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Inclusive Education and UDL Professional Development for Teachers in Sweden and India

Chapter 2

Inclusive Education and UDL Professional Development for Teachers in Sweden and India

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ABSTRACT

In education, the factors involved in a successful inclusive education classroom are diverse and multidimensional, with a growing research base. Universal design for learning (UDL) can help educators address the varied needs of students through diversification of the design of instructional methods, materials, and assessments. Global interest in UDL has driven the need for more teacher training opportunities. This chapter contributes to the literature base on professional development in UDL cases by presenting two examples from two national contexts, Sweden and India. The authors ground the two cases in the literature on teacher training, inclusive education, and UDL, concluding with a discussion on the contextual impact and insights stemming from the cases.

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INTRODUCTION

Innovative teacher training is an ongoing professional need and challenge, amid growing complexity and diversity in classrooms around the world. This chapter offers two innovative teacher training projects in inclusive education (IE) from differing contexts in terms of economic, cultural, and societal factors: Sweden and India. The chapter will also explore similarities across the projects, including their similar goals of equipping educators with the conceptual foundations of the curriculum design framework of universal design for learning (UDL). The projects provide UDL applications in different contexts for purposefully varying instructional methods and materials to address diverse learning needs. The projects illustrate as well different models of training alongside similar aims of moving forward towards expanded integration of UDL into instructional practices.

While the concept of IE has divergent definitions worldwide, it is operationalized in this paper as supporting the academic and social needs of all students (Göransson & Nilholm, 2014). With particular attention to students with disabilities and those in need of special support, much of the global movement toward IE has involved policy and structural changes to education systems that are needed to provide quality instruction for these students in general education classrooms where appropriate (UNESCO, 2020a). The Committee on the Rights of Persons with Disabilities (2016) called attention to the areas of systemic educational reform for inclusion, which include

Changes and modifications in content, teaching methods, approaches, structures, and strategies in education to overcome barriers with a vision serving to provide all students of the relevant age range with an equitable and participatory learning experience and the environment that best corresponds to their requirements and preferences. Placing students with disabilities within mainstream classes without accompanying structural changes to, for example, organization, curriculum, and teaching and learning strategies, does not constitute inclusion. (p. 3)

Pre-service and in-service teacher training are core to these reforms, as much prior research has demonstrated the positive impacts of IE teacher training interventions on participating teachers' attitudes and instructional strategies (Krischler et al., 2019; Tristani & Bassett-Gunter, 2020). The scope of training content may include inclusive pedagogy aspects such as curriculum and assessment design, teaching approaches, and learning activities that attend to the different ways students learn (Guðjónsdóttir et al., 2019). Training may take different formats (e.g., courses, workshops, practicums), designed with consideration of target outcomes and available resources (Tristani & Bassett-Gunter, 2020).

For the teacher training projects featured in this chapter, the two countries' educational systems, needs, and resources are quite different. For instance, the median annual disposable income of the working-age population (18–65 years old) in Sweden in 2020 was about \$36k (OECD, 2023). Sweden is classified in the very high human development category (UNDP, 2023). By comparison, India's median disposable income in 2011 (most recent census available) was approximately \$1,200 (OECD, 2023), and it is classified in the medium human development category (UNDP, 2023). This discrepancy in economic realities between these two countries most assuredly impacts the opportunities and resources available in the professional development and training of educators, as well as other public servants. This reality is reflected in the content of this chapter.

Comparison of the different training initiative formats and content that will be described in this chapter brings attention to the myriad of contextual and social factors that can impact IE success in dif-

ferent cultural and socioeconomic settings. The first case from Sweden presents training designed and delivered multiple times across different groups of educators in a face-to-face format. The second case, conducted as a two-week, 10-hour online training master course, enrolled educators from K–12 schools and higher education institutions across India, as well as Indian educators working in the United Arab Emirates (UAE).

The chapter adds to the growing case literature base in UDL professional development and connects the cases to related literature on teacher training, IE, and UDL. It discusses commonalities, differences, and UDL application ideas stemming from the work in both countries. Recommendations are offered, based on insights from the comparative discussion, for planning training experiences to help educators around the world develop and proceed with UDL training in their own differing contexts. Such contextually aware training can provide a significant step forward in achieving meaningful IE globally.

