children — including those struggling with English, and students with *autism, emotional disabilities, cognitive disabilities, learning disabilities and other special needs*. Includes easy adaptations in **10 key areas**: organization; environment and sensory; technology; communication and participation; behavior and motivation; teaching and learning; literacy; math; study and review; and assessment.



FOR STUDENTS & PARENTS

Benji, the Bad Day, and Me
- by **Sally Pla**, illustrated by **Ken Min**

Nothing seems to be going right for *Sammy* today. At school, he got in trouble for kicking a fence, then the cafeteria ran out of pizza for lunch. After he walks home in the pouring rain, he finds his autistic little brother *Benji* is having a bad day too. On days like this, *Benji* has a special play-box where he goes to feel cozy and safe. *Sammy* doesn't have a special place, and he's convinced no one cares how he feels or even notices him. In this tender story about siblings, the author shares her experience of raising sons with different personality traits and needs; she embraces the philosophy that we are *all part of a wide spectrum of neurodiversity*.

MS. PROMILA ZALPURI

*Consultant & Pracademician,
Teacher Trainer, School Curriculum
Planning, Master Trainer- MS & Intel*



Challenges need Solutions

All children grow when schools *include special needs children in a mainstream environment*. Students with special needs add to the diversity of the classroom. Mainstream students learn empathy and patience to improve their social skills and students with special needs learn that they are not a burden for society. Students with special needs *have more opportunities for academic growth because they have greater access to the mainstream curriculum*. With greater exposure to the challenges of learning, they have better chances to take bigger steps forward. It *brings new strengths into the classroom*. All stake holders, be it school management and administrator, principal, teacher, parents, child, policy makers, social worker, counsellor, volunteers, school/school complex management committee, need to get together, work together and collaborate to achieve this goal. **So what needs to be done?**

“Diversity is being invited to the party;
inclusion is being asked to dance.”

- Verna Myers (VP - Inclusion Strategy at Netflix)

- *'Generate Awareness and Sensitization'* regarding equity and inclusion on a continuous basis to transform societal attitudes.
- *Early Identification of Disabilities* and referring to a person or authority that is qualified to deal with them.
- *Training school educators* on the effective methods of inclusion of children with disabilities into mainstream school, with different models of inclusion and the processes involved.
- *Awareness of impediments to successful inclusive education* and possible solutions helps focus on understanding the various barriers to inclusive education faced in schools.
- *Use of 'Classroom Accommodations'* through proper training.
- *Individualised Education Plan (IEP)*- preparing & maintaining them.
- Provision of *accessible infrastructure* for easy movement
- *Digital Accessibility on Smartphone and Computer* + state level workshops on assistive technology for the special educators of *'Samagra Shiksha'*

It is not that the above points are not followed, but there lies a gap in the achievement of required goals. Here are some ideas for the way forward:

- The *NEP 2020 provides a road map* for implementation of its recommendations which should be strictly followed by schools
- Implementation of equitable and inclusive education must *first reach the Foundational & Preparatory years*.
- Schools must adopt & account for the *policy on equity & inclusion*.
- School management should *provide adequate resources*, including *human and financial*
- Teacher training must be conducted by Special Education experts.
- Regular *monitoring of activities* for creating equitable and inclusive schools should be conducted *by the District Education Officer*.
- *'Universal Design for Learning' or UDL*, will help accommodate every child with ease in schools - UDL for Training & Curriculum design.***

TEACHERS AS INCLUSIVE EDUCATORS

Overcoming the challenges & barriers

Inclusive practice occurs when educators make thoughtful and informed curriculum decisions and work in partnership with families and other professionals. This helps to ensure that all children—including those with a disability—have equitable and genuine opportunities to participate in and learn from the everyday routines, interactions and play and learning experiences that occur in early learning settings. Here are the insights of **Angela Owens**:

The **first** step in inclusive education is *acquiring the Fundamental Knowledge and Skills of inclusive education*, such as understanding needs and abilities of children with special needs and pedagogic skills such as instructional accommodation and activity differentiation, should be provided widely to teacher candidates.

Thereafter, the **second** important step is *identifying your own intent and service philosophy, in contributing to the Inclusion space*. Discussing the following reflective questions will assist educators, families and children to clarify their beliefs and values relating to including children who have a disability:

- What is my understanding of the term 'disability'?
- What are my attitudes towards children who have a disability?
- Why do I believe that it is important to include children who have a disability in my environment?
- Who will benefit from this, and how?
- What does research tell me about children who have disability and their inclusion in their young age /early learning settings?

