

The Value of Inclusion and Universal Design of Learning in the Context of NEP, 2020: Policies, Practices and Possibilities

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Abstract: Inclusive education is now a global priority to ensure all students have equal opportunities to learn, regardless of their abilities, backgrounds or learning needs. Universal Design for Learning (UDL) is a research-based framework to develop flexible learning environments that can accommodate learner variability from the beginning and not as an afterthought or through adaptations. In this article, concept and principles of UDL are discussed and the idea of classroom fitness as a multidimensional construct is examined, including physical, instructional, technological and emotional preparedness for inclusive education. The article examines how a flexible curriculum design, learner-centred pedagogy, accessible technologies and supportive classroom environments can enable meaningful participation and better learning outcomes for all learners based on the three principles of UDL, namely multiple means of engagement, representation and action and expression. The discussion also considers the alignment of UDL with India's National Education Policy (NEP) 2020, which emphasises equity and inclusion, competency-based learning, flexible pedagogy, multilingual education, and technology-enabled instruction. This paper also discusses recent initiatives with regard to inclusive education and practical steps towards the realisation of UDL principles in Indian classrooms. The paper also discusses the major implementation challenges of UDL such as lack of teacher readiness, resources and infrastructural constraints and suggests ways to enhance classroom fit through professional development, accessible infrastructure, curriculum flexibility and ongoing policy support. The article ends with the observation that embedding UDL within the vision of NEP 2020 provides a transforming pathway to create equitable, learner-centred and inclusive education systems in India.

Key Words: Universal Design for Learning (UDL), Inclusive Education, Classroom Fitness, National Education Policy 2020, NEP 2020, NCERT, Accessibility, Learner Diversity.

Article History: Received: 22nd April, 2026, Revised: 17th May, 2026, Accepted: 28th May, 2026, Published: 8th June, 2026

I. Introduction

A key goal of education systems throughout the world has been to provide equitable and good quality education to all learners. Today's classrooms are more diverse than ever before, with students of different abilities, learning styles, linguistic backgrounds, cultural identities, socioeconomic circumstances, and educational needs. This diversity offers both opportunities and challenges for educators. Traditional teacher-centred instructional approaches assume that all learners acquire knowledge in the same way. Such approaches often ignore the wide range of learner variability. Consequently, many students face difficulties in terms of accessing the curriculum, actively participating in classroom activities, and demonstrating their learning. These barriers have implications for academic achievement but also impact motivation, engagement, confidence and educational experiences more broadly.

Inclusive education has been recognised as a global response to these challenges, stating that all learners have the right to participate fully in quality education in inclusive learning environments. International frameworks such as the United Nations Sustainable Development Goal 4 (SDG 4) and the UNESCO Salamanca Statement highlight the necessity of equitable and inclusive education that is responsive to learner diversity, rather than expecting learners to fit into rigid educational systems. Inclusive education thus requires a shift from deficit-based approaches focusing on the limitations of learners, towards system-based approaches, which re-design teaching, curriculum, assessment and learning environments to meet the needs of diverse learners.

In this regard, Universal Design for Learning (UDL) has been much discussed as a holistic approach to designing inclusive learning environments. UDL was created by the Center for Applied Special Technology (CAST) and is based on the idea of universal design in

architecture, which means that buildings and public spaces are designed to be used by all people without needing any special modifications. Applied to education, this philosophy emphasises the idea that learning environments are intentionally designed from the outset to account for learner variability, not through retrofitting or individual accommodations. UDL encourages educators to create flexible curricula that fit learners rather than having learners fit the curriculum. (Meyer, Rose & Gordon, 2014; CAST, 2024)

The UDL framework is founded on three key principles: multiple means of engagement to motivate learners, multiple means of representation to present information in various ways, and multiple means of action and expression to enable learners to demonstrate their understanding in different ways. These principles work together to foster learner autonomy, participation, accessibility and academic success while removing barriers that could otherwise exclude students from meaningful learning experiences. UDL supports students with disabilities and all learners, including gifted students, multilingual learners, and students with different learning preferences, by incorporating flexibility into curriculum design, instructional strategies, assessment practices, and classroom interactions.

Another equally important dimension of successful UDL implementation is the concept of classroom fitness. Classroom fitness is the degree to which the learning environment is ready to support the principles of Universal Design for Learning in physical, instructional, technological, social, and emotional dimensions. A UDL-fitted classroom may include accessible physical spaces and flexible instructional materials, varied instructional strategies, inclusive assessment practices, assistive and digital technologies, collaborative learning opportunities, and a positive classroom climate that embraces diversity and promotes a feeling of belonging. Such classrooms do not permit barriers to arise and allow each learner to participate actively according to his or her individual strengths and needs.