BACKGROUND

Inclusive Education

The term *inclusion* is often defined as ensuring that all individuals have the opportunities and support needed to participate fully in their community, education, and workplace settings. Inclusion has grown to be accepted around the world as best practice (UNESCO, 2020a; United Nations, 2006). In education, the factors involved in developing and supporting successful IE environments are diverse and multidimensional, including issues relating to teacher knowledge and skills, administrative support, systemic policies and supports, interactions with families, interactions with peers, available resources, and cultural beliefs, as articulated through a growing research base covering more than 25 years (Amor et al., 2019; De Freece Lawrence, 2020; Lindsay, 2003; Moore et al., 1998; Qvortrup & Qvortrup, 2018).

Studies of IE systems in Sweden have revealed multiple challenges, despite progressive attitudes regarding education and the availability of significant resources. Challenges include dependency on political interpretations of IE, local and national political discourse, inequitable resource allocation, competition, and standardization (Berhanu, 2011; Göransson et al., 2011). These issues have continued to persist in the current Swedish education system and within the society generally (Magnússon et al., 2019). In a selection of further studies on IE in Sweden, different aspects of inclusive practices are revealed. Biamba's (2016) inclusive case study in a Stockholm school examined changing conceptions of inclusion, teacher attitudes, and the impact of cultural diversity in teaching. Societal struggles were found to be reflected in school practices. While schools tended to express intentions for the inclusion of all children, they experienced difficulties in providing the special support that would be needed. However, by empowering teachers with pre-requisite knowledge, skills, teaching methods, and materials to address special needs, the schools found that educators and parents were more readily able to successfully work together to ensure all students would receive equivalent education.

Recently, Magnússon (2020) followed up this study with an examination of the impacts of school choice on students with special educational needs (SEN) and their families in Sweden, as the choice is often heralded as an important component in the effective support of diverse needs. The study indicates that “the introduction of school choice and independent schools has not led to innovation at the system level that was hoped for, as regards special education” (p. 34). Contributing factors include the

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marginalization of SEN pupils that led to the lowered likelihood of exercising school choice, increased segregation on both societal and school levels, and economic and organizational complications.

In a related study that investigated principals' perspectives in relation to the inclusion of students with disabilities, particularly those with autism spectrum disorder (ASD), Luddeckens et al. (2022) specified actions needed for principals to affect inclusive school culture and practice positively. They summarized that

1. Certain structures are needed when planning how to develop mutual values;
2. Principals often feel a sense of loneliness in relation to their superiors; and
3. More accountability from educators and consideration for the student perspective in decision-making are needed.

Comparatively, inclusion literature situated in India calls attention to broader efforts in supporting inclusive pedagogy and structures. Khurana (2020) articulated that inclusion in schools was enacted through various Indian government acts and policies between 1976 and 2016. The aims of these changes were not only focused on expanded student enrollment but also on improved student success in which all students would be able to "learn to the maximum of their abilities" (p. 104). While some locally initiated efforts have resulted in the development of materials and approaches that support multiple pathways for learning and expression of learned content (Bhattacharya, 2017; Kaushika, 2008; Pratham, 2017; Sharma et al., 2012), the connection of these efforts with teacher training programs seems lacking.

Sarkar and Forber-Pratt (2021) asserted that teachers in India appear not to be well-prepared to address IE challenges. Their findings are reinforced by revealing existing tensions in the literature on how inclusion is defined, how teachers are studied, and how teacher practices are understood. Such tensions and differences in definitions and perspectives, as analyzed by Sarkar and Forber-Pratt (2021), showed "the lack of research on teacher practice, absence of contextualized perspectives on teacher practices, and implications of the confusion around inclusive education for teachers in India" (p. 22). Several other researchers also similarly underscore India's challenges facing the development of comprehensive IE systems and the need for teacher training (Farrell, 2016; Singal, 2019; Singh, 2016).

Globally, active support for IE has been amplified by the UNESCO-supported Salamanca Statement and Framework for Action on Needs Education that were developed at the 1994 World Conference on Access and Quality held in Salamanca, Spain (UNESCO, 1994). Related efforts in fostering the inclusion of individuals with disabilities in community, work, and school programs are evidenced by the development of additional global guiding documents (UNESCO, 2020b). However, these policies have largely preceded practice in different parts of the world. There remains a great need globally for the effective implementation of inclusive policies (Watkins & Meijer, 2016), specifically in ways that develop and sustain successful inclusive educational environments (Mitiku et al., 2014; