Personalised Learning Paradigm: Integrating Theoretical Foundations and Pedagogical Practices

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'To be yourself in a world that is constantly trying to make you something else is the greatest accomplishment.' - ***Ralph Waldo Emerson***

Foundations of Personalised Learning

ABSTRACT

Everyone is born unique, with different interests, aptitudes, skills and experiences which is why they feel, perceive and learn things differently. With so many diverse traits of an individual, how can the model of teaching, learning and instructions be based on a rigid framework? From Gurukuls to contemporary educational practices, various scholars, psychologists and educators have mentioned the role of nature, environment and innate abilities and how these can be utilised to derive the optimum results in a classroom setting. Rightly said, 'An elephant cannot be judged by its ability or inability to climb trees or a fish cannot be assessed on its ability or its inability to fly high. We all are born with unique abilities that make us different and special in beautiful ways. So, the model of teaching and learning should also be based on an approach that tries to bring out the best in every individual.

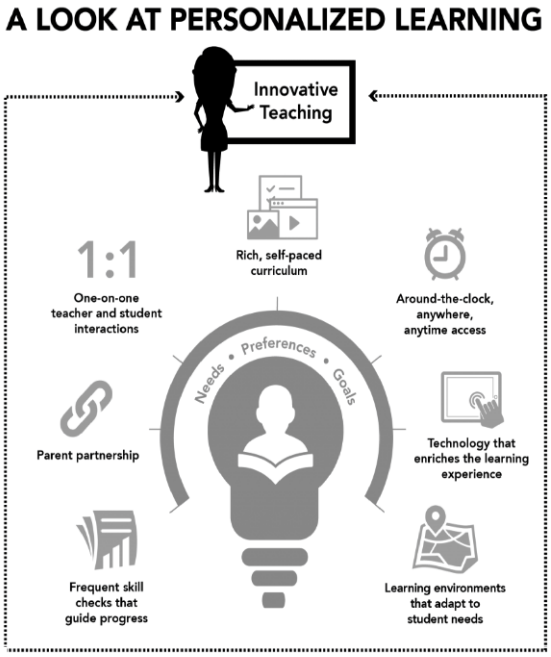
If we observe our students, friends, or relatives, we will find how different they are from each other. The difference might be in the manner they perceive, learn, and think, and their ability to perform various tasks. Such individual differences can be noticed in every sphere of life.

INTRODUCTION

Individual variations are common within and across all areas. This makes us diverse and unique. These variations add colour and beauty to our nature. For a moment, let's think of a world around us where each and every object is of the same colour, say red or blue or green. How would the world appear to us? Certainly not a beautiful one! Would we prefer to live in such a world? In all likelihood, our answer will be 'no'. Just like objects, people too possess different combinations of traits. So, how can the theory of one size fits all hold relevance, especially in an educational context? If the learning style differs, so should the teaching style. The National Curriculum Framework for School Education 2023 (NCFSE) lays a lot of emphasis on the importance of personalised learning. According to NCF (2023), it is an approach to education that tailors the learning experience as per the individual needs of each student. This means that the curriculum, teaching methods and assessments are all designed to meet the specific needs of each student.

Personalised learning is an educational approach that helps teachers in tailoring learning as per individual student's needs, interests and abilities. Each student is given differentiated instructions based on their personal learning characteristics. Some benefits of personalised learning are:-

1. Self-Paced Curriculum: It allows the learners to engage themselves deeply in topics at their own pace, fostering deeper understanding and mastery.
2. Around-the-Clock Anytime, Anywhere Access: The learners can engage with educational materials at their convenience, promoting flexibility and accessibility.