With the increasing number of schools that have adopted inclusive policies and technology-enhanced learning, the evaluation of classrooms' readiness for UDL implementation has become essential. Understanding what UDL-fitted classrooms look like can help teachers, school leaders, policymakers, and teacher educators create learning spaces that really promote inclusion and learner success. In this regard, the present paper explores the notion of classroom fitness from the perspective of Universal Design for Learning, examining its theoretical basis, key elements and practical implications for the design of equitable, accessible and learner-centred classrooms that can meet the needs of all students.

II. The concept of the Universal Design for Learning

Universal Design for Learning (UDL) is an evidence-based framework used to guide the development of adaptable learning environments that can meet the individual learning differences of all students. UDL was developed by the Center for Applied Special Technology (CAST) based on interdisciplinary research involving neuroscience, cognitive psychology, education, and instructional design. The framework is based on the concept of universal design in architecture that advocates the design of buildings, products and environments to be usable by all, without the need for later adaptation. Likewise, UDL proposes that educational environments should be purposefully designed from the outset to ensure that all learners can access, participate in, and benefit from learning experiences, irrespective of individual differences.

Unlike traditional instructional practices that often assume a "one-size-fits-all" method of instruction, UDL embraces learner variability as the rule, not the exception. Every classroom is made up of students who have different backgrounds, abilities, interests, experiences, and ways of learning. These differences are not only among students with disabilities but also among all learners including multilingual learners, gifted learners, students from diverse cultural and socioeconomic backgrounds, and those who learn at different rates. Therefore educational success is not about changing learners to suit the curriculum but developing curricula which are flexible enough to meet the needs of diverse learners.

UDL theory is grounded in educational neuroscience studies which shows that learning occurs through three interrelated brain networks. These three networks are: affective network, which is responsible for motivation and engagement; recognition network, which is responsible for acquisition and comprehension of information; and strategic network, which is responsible for planning, organising, and expression of knowledge. These results emphasise the three main principles of UDL: multiple means of engagement, multiple means of representation, and multiple means of action and expression. In sum, these principles guide educators in creating learning environments that cultivate learner motivation, offer multiple avenues to acquire knowledge, and enable students to demonstrate their learning in various ways.

Learners are diverse in many ways is one of the fundamental tenets of UDL. Students learn at different rates, and will need different amounts of time and support to learn concepts. Their engagement with learning tasks is shaped by a variety of interests, aspirations and motivational factors. There are also significant differences in cognitive abilities that influence the way learners receive information, solve problems and use knowledge. Learners have different levels of language proficiency and communication

skills. Students in multilingual classrooms may need other ways to access and communicate information. Furthermore, differences in physical, sensory, emotional, and social functioning impact learners' access to educational content and classroom activities. Because of these differences among learners, instruction needs to be flexible enough to build on individual strengths and minimise barriers to participation.

The UDL advocates for flexible designing of curriculum components, such as learning goals, instructional methods, learning materials, classroom activities, and assessments, rather than designing them uniformly. Flexibility enables educators to offer multiple pathways of instruction without lowering the learning expectations. For example, information may be presented in text, audio, video, graphics, simulations or demonstrations; students may work individually or collaboratively; and learning outcomes may be demonstrated by written assignments, oral presentations, projects, portfolios or digital products. This flexibility enhances access while maintaining high academic standards for all learners.

Universal Design for Learning (UDL) is a framework that guides the design of learning environments that are flexible enough to support individual learning differences. UDL is designed to reduce barriers to the learning process that may prevent students from fully accessing and participating in educational experiences. Its goal is to maximise learner engagement through stimulating curiosity, motivation, relevance and active participation in learning. The framework also supports accessibility by ensuring that instructional materials, technologies, classroom environments, and assessment practices are accessible to learners with varying abilities and backgrounds. UDL also promotes equal participation by providing all learners with meaningful opportunities to engage in classroom activities and attain the intended learning outcomes. Equally important is the goal of developing expert learners. Expert learners are purposeful, motivated, resourceful, knowledgeable, strategic, and able to guide their own learning throughout life. UDL promotes lifelong learning beyond formal education by supporting learner autonomy, self-regulation and reflective thinking.

The importance of UDL extends beyond special education. It is increasingly seen as a framework for enhancing the quality of education for all learners through the integration of inclusivity within curriculum planning, rather than as individual accommodations. In an era of technological innovation, diverse classrooms and learner-centred pedagogy, UDL offers educators practical principles for designing accessible, engaging and flexible learning experiences. It has thus become a significant framework for implementing inclusive education policies and promoting educational equity in school and higher education settings around the world.

III. Universal Design for Learning Principles

Universal Design for Learning (UDL) is based on three principles that are interdependent, creating a comprehensive framework for designing inclusive and flexible learning environments. These principles are based on educational neuroscience and align with three primary brain networks involved in learning: the affective network (the “why” of learning), the recognition network (the “what” of learning), and the strategic network (the “how” of learning). The UDL principles do not prescribe a specific method of instruction, rather they call for instructors to anticipate learner variability and to develop learning experiences that offer options for learners to engage, access information and demonstrate learning. These principles work together to help create classrooms in which all learners have an equal opportunity to participate, succeed, and grow as an independent learner.

Multiple Means of Engagement

The first principle of UDL, **Multiple Means of Engagement**, addresses the affective dimension of learning, the way in which learners are motivated and sustained in the learning process. Students vary greatly in their interests, purposes, cultural backgrounds, confidence, and emotional reactions to learning activities. While some learners are intrinsically motivated and enjoy independent exploration, others need collaborative opportunities, structured guidance, or relevant real-life contexts to stay engaged. It is therefore unlikely that one motivational strategy will work for all learners.

UDL recommends providing learners with multiple means of access to learning that reflect their interests, preferences, and strengths in an effort to address this variability. Teachers are encouraged to develop supportive learning environments that encourage curiosity, autonomy, collaboration and persistence. Opportunities for student choice, active participation and meaningful feedback promote learners' ownership of their learning while developing resilience and self-regulation.

Classrooms that implement this principle in practice employ a variety of engagement strategies including collaborative learning activities, cooperative group work, choice-based assignments, interactive classroom discussions, inquiry- and problem-based learning, project work related to real-life situations, educational games, technology-enhanced activities, and continuous positive reinforcement. Flexibility in grouping and opportunities for peer interaction enhance learner participation by fostering supportive social learning environments.

There are several educational benefits to the effective implementation of multiple means of engagement. It increases learner motivation by making learning meaningful and relevant to students' lives, increases classroom participation through active involvement,

reduces anxiety by providing supportive and flexible learning experiences, strengthens persistence in completing learning tasks, and promotes self-regulation by encouraging learners to monitor and manage their own learning processes. Engaged students are more likely to develop positive attitudes about learning and sustain educational growth throughout their lives.### 3.2 Multiple Means of Representation

The second principle, ****Multiple Means of Representation****, concerns the need to diversify the ways of presenting information and learning content, so that all learners could effectively access and comprehend the curriculum. Learners vary in the ways they perceive, process and understand information. Factors influencing how well instructional materials are understood include language ability, prior knowledge, sensory abilities, cultural background, and cognitive processing. Thus, reliance on only lectures or printed textbooks may inadvertently create barriers for many learners.

UDL also encourages teachers to present information in a variety of ways that is more accessible to students and results in a better understanding of the content. Teachers should not rely on one method of instruction, but should blend visual, auditory, textual, tactile and digital resources to provide multiple pathways for learners to access information. This flexibility is a boon for students with disabilities, but also for multilingual learners, students at different literacy levels, and those with different learning preferences.

Classroom applications can include, but are not limited to, multimedia presentations; educational videos; audio recordings; charts; diagrams; concept maps; infographics; graphic organisers; models; simulations; demonstrations; simplified language; translated materials; captions and subtitles for videos; sign language support, as appropriate; digital learning resources; and assistive technologies such as text-to-speech and screen-reading software. Teachers can also engage prior knowledge, teach vocabulary explicitly, and give multiple examples to support conceptual understanding.

With many ways of representing the same idea, learning becomes much more accessible. It caters for visual, auditory and kinaesthetic learners providing alternative ways of presenting information, it supports students with language barriers with multilingual and simplified resources, increases understanding and retention of concepts over time, and allows students with sensory or learning disabilities to access instructional materials in an effective manner. Therefore, learners are more successful at constructing meaningful understanding and participating confidently in classroom learning.## 3.3 Multiple Means of Action & Expression

The third principle of UDL, ****Multiple Means of Action and Expression****, acknowledges that learners differ in how they plan, communicate, and express what they know and can do. Traditional assessment practices often rely heavily on written examinations that may not be the best measure of all students' abilities. Language skills, motor skills, communication skills, creativity and problem solving skills are all different, meaning learners need different ways to demonstrate their understanding.

This principle encourages diverse ways for students to demonstrate their learning, while maintaining shared academic standards. Flexible assessment allows educators to assess learning outcomes in a more holistic and equitable way, recognising different talents and strengths, rather than only one mode of performance.

To be implemented in the classroom Oral presentations Debates Project-based learning Research assignments Practical demonstrations Laboratory activities Digital portfolios Creative writing Artwork Multimedia presentations Videos Role plays Models Collaborative group projects Reflective journals Performance-based assessments Digital technologies also provide learners with more opportunities to demonstrate what they know by creating podcasts, presentations, animations, websites, or other multimedia products.

This principle offers more benefits than just assessment. Multiple ways of action and expression foster creativity and innovation by allowing the learner to choose appropriate ways to demonstrate their knowledge. They build learner confidence by identifying individual strengths, reduce the undue performance pressure associated with traditional examinations, promote higher-order thinking and problem-solving abilities, and provide more equitable assessment opportunities for students with different learning profiles. Learners also gradually develop executive functioning skills such as planning, organization, reflection and self-monitoring. These skills all support independent and lifelong learning.## The Three Principles Combined

The three principles of the UDL are presented independently, but are inherently interconnected and mutually reinforcing. Effective classrooms simultaneously incorporate multiple means of engagement, representation, and action and expression to establish inclusive learning environments that eliminate barriers before instruction begins. Collectively, these principles move the focus from adapting instruction for individual learners after difficulties occur to proactively designing learning experiences that accommodate learner variability from the outset. Incorporating flexibility into curriculum design, teaching practices, learning resources and assessment methods ensures that every student has meaningful opportunities to access, participate in and succeed in education. Thus, the three principles are the

basis for classroom fitness under Universal Design for Learning and the foundation for creating equitable, accessible and learner-centred educational environments.

IV. Classroom Fitness and Universal Design for Learning

Classroom fitness is the degree to which the classroom environment is ready to accept learner variability by removing barriers to participation and providing opportunities for engagement, learning, and achievement. According to Universal Design for Learning (UDL), classroom fitness is not restricted to the physical environment, but also encompasses instructional practices, technological readiness, emotional climate and institutional support. A UDL-supported classroom is deliberately designed to provide equitable learning opportunities by way of flexible curriculum design, accessible learning resources, inclusive assessment practices, and supportive teacher-student interactions (CAST, 2024; Meyer, Rose, & Gordon, 2014).

Readiness of Physical Classroom

The first requirement for inclusive learning is physical accessibility. A UDL classroom is one where learners with diverse physical, sensory and mobility needs can participate independently in all activities of learning. Flexible seating, wheelchair accessible entrances, adequate lighting and ventilation, noise control, barrier-free pathways, ergonomic furniture, and accessible instructional materials are some of the factors that heavily influence the participation and comfort of learners. These environments minimise physical barriers and encourage safety, independence, and equal participation of all students (UNESCO, 2020; CAST, 2024).

Training Condition

Instructional fitness refers to the teachers' ability to design flexible learning experiences to address learner diversity. Rather than a one-size-fits-all teaching strategy, UDL highlights differentiated instruction, student-centered teaching, cooperative learning, scaffolded instruction, formative assessment, and flexible grouping. These practices acknowledge variability among learners, and allow students to access content, engage actively, and demonstrate learning through various pathways. Research has shown that flexible instructional design can enhance learner engagement, academic achievement and inclusion in heterogeneous classrooms (Meyer et al., 2014; Rose & Dalton, 2009).

Technological Suitability

"Technology is transformational in the implementation of UDL as it enhances accessibility and learner autonomy. Digital technologies provide multiple means of representation, engagement and expression through multimedia resources, assistive technologies,

screen readers, speech-to-text software, captioned videos, interactive simulations, adaptive learning platforms, and Learning Management Systems (LMS). These technologies are especially helpful for students with disabilities, while also improving the educational experience for all students. Technology-enabled inclusive education has been prioritised in Indian educational reforms in the post-pandemic period (Ministry of Education, 2020; CAST, 2024).

Emotional and Social Well-being

Inclusive classrooms are physically and academically accessible, emotionally safe, and socially supportive. Emotional and social fitness is built through a classroom culture that embraces diversity, prevents bullying, encourages learner voice, and fosters positive teacher-student relationships. Peer collaboration, cooperative learning, restorative practices, and culturally responsive teaching support students' sense of belonging and psychological well-being. Such environments encourage higher motivation, less discrimination and social inclusion (UNESCO, 2020).

V. Universal Design for Learning in the Context of NEP 2020

India's National Education Policy (NEP 2020) aligns strongly with the philosophy of Universal Design for Learning, though the policy does not always explicitly use the term "UDL." The policy advocates for equitable, inclusive, flexible and learner centred education that addresses the diverse educational needs of every child. The principles of UDL are in consonance with NEP 2020 that emphasises on universal access, inclusive curriculum design, competency-based learning, flexibility in pedagogy, multilingual education, assistive technologies and continuous assessment (Ministry of Education, Government of India, 2020).

The policy envisages schools as inclusive learning communities that provide appropriate educational opportunities to all learners including children with disabilities, socio-economically disadvantaged groups, gifted learners and students from different linguistic backgrounds. It encourages flexible curriculum design, experiential learning, multidisciplinary approaches and technology-enabled teaching that breaks down barriers to learning rather than expecting the learners to adapt to rigid educational structures. These provisions closely align with the three fundamental values of engagement, representation, and action and expression within UDL.

Further, NEP 2020 encourages competency-based assessment and replaces high-stakes exams with continuous and formative assessment practices that enable learners to demonstrate their understanding in multiple modes. Such reforms are consistent with the UDL emphasis on offering flexible ways for learners to demonstrate knowledge based on their strengths and abilities.

VI. NCERT and Recent Indian Initiatives for UDL

Implementation of NEP 2020 has been significantly strengthened through several initiatives of the National Council of Educational Research and Training (NCERT) and the Ministry of Education that has greatly strengthened the implementation of inclusive education and UDL principles.

National Curriculum Framework for School Education (NCFSE), 2023

The National Curriculum Framework for School Education (NCF-SE 2023) promotes learner-centred pedagogy, competency-based education, flexible curriculum design, multilingual learning, inclusive classrooms and holistic assessment. These recommendations are in line with the philosophy of Universal Design for Learning in providing multiple means of teaching and learning (NCERT, 2023).

Jadui Pitara

The NCERT's Jadui Pitara for 3–8 years children has been developed under the National Curriculum Framework for the Foundational Stage (NCF-FS 2022) and comprises play-based, activity-oriented, multilingual and inclusive learning materials. It allows for different modes of engagement and representation through stories, games, toys, local culture, music and experiential learning.

Vidya Pravesh Yojana

Vidya Pravesh - An initiative to prepare children entering Grade I through activity-based learning experiences that recognise the diversity of learners and promote participation in an inclusive classroom.

DIKSHA Platform

DIKSHA digital platform provides accessible e-content, multilingual digital resources, QR coded textbooks, teacher professional development courses and assistive learning materials. Its flexible digital architecture supports UDL by offering multiple ways of representation and learner engagement.

VII. The Role of UDL in Inclusive Education

The impact of UDL implementation towards the goal of inclusion is significant. Research indicates that UDL enhances academic performance, learner engagement, and equitable participation while tumbling learning barriers (CAST, 2024; Meyer et al., 2014).

UDL improves educational outcomes through provision of flexibility in curriculum design and differentiated instruction. It encourages diversity, respect, co-operation, and inclusion socially and educationally by involving all learners in meaningful ways in school and classroom activities. Psychologically, UDL promotes confidence, resilience, autonomy and intrinsic motivation by focusing on individual strengths rather than deficits.

VIII. UDL Implementation Challenges and Strategies to enhance classroom fitness

While UDL provides many benefits, its implementation in Indian classrooms still faces some challenges. These include poor teacher preparation, lack of awareness of inclusive pedagogies, lack of assistive technologies, and lack of financial resources, large class size, rigid examination systems and resistance to pedagogical change. Time constraints in planning for differentiated instruction and flexible assessment also impact effective implementation (UNESCO, 2020; Ministry of Education, 2020).

The successful implementation of UDL requires coordinated efforts at the classroom, institutional and policy levels. Teachers should be equipped through continuing professional development programmes with competencies in inclusive pedagogy, differentiated instruction, digital accessibility and formative assessment. Schools need to put money into infrastructure that has no barriers, assistive technologies and learning spaces that are flexible. Curriculum frameworks should continue to support competency-based, learner-centred education and multiple assessment options. At policy level, sustained funding, monitoring and institutional support are necessary to translate the inclusive vision of NEP 2020 into classroom practice.

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