The **third** step in inclusive education is *making curriculum decisions*. When educators make curriculum decisions with the aim of inclusion, they base their decisions on what they know about each child and their strengths, needs, interests and abilities. They apply that knowledge to planned learning experiences, routines, interactions and the physical environment. It is important to keep in mind that the term 'curriculum' refers not only to specific planned activities, but to all of the planned and unplanned 'interactions, experiences, routines and events' that occur in the early learning setting (ACECQA, 2020, p. 112; DEEWR, 2009, p. 9).



The **fourth** step in inclusive education is *setting the stage for an inclusive classroom* to ensure that every student feels welcome, respected, and valued. This means using inclusive language, promoting empathy, and fostering a culture of acceptance. This includes creating opportunities for **all** children to engage in daily experiences, rather than planning alternative or separate experiences for any child.' Educators need to keep in mind the variety of experiences that contribute to children's learning every day, as well as what each child already knows, enjoys and can do. They intentionally extend each child's learning by building on their strengths, interests and abilities in both planned & spontaneous learning experiences. They also respond to each child's

individual circumstances and requirements. For example, a child with a sensory processing disorder may be more comfortable participating in a quiet, planned group movement experience such as yoga or Tai Chi than in a boisterous circle or parachute game. Educators also support children's agency. As is true of all children, *children with a disability want to make decisions* about experiences they participate in and the directions those experiences take.

4 main categories of disability

If a person has a disability, this means that they suffer with a condition of the mind or body that makes it difficult for them to communicate effectively with others or complete day - to - day activities in the same way as others - their life is in some way limited. There are 4 main categories:

1. Behavioural or emotional
2. Sensory impaired disorders
3. Physical
4. Developmental

No culture can live, if it attempts to be exclusive.

– Mahatma Gandhi





The **fifth** step in inclusive education is *setting up Partnerships, in order to* “.... .. involve educators, families and support professionals working together to explore the learning potential in every day events, routines and play so that children with additional needs are provided with daily opportunities to learn from active participation and engagement in these experiences ...” (DEEWR, 2009, p. 13).

When working collaboratively educators may seek information and strategies in relation to:

- accessing and using adaptive equipment
- learning specialist skills, for example, Makaton®
- developing and using visual communication systems
- recognising and responding to children’s cues that they need assistance or support
- implementing individualised behaviour guidance strategies
- adapting specific routines and experiences to maximise the child’s opportunities for independent participation
- accessing professional development to support their responsiveness to children with a disability.

Families, children and other professionals can provide educators with valuable information and insights about individual children’s strengths, interests and needs and the strategies that will best assist them to participate fully. Effective partnerships also involve educators, families and other professionals sharing information about the child’s ongoing experiences and achievements, and what works well to facilitate their inclusion. Genuinely collaborative partnerships between educators, children, families and other professionals help to ensure that every child has opportunities to belong, be and become in all of their life contexts.

Inclusion of children who have a disability is essentially about educators recognising that all children have the right to be engaged and valued participants in and contributors to the curriculum. It involves getting to know each child well so that they can respond to their needs and build on their strengths and skills to ensure they have equal opportunities to participate and learn. We now cite **3 examples** :

1 *Birralee KG, (NSW’s Sutherland Shire), enrolled a 3 yr old child with significant language delay. Lorna, the director, says that he takes great pleasure and pride in greeting educators and other children by name upon arrival each day. To recognise and build on this child’s communication strengths, as well as his keen interest in singing, educators regularly incorporate the children’s greeting song ‘What do you think his/her name is?’ into small group music and movement experiences for all children: Oh, what do you think his/her name is? I wonder if you know? His/her name is ‘...’ hello, hello, hello, hello, hello, hello. All the children enjoy the song, which is included to build on one child’s interests and strengths.*

2 *The grandmother of a toddler with a disability would come in regularly to help the child settle in at the Gowrie Child Care Centre, NSW. She shared information with educators about the child’s needs & what the family was doing at home to support her. The grandmother also provided educators with strategies to assist the child’s inclusion in daily experiences. Educators regularly meet with the child’s family to share information about her participation in the program and to learn about her experiences at home and with her therapist. The child’s educators have put together a communication book that is used by the service, home and therapist to encourage everyone involved to share information.*

3 *Educators at Birralee Kindergarten use a digital camera to support communication with the family of a child who has a severe language delay. Each day they create a simple A4 printout of snapshots showing the child’s experiences during the day. They use this as a basis for describing the child’s learning and achievements to his parents. One photo, for example, showed the child leading other children in a game of balancing on a log. Educators have found that this process helps to reassure the family that their child is a valued and included member of the early learning community.*

Equality is the belief that everyone gets the same, whereas **equity** is the belief that everyone gets what they need. At first it may appear that equality is the most effective way to approach inclusion, but upon further research one had to disagree. **Inclusion** is about **personalizing education to ensure that everyone succeeds**, regardless of their unique needs, and sometimes implementing an equity based mind frame is the best way to guarantee that occurs! Schools and higher education must encourage the upcoming youth to learn about, get trained in and immerse in Inclusion. ***

This is an excerpt from a report (produced by *The Open University* in collaboration with *SRI International*), that proposes strategies that are already in use, **but have not yet had a profound influence on education**. Read about them, with in-depth explanations and examples of each strategy in action.

1. Crossover Learning : Learning in informal settings, such as museums and after-school clubs, can *link educational content with issues that matter to learners in their lives*. These connections work in both directions. Learning in schools can be enriched by experiences from everyday life; informal learning can be deepened by adding questions and knowledge from the classroom. These connected experiences spark further interest &

and motivation to learn. An effective method is for a teacher to propose and discuss a question in the classroom, then for learners to explore that question on a museum visit or field trip, collecting photos or notes as evidence, then share their findings back in the class to produce individual or group answers. These crossover learning experiences *exploit the strengths of both environments and provide learners with authentic and engaging opportunities for learning*. Since learning occurs over a lifetime, drawing on experiences across multiple settings, teachers' opportunity is to support kids in recording, linking, recalling and sharing their diverse learning events.

2. Learning Through Argumentation : Students can advance their understanding of science and mathematics by arguing in ways similar to professional scientists and mathematicians. Argumentation helps students attend to contrasting ideas, which can deepen their learning. It makes technical reasoning public, for all to learn. It also allows students to refine ideas with others, so they learn how scientists think and work together to establish or refute claims. Teachers can spark meaningful discussion in classrooms by encouraging students to ask open-ended questions, re-state remarks in more scientific language, and develop and use models to construct explanations. When students argue in scientific ways, they learn how to take turns, listen actively, and respond constructively to others. Professional development can help teachers to learn these strategies and overcome challenges, such as how to share their intellectual expertise with students appropriately.

3. Incidental Learning : Incidental learning is *unplanned or unintentional learning*. It may occur while carrying out an activity that is seemingly unrelated to what is learned. Early research dealt with how people learn in their daily routines at their workplaces. For many people, mobile devices have been integrated into their daily lives, providing many opportunities for technology-supported incidental learning. Unlike formal education, incidental learning is **not led by a teacher, nor does it follow a structured curriculum, or result in formal certification**. However, it may *trigger self-reflection, and this could be used to encourage learners to reconceive what could otherwise be isolated learning fragments* as part of more coherent and longer-term learning journeys.

4. Context-Based Learning : Context enables us to *learn from experience*. By interpreting new information in the context of *where and when it occurs* and *relating it to what we already know*, we come to understand its relevance and meaning. In a classroom or lecture theater, the context is typically confined to a fixed space and limited time. Beyond the classroom, learning can come from an enriched context such as visiting a heritage site or museum, or being immersed in a good book. We have opportunities to create context, by *interacting with our surroundings, holding conversations, making notes, and modifying nearby objects*. We can also come to understand context by exploring the world around us, supported by guides and measuring instruments. It follows that to design effective sites for learning, at schools, museums and websites, **requires a deep understanding of how context shapes and is shaped by the process of learning**.

10 Learning Strategies For Modern Pedagogy



5. Computational Thinking : Computational thinking is a **powerful approach to thinking and problem solving**. It involves *breaking large problems down into smaller ones (decomposition)*, *recognizing how these relate to problems that have been solved in the past (pattern recognition)*, *setting aside unimportant details (abstraction)*, *identifying and developing the steps that will be necessary to reach a solution (algorithms)* and *refining these steps (debugging)*. Such computational thinking skills can be valuable in - writing a recipe to share a favorite dish with friends, through planning a holiday or expedition, to deploying a scientific team to tackle a difficult challenge like an outbreak of disease. The aim is to teach children to *structure problems so they can be solved*. Computational thinking can be taught as part of mathematics, science and art or in other settings. It's not about making kids computer coders, but to help them master the *art of tackling complex challenges in all aspects* of their lives.

6. Learning By Doing Science (with remote labs) : *Engaging with authentic scientific tools and practices* such as controlling remote laboratory experiments or telescopes can build science inquiry skills, improve conceptual understanding, and increase motivation. First developed for scientists and university students, these labs are now expanding to school spaces as well. A remote lab typically consists of *apparatus or equipment, robotic arms to operate it, and cameras that provide views of the experiments as they unfold*. They can reduce barriers to participation by providing user-friendly Web interfaces, curriculum materials, and professional development for teachers. With appropriate support, access to remote labs can *deepen understanding for teachers and students by offering hands-on investigations and opportunities for direct-observation* that complement textbook learning.

7. Embodied Learning : Embodied learning involves *self-awareness of the body interacting with a real or simulated world to support the learning process*. In embodied learning, the aim is that *mind and body work together so that physical feedback and actions reinforce the learning process*. Technology to aid this includes wearable sensors that gather personal physical and biological data, visual systems that track movement, and mobile devices that respond to actions such as tilting and motion. This approach can be applied to the exploration of aspects of physical sciences such as friction, acceleration, and force, or to investigate simulated situations such as the structure of molecules.



For more general learning, the process of physical action provides a way to engage learners in feeling as they learn. This also aids the development of a mindful approach to learning and well-being.

8. Adaptive Teaching : All learners are different. Educational presentations and materials that are the same for all creates learning problems, by putting a burden on the teacher and learner to figure out how to engage with the content. Some learners will be bored, others will be lost, and very few are likely to discover paths through the content that result in optimal learning. With Adaptive Teaching, the teacher is supported because it uses *data about a learner's previous and current learning to create a personalized path through educational content*. Adaptive teaching systems recommend the best places to start new content, when to review old content, provide various tools for monitoring one's progress. Data such as time spent reading and self-assessment scores can form a basis for guiding each learner through educational materials. It can be applied to classroom or online environment.

9. Analytics Of Emotions : Automated methods of eye tracking and facial recognition can *analyze how students learn, then respond differently to their emotional and cognitive states*. Typical cognitive aspects of learning include whether students have answered a question and how they explain their knowledge. Non-cognitive aspects include whether a student is frustrated, confused, or distracted. More generally, *students have mindsets* (such as seeing their brain as fixed or malleable), *strategies* (such as reflecting on learning, seeking help and planning how to learn), and *qualities of engagement* (such as tenacity) which *deeply affect how they learn*. For classroom teaching, a promising approach is to *combine computer-based systems for cognitive tutoring with the expertise of human teachers in responding to students' emotions and dispositions*, to make teaching more responsive.

10. Stealth Assessment : The automatic data collection that goes on in the background when students work with rich digital environments can be applied to *unobtrusive, 'stealth', assessment of their learning processes*. Stealth assessment *borrow techniques from online role-playing games* such as World of Warcraft. This idea of embedding assessment into a simulated learning environment is now being extended to schools, in topics such as science and history, as well as to adult education. The claim is that stealth assessment can *test hard-to-measure aspects of learning such as perseverance, creativity, and strategic thinking*. It can also collect information about students' learning states and processes without asking them to stop and take an examination. In principle, stealth assessment techniques could provide teachers with *continual data* on how each learner is progressing. ***

TEACHER TRAINING

Nalanda International School, Vadodara



St. Kabir School (GSEB), Vadodara



Pathshala School & Hostel, Vadodara



Gujarat Public School, Vadodara



General Electric Hydro, Vadodara



The TonsBridge School, Dehradun



As 2024 unveiled its first month, it provided us with the opportunity to sit back and reflect on the year gone by - a year full of meeting many stalwarts and educators across the country, and learning about so many shared insights regarding addressing gaps and solutions for a revamped educational system. For this we say - "ARIGATO", grateful for and humbled by all that has come Team QEDRAK's way! New and continuing associations, new learning, new strategies; newness in how we look at life & things around us. And, of course, *new hopes* to make education a joyful, lasting experience and a better world for our students - *the future global citizens!*

Jasudben ML School & Bloomingdales Pre-Primary, Mumbai



St. Gregorios High School, Mumbai



Group of Pawar Public Schools, Mumbai



Lilavatibai Podar High School, Mumbai



Year 2024 began with a bang for the teams at Jasudben ML School & Bloomingdales Pre-primary School, Khar (W), Mumbai. The journey of Integrated curriculum continued with a vibrant shot of Art Integration by expert Ms Malavika Rajnarayan. The training covered the basic understanding of *Art IN and AS Curriculum*, with hands-on activities and rubrics for art-assessment.

Arts Integration

DAY 1



DAY 2



The February 2024 issue will focus on **"Impact of School Culture and Climate"**.

Please send your contributions of an effective classroom strategy / class humour / vocab word / a featured article / book titles, to team@qedrak.com



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