Source: https://elearninginfographics.com/defining-personalized-learning-infographic/

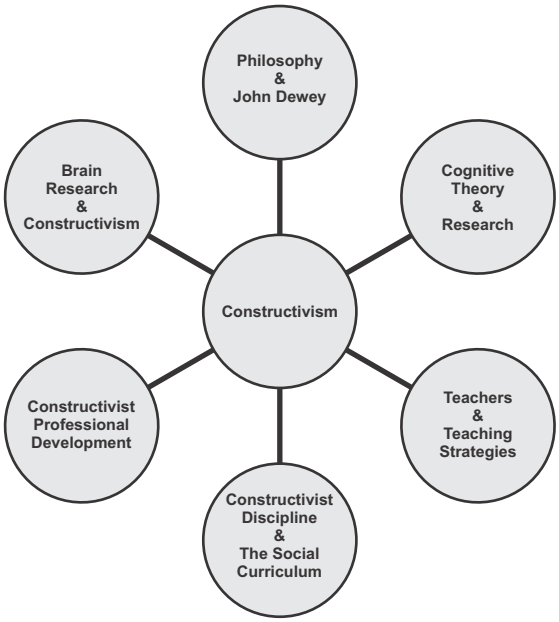
3. Technology-Enhanced Learning Experience: It helps learners integrate interactive tools and multimedia resources to make learning more engaging and effective.
4. Adaptive Learning Environments: This type of learning helps to tailor instructions and resources to individual learner needs, optimising learning outcomes and addressing diverse learning styles.
5. Frequent Skill Checks Guiding Progress: It provides regular assessments to track students' growth, which helps in timely intervention and personalised support of different stakeholders wherever needed.
4. Parent-Partnership: It involves parents in their child's education, fostering a collaborative relationship between home and school to support student success.
7. One-to-One Teacher and Student Interaction: By facilitating personalised guidance and mentorship, facilitating deeper understanding, motivation, and a sense of connection, it makes learning more meaningful.

Theoretical Frameworks Supporting Personalised Learning

Several theoretical foundations underpin personalised learning initiatives, each emphasising different aspects of the learning process. Here are some of the key theoretical frameworks:

1) Constructivism

The theory of constructivist learning is vital to



Source: https://educationaltechnology.net/constructivist-learning-theory/

understanding how students learn. The idea that students actively construct knowledge is central to constructivism. Students add (or build) their new experiences on top of their current foundation of understanding. As stated by Woolfolk (1993) “learning is active mental work, not passive reception of teaching”.

As an educator, it is important to understand the theory of constructivist learning. Each student who enters our classroom has a unique perspective on life that has been created by their unique experiences. This will impact their learning. If the basis of the constructivist theory states that students construct new knowledge on what they have already had, the entry point of their learning journey is of utmost importance. Learning theories are as valuable as credentials to educators; it is important to understand what will affect the learning journey of our students.

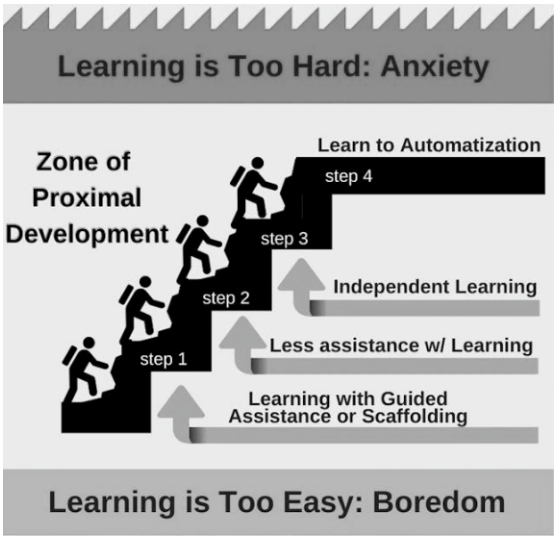
Constructivism is not a one-size-fits-all approach. By considering individual learning styles, cognitive abilities, and socio-cultural factors, educators can create a constructivist learning environment that is truly personalised and effective for all students. Here's how these factors intertwine with Constructivism:

Individual Learning Styles	Cognitive Abilities	Socio-Cultural Factors
Constructivism encourages active learning, which aligns well with kinesthetic, auditory, and visual learners. They can engage through hands-on activities, discussions, and multimedia resources.	Constructivism values prior knowledge and experiences. This caters to students with varying cognitive abilities. Teachers can build upon existing knowledge and provide scaffolding for those who need extra support.	Constructivism emphasises the social construction of knowledge. It acknowledges that students' cultural backgrounds, languages, and experiences shape their understanding and learning.

Factors Leveraged by Constructivism:

- **Teachers can design activities that cater to diverse learning styles and abilities.** This allows students to engage with the material in a way that resonates with them, promoting deeper understanding.
- **The focus on student inquiry and exploration encourages learners to build upon their background knowledge and cultural perspectives.** This fosters a more inclusive learning environment where all students feel valued and represented.
- **Collaborative learning activities in Constructivism allow students to learn from each other's experiences and viewpoints.** This enriches the learning process and promotes understanding of diverse perspectives

2) The Zone of Proximal Development (ZPD).



Source: https://www.structural-learning.com/post/the-zone-of-proximal-development-a-teachers-guide

Developed by Lev Vygotsky, ZPD is a pivotal concept in understanding cognitive development within educational psychology, particularly relevant for teachers shaping the learning experiences of their students.

At its core, the ZPD represents the level of development of the learner by comparing what learners can do independently, and what they can achieve with guidance, under the potential level. This concept is essential in designing supportive activities that stretch a student's capabilities just beyond their current capacity, thereby promoting cognitive growth.

Within the ZPD, learning is neither too easy nor too challenging; it's in this 'zone' that the most effective learning takes place. It acknowledges the dynamic nature of learning, advocating for tailored support that considers cultural contexts and individual learner differences. By providing optimal challenges and scaffolding, educators can help students build upon their existing knowledge and skills.

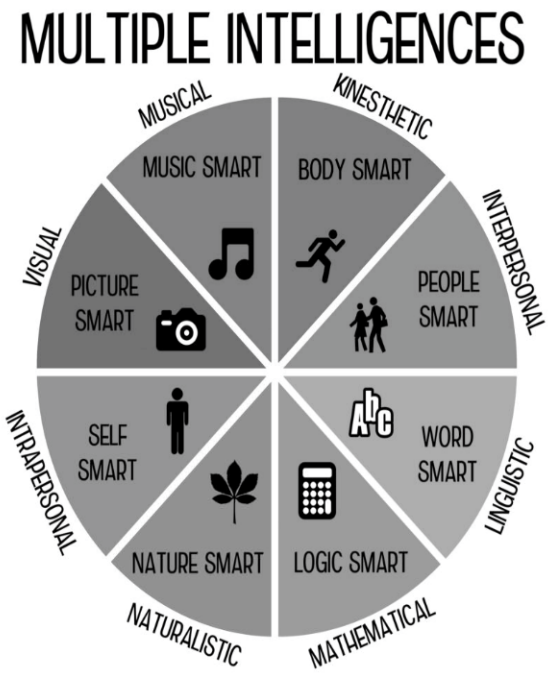
Individual Learning Styles	Cognitive Abilities	Socio-Cultural Factors
Identifying learning styles helps tailor support within the ZPD. A kinesthetic learner might benefit from hands-on demonstrations, while a visual learner might need diagrams or graphic organisers.	Understanding a student's cognitive strengths and weaknesses is crucial. For those struggling, the ZPD might involve more scaffolding and breaking down tasks into smaller steps. Advanced learners can be stretched beyond their current abilities with more complex challenges.	Cultural background and language can influence how students approach tasks. A teacher might need to modify their explanations or provide additional support for students from diverse backgrounds.

If we imagine a student learning to solve math problems, their ZPD would consider:

- Learning style: If they're kinesthetic, using manipulatives or acting out problems might be helpful.
- Cognitive abilities: If they're struggling with the concept, the teacher might break down the steps or provide worked examples.
- Socio-cultural factors: If their first language is different, the teacher might use visuals or provide translated materials.

3) Multiple Intelligence Theory

The concept of multiple intelligences is a theory proposed by Harvard psychologist Howard Gardner. When we hear the word intelligence, the concept of IQ testing may immediately come to mind. Intelligence is often defined as our intellectual potential; something we are born with, something that can be measured, and a capacity that is difficult to change.



Source: https://wordsmart.app/multiple-intelligences/

In recent years, however, other views of intelligence have emerged, including Gardner's suggestion that multiple different types of intelligence may exist. The eight intelligences according to Gardner are:

1. Visual-spatial
2. Linguistic-verbal
3. Logical-mathematical
4. Body-kinesthetic
5. Musical
6. Interpersonal
7. Intrapersonal
8. Naturalistic

This reframes how we view learning and offers several benefits to students:

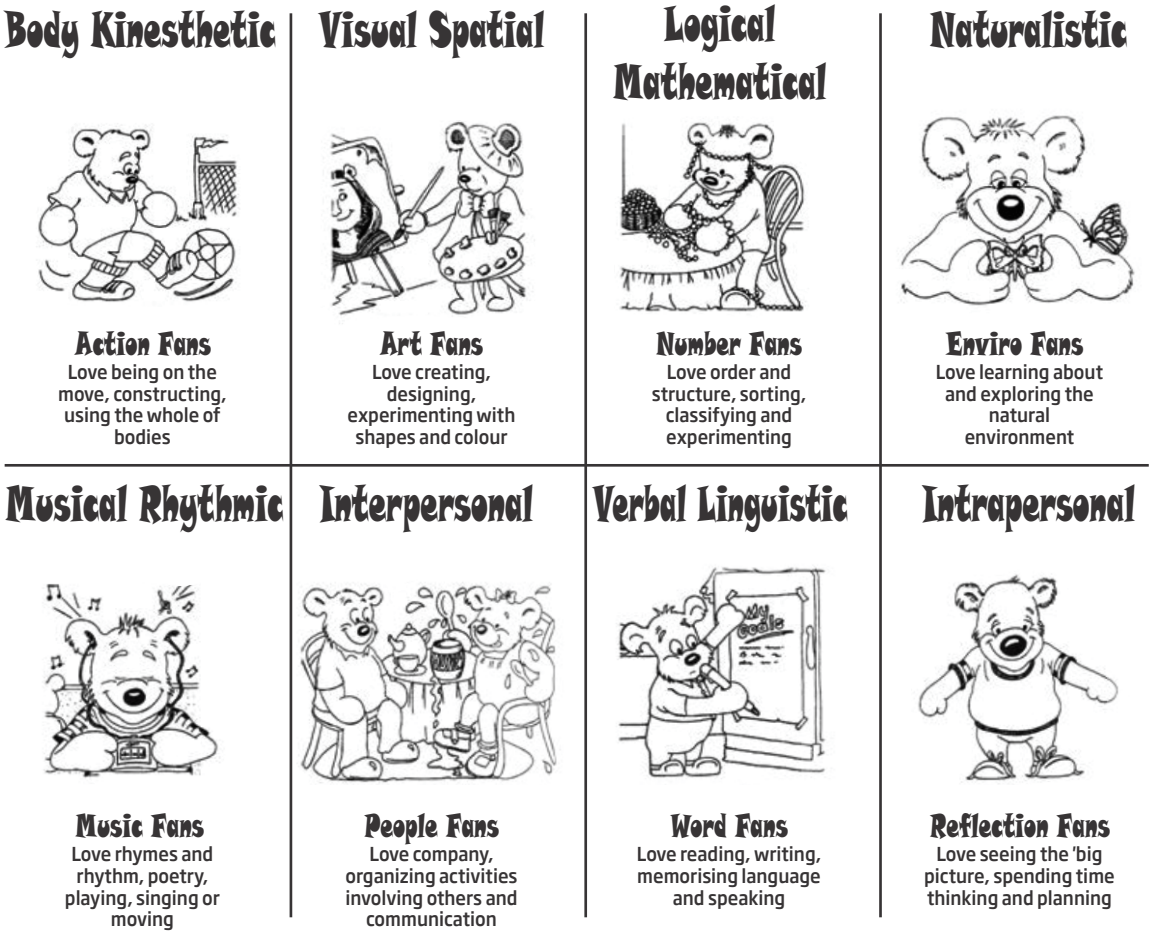
1. Caters to Diverse Learners- Instead of a one-size-fits-all approach, teachers can design lessons that tap into different intelligences such as musical, logical, or bodily-kinesthetic.

2. Boosts Engagement and Motivation- When students learn through activities that resonate with their natural intelligence, they become more engaged and motivated.

3. Builds Confidence and Self-Esteem- Recognising and celebrating strengths in various intelligences helps students develop a well-rounded sense of their capabilities.

4. Enhances Problem-Solving Skills- By approaching problems from multiple angles through different intelligences, students develop critical thinking and problem-solving abilities that are applicable across various subjects and situations.

5. Makes Learning More Meaningful- When information is presented in a way that connects to students' strengths and interests, it becomes more relevant and memorable.



Source: http://margdteachingposters.weebly.com/multiple-intelligences1.html

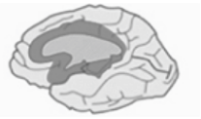
Individual Learning Styles	Cognitive Abilities	Socio-Cultural Factors
It recognises that people have preferred ways of absorbing and processing information. This aligns well with learning styles such as visual, auditory, and kinesthetic. Instruction can be designed to activate different intelligences. For instance, using visuals for spatial learners, storytelling for linguistic learners, and hands-on activities for kinesthetic learners.	MI doesn't assume a single type of intelligence is superior. It values the unique strengths of each intelligence and acknowledges that individuals may have varying levels of proficiency in different areas. Activities can be designed to challenge students across multiple intelligences. This helps them develop a well-rounded skill set and approach problems from diverse perspectives.	MI acknowledges that cultural background and experiences shape how intelligence is nurtured and expressed. Learning activities can be designed to incorporate diverse cultural perspectives and ways of knowing. This fosters inclusivity and allows students to connect learning to their own cultural contexts.

4) Universal Design of Learning (UDL)

As emphasised by NCERT the way the children learn is as unique as their fingerprints. It has emphasised the principles of Universal Design for Learning (UDL) to promote inclusive education. It aims to provide all students, regardless of their abilities or learning styles, with equal opportunities to access and engage in learning. It emphasises the design of flexible learning environments, instructional materials, and assessments to accommodate diverse learners' needs. These principles are integrated into educational policies, curriculum frameworks, and teacher training programs to promote inclusive practices in Indian schools. The “Barkhaa series” is designed by the Department of Education of Groups with Special Needs (DEGSN). It is a set of forty illustrated story booklets based on UDL principles mentioned below:

UDL Principles		
Provide Multiple means of Representation	Provide Multiple means of Action and expression	Provide Multiple means of Engagement
Present content and informati-on in multiple forms	Give students multiple options of expressing what they know	Give option that engages all students
Print	Assignments	What fires one student won’t fire up another!
Braille	Painting	Give students choices to fuel their interests and autonomy
Digital text with options for text enlargement, screen background colour and contrast	Audio-Visual Presentation	Help students make mistakes and learn from them. If they love learning they will persist through challenges
Text to speech	Comic Strip	

Source: http://margdteachingposters.weebly.com/multiple-intelligences1.html

Videos with captions	Optimise access to assistive technologies	
Audio with transcripts	Provide feedback	
Audio books		
Sign language		
Recognition- The what of learning 	Skills and Strategies- The how of learning 	Caring and Prioritisation- The why of learning 

The Universal Design for Learning (UDL) framework is all about creating flexible learning environments that cater to the diverse needs of all students. Here's how individual learning styles, cognitive abilities, and socio-cultural factors play a central role in UDL:

Individual Learning Styles	Cognitive Abilities	Socio-Cultural Factors
UDL provides multiple means of engagement: This ensures students can connect with the learning material in ways that resonate with their preferred styles (visual, auditory, kinesthetic, etc.). Examples: Offering audio books alongside text, using graphic organisers, incorporating hands-on activities.	UDL promotes multiple means of representation : Information is presented in various formats to cater to students with different cognitive strengths and weaknesses. Examples: Providing text with audio narration, offering visuals alongside explanations, using differentiated instruction based on difficulty levels.	UDL emphasises multiple means of action and expression: Students can demonstrate their understanding and learning through various methods that reflect their cultural back-grounds and preferences. Examples: Offering project-based learning, allowing for alternative assessments, incorporating culturally relevant materials.

In a history lesson on ancient civilisations, UDL would encourage:

- **Engagement:** Interactive simulations, historical re-enactments, music or art related to the period.
- **Representation:** Textbooks with audio versions, timelines, maps, and historical artefacts.
- **Action & Expression:** Research papers, presentations, creating models, role-playing historical events.

Evolution of Personalised Learning in the Indian Education System: Past Practices and Contemporary Approaches

Personalised Learning in India through Gurukuls

While the Gurukul system wasn't formally structured like modern schools, it did hold many elements that align with the principles of personalised learning. It inculcated successful learning for students in many ways like paying individual attention through the small Guru-Shishya Ratio. Gurukuls typically had a limited number of students under one Guru, allowing for personalised guidance and mentorship. It

focused on strengths where the Guru observed each student's strengths and weaknesses, adapting their teaching methods to cater to their individual needs and learning styles.

A lot of stress was placed on experiential learning where Gurukuls emphasised learning through hands-on experiences, projects, and real-world applications, making knowledge relevant and engaging. Students progressed at their own pace, focusing on understanding concepts before moving on to new ones.

Eklavya School: Pioneering Personalised Learning in India

After successfully starting and running Eklavya School in Ahmedabad, three graduates of the Indian Institute of Management Ahmedabad decided to quit and start their venture in 2001. Their journey began with Eklavya, a school that embraced innovation. Children from diverse backgrounds, wealthy and underprivileged, learned side-by-side, shattering social barriers. But their relentless pursuit of excellence led them further. In 2001, Educational Initiatives (EI) was born, a leader in personalised learning.

EI's vision and mission were simple: to empower every child to learn with understanding, not just memorise facts and to ignite the spark of understanding within each child. Their unique assessment tool, ASSET, went beyond rote memorisation, delving into the true depths of a student's grasp of concepts. This valuable data allowed teachers to tailor their approach, nurturing individual strengths and addressing learning gaps.

But EI had bigger plans than that. Their smart invention, Mindspark, became a child's personal learning friend. This flexible program, which shows how powerful technology can be, is changed to fit the speed of each child, filling in gaps in their knowledge and helping them understand better.

EI was started with a capital of around 25 lakh and today the company has revenue of about 50 crore with year-on-year growth of 30%. EI's story isn't about making money; it's about unwavering dedication. With just a small amount of money and a seed of hope, they've grown into a thriving tree that affects more than 3 million kids in 3,000 schools. Their legacy? A generation empowered to learn, not just for grades, but for the joy of discovery and the potential within.

Every child is seen, heard, and respected for their unique genius, which shows how powerful personalised learning can be. This story makes teachers, parents, and students want to see learning not as a race but as a path of discovery and understanding in the future.

CONCLUSION

The school education system in India encompasses a student population that is larger than the population of each of the countries located in the European and African continents, having more than 240 million students and 8.5 million teachers across primary, upper-primary, secondary and senior secondary stages. School education during the COVID-19 period is dependent upon the diverse scenarios of the technological devices available to students. Given the social, cultural and geographical diversity in the country, following only one model of teaching and learning will not work.

As per UNICEF, for years, educators have advocated the transformative potential of personalised learning, which can be broadly defined as an approach centred on the individual learner. Flexible and responsive to their needs, its promise lies in the ability of tech to tailor learning based on the needs and performances of individuals.

So in the last decade, advancements in information and communications technology, data science and machine learning have led to an explosion in the development of tech-enabled solutions, helping to boost the popularity of personalised learning.

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Images

- https://images.app.goo.gl/L6w3AvD4ypjJEAnZA (Foundations of Personalized Learning)
- https://images.app.goo.gl/tQtETDxJ9pnEkAkTA (Constructivism Theory)
- https://images.app.goo.gl/8bb93iXe7bCrzsda8 (Zone of Proximal Development)
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Ms. Tajinder Kaur, an experienced and passionate early childhood educator, is dedicated to empowering children to become self-reliant, confident, responsible, and independent individuals. With a deep passion for learning, she continuously explores various teaching and learning approaches to enhance the educational journey of her students. With unwavering dedication, skill, and a heartfelt desire to positively impact the lives of children, Ms. Kaur creates a nurturing space where young learners thrive and discover their full potential.

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