IN Focus

INDIVIDUALISED PERSONALISED ADAPTIVE LEARNING (IPAL)

"*Adaptive learning* is part of interactive learning which addresses the needs of individuals by using student-centric learning pathways, effective feedback and supplemental resources; as opposed to an *one-size-fits-all curriculum*" (Kurt, 2021).

This form of learning is also known by the following terms - *adaptive instruction, personalised learning or intelligent tutoring systems*.

The first instance of what would become *adaptive learning* was conceived in the 1950s with the work of behaviourist *B.F. Skinner. Skinner* developed a teaching machine focused on *incremental skill building*. It emerged from the artificial intelligence movement and gained traction in the 1970s. It was widely believed that computers would eventually develop human-like adaptability in learning.

The **NEP 2020** emphasizes the personalized, adaptive learning approach, calling educators *to move away from the prevalent 'generalised' one-way delivery mode* to cater to *individual* student needs, strengths, and learning styles. For this, NEP encourages the use of technology & AI to create *customized learning pathways* in order to enhance student engagement. *Individualised Personalized Adaptive Learning* (IPAL) advocates an inclusivity in education and enables access to learning material that *aligns with different abilities, pace and learning styles* - such as audio books, video lessons, etc, to accommodate diverse needs. This will help to shift from *equality* in educational needs to *equity*.

> *If they can't learn the way we teach, we need to teach the way they learn.*
> – Ignacio Estrada

WONDER WORDS

Adaptive Learning: A learning approach that uses technology and data to personalize the learning experience, tailoring content, pace, and difficulty to individual learners.

Personalized Learning: A broader term encompassing adaptive learning, where learning is tailored to individual needs, strengths, and learning styles.

Adaptive Content: Content that changes or adapts based on a learner's performance or progress, providing different levels of support or challenge. **Adaptive Sequence:** The order in which the **Content** & supplementary resources are presented, adjusted dynamically based on a learner's performance.

Adaptive Assessment: Assessments that adjust the difficulty or type of questions based on a learner's performance, providing a more accurate measure of their knowledge and skills.

Learning Analytics: The use of data to track and analyze learner performance, providing insights into gaps, strengths, weaknesses, and areas for improvement.

"Traditional teaching is something that is a given in most classrooms. Personalized Learning is something students seek."

QED Talk

NEP 2020's focus on
PERSONALISED ADAPTIVE LEARNING

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The Classroom Crisis You Can't See: Three Students, One Problem

Aisha, a curious student in Grade 3 is reading about changing seasons and the cycle of day and night in her textbook. She tries hard, but struggles to imagine how earth would move around the sun and how this could cause the hot summer or cold winter seasons that come every year.

Class 4 student Raghav, whose first language isn't English, finds it hard to follow when his teacher reads from the textbook in class. He wants to speak, but hesitates since he is uncertain about his pronunciation, leaving him shy and unable to understand concepts.

On the other hand, Grade 5 student Sam understands concepts quickly, and is ready to go beyond what his textbook currently covers. However, his textbook has a fixed number of questions and he quickly gets through them. Then, he waits around in the class or, if he is feeling bored, he disturbs other students.

These examples highlight the fundamental issue with traditional textbooks, as is evident from Aisha's *struggle to visualise*, Raghav's *language barrier* and Sam's *stifled curiosity*. Unfortunately, Aisha, Raghav and Sam are not alone. In today's world where every aspect of our lives is personalised and improved by technology, textbooks have remained traditional, inert and limited in scope. And yet, they are the primary source of instruction and knowledge in Indian classrooms. As a result, students tend to become disengaged, bored or disruptive; they struggle with focus; and are not able to reach their full academic potential.

NCF 2023 also emphasises personalised learning to cater to the diverse needs, abilities and interests of students. However, traditional textbooks often fall short of addressing these needs due to their one-size-fits-all nature.

Given the pace at which generative AI is progressing the world over, *why should textbooks be exempt from the never-before possibilities that it is enabling all industries and walks of life*?

> ❝
>
> *Personalized learning, when done correctly, can finally give unconventional students ownership of their own education.*

And so, it is time to herald a **new era of learning**. A paradigm where *textbooks come alive* and *adapt to each student's unique learning journey*. A paradigm in which s*tories, essays, and poems are read aloud* to students at their pace. A paradigm where b*ooks are your personal tutor*, giving you *feedback* on your reading fluency. A paradigm where students *learn in augmented reality and interact with concepts* to make sense of them. Learning doesn't have to be passive. Every child *can* and must learn and shine!
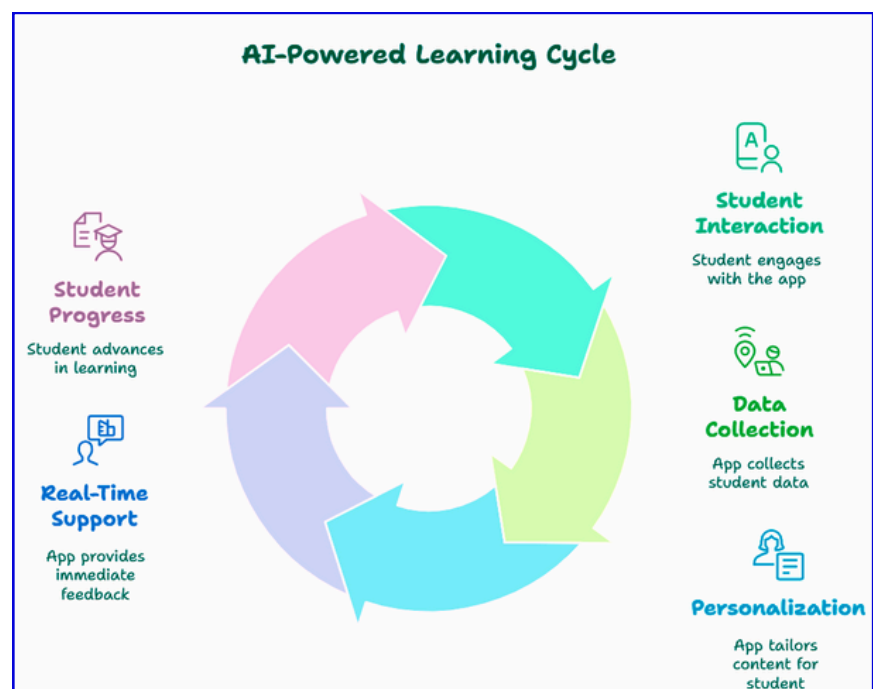
With this approach in mind, we launched the **TECHBOOK** last year *(https://www.thetechbook.ai/).*

An outcome of years of research in **technology, pedagogy and curriculum**, the TECHBOOK brings three cutting-edge technologies and **NCF aligned curriculum** to address key learning challenges among school students today.

The TECHBOOK addresses the limitations of traditional textbooks by introducing a **personalised and interactive learning experience**. In classrooms with varying learning levels, it enables personalised instruction, and immersive and adaptive learning for each student.

By integrating cutting-edge technologies such as **Augmented Reality Interface (ARI), Intelligent Reading Assistant (IRA), and Personalized Interactive Exercises (PIE)**, the TECHBOOK offers an immersive and adaptive learning environment.

This approach not only aligns with the National Curriculum Framework's emphasis on personalized learning, but also **addresses the diverse challenges faced by students** like Aisha, Raghav, and Sam. By catering to each student's unique learning journey, the TECHBOOK fosters **engagement, comprehension, and academic growth**, ensuring that no learner is left behind!

Source : https://www.linkedin.com/pulse/adaptive-learning-landscape-srinivas-balusu-pmp-xqjpc/

STUDENT AT THE CENTRE
– personalising & adapting for better engagement & learning

FOR SCHOOL LEADERS

Make Learning Personal:
The What, Who, WOW, Where and Why

- by Barbara Bray & Kathleen McClaskey

Personalisation provides benefits to all stakeholders and this book helps all stakeholders understand their roles and how they will grow through the experience. ***Put learning back into the hands of the learner***! This thorough and timely book draws on Universal Design for Learning® principles to create a powerful shift in classroom dynamics by guiding learners to become self-directed, self-monitoring, and self-motivated. The authors have clearly defined what it means to personalise learning and identify stages that can help teachers gradually adapt their role, moving from a teacher-centered classroom to a learner-driven environment.

FOR TEACHERS

How to Personalize Learning:
A Practical Guide for Getting Started and Going Deeper

- by Barbara Bray & Kathleen McClaskey

This practical follow-up to Bray and McClaskey's first book (*see above*) brings theory to practice. Discover how to build a shared vision that supports personalised learning using the Universal Design for Learning (UDL) framework. Also included are:

- Tools/templates to take off & go deeper
- Lesson & project examples on how to change instructional practice
- Links to electronic versions of tools, templates, activities, and checklists

Teachers will find the tools, skills, and strategies needed to personalize learning and develop self-directed, independent learners with agency.

There is no learning that is not *personalized*. Anything "learned" must first be taken in through the senses, processed & understood, internalised in the mind & body, emotionally charged for meaning & relevance and finally, acted upon with mindfulness in the various situations and contexts thrown up at us in life.

However before we delve further into this aspect, let us see the finer differences between ***Personalised Learning*** and ***Adaptive Learning***.

Adaptive learning is a technology-based, interactive training/teaching approach that provides *individual learning programs tailored to the learner*. This process focuses on individual learning needs. It *determines those needs with data analytics*, which extract insights from real data. By *gathering data throughout the training process*, adaptive learning technology *optimizes training content*. This means that each individual gets the *content that matches their learning results*.

So how does Adaptive Learning work?

Back in the '80s, ***Benjamin S. Bloom*** (famous for his *Taxonomy*), researched learning methods in the hope of finding one as effective as '*tutoring'*. Bloom named *three ways students receive instruction:*

- **Conventional teaching**. A teacher gives a lecture to a group of students in a classroom. Students listen, study outside of the classroom, and do tests once in a while to receive a grade.
- **Mastery learning.** This method is equal to conventional teaching, with one difference. Students receive feedback on their tests and continue to take tests on the same content until they master the subject matter.
- **One-on-one tutoring.** It's the same as mastery learning except for the teacher-student ratio: there's one tutor per 1–3 students. However, because that ratio allows for more personalized instruction, the probability of students needing to repeat tests decreases a lot.

The results of **Bloom's research** were astonishing!
- *Tutored students outperformed conventional students by 98%, and*
- *Mastery learning students outperformed conventional students by 84%.*

The conclusion was obvious: *students who receive personal, one-on-one instruction master the subject matter considerably more than students in a conventional, one-size-fits-all learning environment.* Now, here's the challenge: ***which schools can afford a tutor for every single student?***

Bloom considered that ***intelligent technology*** *could overcome the challenge by working just like a tutor*.

"*That sounds like personalised or custom learning*," you might think. Well… not quite. Here's why….

Personalized learning blends adaptive and **customized learning**. Therefore, a personalized learning experience *adapts to the learner's progress* AND it allows the learner to *customize the experience to their preferences*—goals, skills, career path, and more.

Customization is one component of personalized learning. When the learner customizes the learning experience, it becomes more meaningful to them. Think of customization as ***setting preferences***—just like you do when you create a playlist in an app, or adjust your car seat for driving. In the former example, when that app starts suggesting specific songs based on your customized preferences, that's personalization. *The other component is Continuity.* Personalized learning is a *continuous learning journey*. It *constantly adjusts content*—with *adaptive learning technology*—to the learner and his/her preferences.
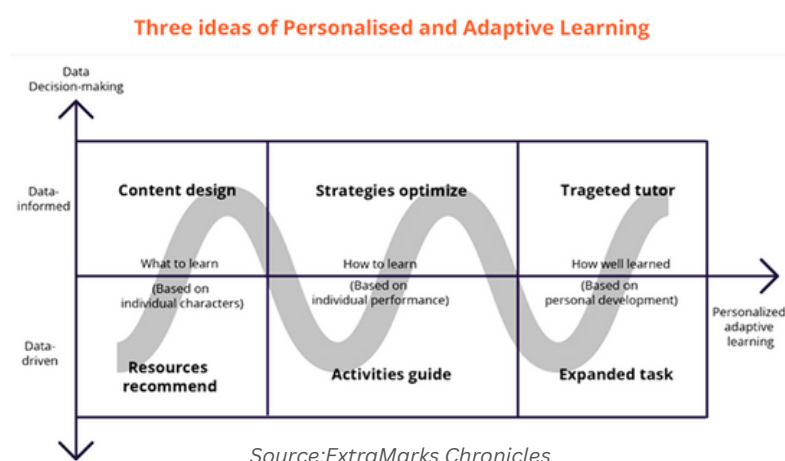
ASPECTS OF PERSONALISED ADAPTIVE LEARNING

The goal of any learning program is for learners to acquire the knowledge and develop the skills they need. And sometimes, some of them need a little more time and effort to accomplish that goal across the entire training scope. So, *identifying the points in which they need to invest more to get to the desired learning outcomes is imperative.* Students might not even have a clear notion of the areas they need improvement in.

This is why the NEP 2020 focuses on teaching methodologies that can make every student feel welcomed, cared for, and safe - as mentioned in *fundamental principles* (Pg. No. 5) of NEP 2020. **In 2025 the focus in on IPAL.**

Individualised Personalised Adaptive Learning relies heavily on technology and works similarly to a human tutor - in that, it personalizes learning experiences and adapts to the specific needs based on where the student is at, and based on the most effective mode / medium of learning & resource. The Haryana Government under the *e-Adhigam* initiative introduced *Personalized Adaptive Learning* (PAL) among 5 lakh students. They were provided tablets with integrated *PAL solutions* to *cover their learning gaps* that occurred due to school closures during Covid induced lockdown. Positioned as a *forefront technology in education*, *PAL* provides a framework where each student can tailor their unique learning journey.

Despite the Indian government's issuance of comprehensive PAL guidelines in 2018, widespread implementation has been limited, mainly due to lack of awareness regarding PAL solutions. IPAL is supported by smart technology, where it *analyses the learning patterns of the students by tracking* and then *adapts to their individual learning needs*. So, once a student logs in to the learning platform, he/she is not just given random lessons. Instead, the student is provided with *structured lesson plans that align with their learning pace, level and preference*. (Some also use *gamification* & *humour*). Once the student progresses through the chapters in the *IPAL* plan, the learning platform uses technology to adapt to their progress. Schools taking up the *personalised adaptive learning route*, can help their students to reap several benefits.

Source: ExtraMarks Chronicles

Importance of Personalised Adaptive Learning (PAL) in the NEP 2020 Implementation

1. **Addressing the Issue of Learning Gaps** - With the help of PAL, students can learn according to their learning style and needs, and even progress at their own pace with *personalised* feedback thus, bridging the learning gap.
2. **Focusing on Personalised and Inclusive Learning Experiences** - With the help of PAL, the NEP 2020 implementation of inclusive & personalised education can truly become a reality - with a close partnership of parents, educators, students & the school. Student will *feel valued and heard*, thereby pushing them to do better.
3. **Pushing for Lifelong Learning** - For a more 'holistic learning' , the paradigm shift towards a more *multidisciplinary approach* across fields of social sciences, humanities, arts, sciences, and sports is the *mantra* of the day! The core skill of developing a *lifelong learning approach* is where PAL can promote self-directed development and students taking control of their own learning journey. *QEDRAK says it again*:

> *"Every student is a unique individual, with their own strengths, weaknesses, and learning styles; therefore, it is crucial to approach each one with understanding and a personalized approach to education.*

Finally, there are multiple benefits of taking the *Personalised Adaptive Learning* approach for students. From increased *student engagement* to *boosted confidence* and a *push towards lifelong learning*. To make personalised adaptive learning a part of one's school curriculum, you need a good *technology driven educational solution*. Here's are some names featuring on the *Indian EdTech Landscape*: *Educational Initiatives, ExtraMarks, Vedantu, iDream Education, Schoolnet India Ltd, Telentelgia Technologies, Infinity Learn, Toppr, Simpililearn, Leverage Edu, LEAD School, Unacademy.* Good luck with PAL! ***

The role of Generative AI - It is a cutting-edge branch of artificial intelligence that ***creates new content***—text, images, videos, simulations, and more—by ***identifying and analyzing patterns*** from vast datasets.

Unlike traditional AI, which follows predefined rules, generative AI demonstrates creativity and adaptability, making it particularly well-suited for dynamic and innovative tasks like content creation and personalization. In eLearning, generative AI addresses some of the most pressing challenges faced by educators, learners, and organizations. It fundamentally ***redefines how educational content is developed and delivered***. By (a) automating labour-intensive tasks, (b) adapting to diverse learner needs, and © enabling more engaging experiences, **Generative AI** elevates the learning process from standardization to true customization.

CLASSROOM TRANSITIONS!
Nightmare or Cake-walk?

Struggling with **Classroom Transitions?** You're not alone! Classroom management involves a lot of repetition of the rules and procedures, and that includes *Transition Management*. Helping students move from one class / task to another can be a challenge, even for seasoned veteran teachers. But consider this: If you spent just 15 minutes on a classroom transition once a day for an entire school year, you'd *lose 45 HOURS of instructional time*!

A *Classroom Transition* is a process of moving from one lesson, space, or event to another during the course of the school day. They happen several times a day, and they can be simple or more complicated with a need to alter or change locations, and the collecting or swapping of books and equipment. It's during these times that things can get quite chaotic, possibly resulting in behavior problems that frustrate in the moment and spill over into the rest of the day. You enter the class, start with your board-work; the rising noise in the classroom beyond control reaches an unimaginable level; you bang the duster / ruler (or whatever comes into your hand) on the table to attract attention; probably also raise your voice to ask them to *shush* down! Transitions can present a challenge for students who see an opportunity to get chatty, or get a little unwieldy, and that can mean a challenge for a teacher to maintain classroom order.

Time ticks by and before you know it *10-15 mins are over*! Your lesson plan remains incomplete, as also some 'new' CW task you had thought of! Many teachers resign themselves to the chaos. **But getting this part of the school day within one's grasp, is key to classroom management**.

Down to basics! **Are transitions necessary?** *Oh Yes!* They give students a break by providing them the opportunity to get out of their seats and switch their focus to a new task, stretch their bodies and take a break from learning — both incredibly important for maintaining concentration throughout the school day. They can also be used to minimize disruption from restless students when timed appropriately. However, they can also cause excitability if mismanaged. So now that we know that classroom transitions ARE important, let us break them down into the different types - there are **three main types** of classroom transitions:

◆ Entering the classroom   ◆ Switching from one activity to another   ◆ Exiting the class for some other activity

Detailing the above a bit more, here are just some *examples of the classroom transitions* you might could expect throughout the school day (*depending on the grade level you teach*), which **all tie back** to those *three basic types*:

- *Transitioning from drop-off or the school bus into the classroom at the start of the day*
- *Moving from rug/mat/carpet time to desk-work*
- *Coming back into the classroom after lunch or recess*
- *Returning from specials (P.E., music, art, etc.)*
- *Going to another area of the school such as the library, the cafeteria or the science/computer lab*
- *Rotating from one small group activity to another, in the same class*

Journeying from Nightmare to Cake-walk...

A good way to start is by just **Observing your Class** during transition time, trying to identify what exactly makes the class so *chaotic* or the students so '*unmanageable*'! For example, just observe *how your class transitions* when they prepare to move furniture into a group tasks OR prepare to go out for PE, OR for that matter *enter the classroom* after Computer Labwork. *Here's what I found when I decided to take this 'class management' challenge bull by the horns*:

It was a transition from a '4-some group task' (*of making mini charts on each aspect of the topic*), back into lecture mode, at their respective tables and seats. I saw many things I hadn't noticed before. Yug immediately dropped what he was doing and started cleaning up. Viha took a while getting to a good *stopping* place. Meet finished first because he '*didn't do any cleanup at all*' - an ever-adoring Jia did it for him! Meena, anxious to complete her job of putting away her group's project file, scolded Dhairya, "*Come on, we have to get ready*!" while he slowly wrote his last sentence. Those waiting got bored and fidgety. Those still finishing got frustrated and angry. In short, everyone felt stressed, agitated & it got noisy!

I ALSO noticed some *positive* things - most children kind of *knew* how to do many transition tasks, such as putting away materials and moving safely around the classroom. These were things that had been modeled & practiced since the start

of the new academic session. The missing skill was *pacing* i.e. *deciding how quickly to do each thing* and *in what order.* Most of my students demonstrated minimal or none of this *super-important* life skill. So, I had to *lay down a sequence, model it* and then give them *opportunities* to *practice pacing.* If you too have identified this as the 'missing' skill in your class, here are some **tips on how to get '*pacing*'** into the students' *circulatory system* of class rules(!) :

1. Reviewing Expectations - First, *list / review* what is supposed to happen at cleanup time. This helps to ensure that everyone knows and starts with the same ideas / expectations about how cleanup should look, sound, feel in your class.

2. Giving Advance Warnings - Next, start *giving advance warnings* such as *"You have five minutes before cleanup."* This will give the children time to shift gears mentally, to plan how they will manage the *transition* of closing up & moving on.

3. Teaching What to Do After the Warning - Avoid assuming that students know how to best use the time between the warning and the beginning of cleanup. Set up a table as if you are in the middle of a project and *role-play* what YOU would do after hearing YOU had five minutes before cleanup. Plan your stopping place, and how you wish to organize your cleanup, and how long you estimate things would take. Then ask the children to help you problem solve. You can invite volunteers to role-play how *they would handle the same situation,* showing there could be *more than one approach,* as long as the time was kept in mind.

For a while, you may need to practice in *"real life"* situations by stopping after the five-minute warning and asking a few students to share their wrapping-up plans. Then proceed, and try out their plans in an actual transition process. After cleanup, they can do a *Think-Pair-Share* on *what worked, what didn't,* and what they might *do differently* next time.

4. Giving a Set Amount of Time for Cleanup - To help the children pace themselves during cleanup itself, *try some new routine,* instead of just *counting down from 10*! How about a song that may be a class favourite from Circle Time? After an agreed-upon number of times the song will be sung, everyone can be motivated to be 'cleaned up' & back in their regular seats, facing front. Early finishers would probably sit & join in the singing, egging the slower ones on! You should *choose the number of times to sing the song* based on the song length (*so choose a short one*) and based on the amount of time the slowest child needs. As the skills develop, you'll find yourself singing the song fewer times.

5. Putting It All Together - Finally, when you feel that the children are ready to pace themselves completely independently, simply give the *five-minute warning* and let them *get ready on their own*. Five minutes later, you could be singing while observing the children. Some children could clean up by the time you finish the first verse; some, by the end of the second verse; and some may need all three verses, which is fine! Because the transition time is defined as "until the singing ends," when the last student actually pops into place in the seat, and everyone sings the last chorus together, you and the students will ALL feel proud and triumphant!

Many teachers still use a *countdown* or a '*move-your-body*' technique to structure *transitions*. You too may occasionally switch to them for variety. Some teachers may opt for saying *"I am writing some interesting facts / Qs on the board, and I want you all to be cleaned up and sitting ready by the time I finish!"* They issue a warning 1/2 way through the board-work.

Note: Before your students begin a transition after a class with *high levels of physical stimulation*, consider having them take a *collective deep breath*. Also, with *particular students who exhibit extreme difficulty with transitions*, try naming them *"transition leaders"* and have them *lead the class*. Providing them with this leadership role may *minimize dysregulation* by providing *ownership* and a sense of increased responsibility, control, and confidence.

As with any other classroom skill, ***children don't necessarily come to school knowing how to participate in transition.*** Like everything else, we **must** *teach them*! And teaching transitions is like teaching any other activity or task. First we observe to identify the skills students lack. Next, we name expectations, demonstrate appropriate behaviors, and let students practice. You can also add some visual cues, tips on the class display area as reminders. Then, if we continue to observe and support children, we can expect transitions to meet the same high standards as any other part of the school day. The key to successful transitions is making sure your *students feel in control and feel like they are managing their own time*, so letting them know *what to expect and do* puts them in the driver's seat when it comes to making good choices! ***Good Luck! ******

LOOKING BACK *on 2024-25*

As **AY 2024-25** comes to a close, we reflect on a transformative journey of innovation, collaboration, and growth with our partner schools. As a Teacher Training and School Consultancy Ed-tech initiative, we facilitated impactful programmes to enhance teaching and enrich learning. We introduced cutting-edge classroom strategies that empowered educators and fostered active learning environments. Our support in transitioning schools to an integrated curriculum promoted holistic, interdisciplinary education and critical thinking. A highlight was our innovative use of newspapers as teaching tools, making learning current and boosting media literacy. We also implemented competency-based projects and portfolios, encouraging student ownership and creativity; as well as classroom management tips and tricks. We provided targeted Leadership training for coordinators and administrators focused on reflective practices and progress towards NEP 2020 implementation. Kudos to the achievements of ALL our partner schools! We look forward to continuing our mission of transforming education complemented by our regular host of additional resources - *Blogs, Podcasts, Trivia for GK Benefits* and the much-awaited *QEDpress Newsletter*.

Together, we are shaping a brighter future for students, one innovative strategy at a time...

FOUNDATIONAL & PREPARATORY STAGES

- **Mastery in Teaching**: Beyond Effectiveness to Greatness
- **Revisiting Phonics and FLN skills**
- **Integrating Newspaper Based Learning** with Curriculum
- **Visual Thinking:** Using Organisers for Improved Learning
- The Power of **Collaborative Learning**
- **Classroom Dynamics:** Managing Challenges through Case studies
- **Integrated Curriculum** – with actual case studies

MIDDLE & SECONDARY STAGEs

- **Mastery in Teaching**: Beyond Effectiveness to Greatness
- **Visual Thinking:** Using Organisers for Improved Learning
- The Power of **Collaborative Learning**
- **Classroom Dynamics**: Managing Challenges through Case studies
- **"EmpowerED: Fluent Minds, Confident Voices"** - Speaking Skills for Students to face the future
- **Meaningful Projects & Portfolios**
- **AI in education** – *monster or magic*
- **Design Thinking -** developing a mind-set for creativity, innovation, critical thinking for problem-solving

Our Training Basket just got FULLER!

PARENTS' Workshops

- **Involved Parenting**
- **Demystifying the Boards of Education**
- **Maintaining Balance in the Digital Age**

LEADERS' Workshops

- **Leading with a Difference** – progressing from being '*managers*' of education to becoming effective '*leaders*' of transformational change
- **STEPPING – UP!** - stepwise 5 year plan for NEP implementation

FOR ALL STAGEs

- **Competency Based Education**
- **Transitioning from Conventional assessments to Competency based assessments**
- The **6Cs in Education**
- **Assessments + Constructive Feedback & Feedforward**
- **Framing Qualitative Rubrics**
- **Creating Empathy** in the Classroom
- **Classroom Management** – what they don't teach you in B Ed
- **Digital HPC** – framing, rubrics, comments
- **Planning for NEP IPAL** – Individual Personalised Adaptive Learning Plan

*From **June 2025**, **QEDpress Vol. 4** will appear **feature-wise** to allow you time to read & engage one feature at a time, over the theme month. The **composite** will be shared on the last day of each month.*

QED | RESOURCES AND KNOWLEDGEWARE

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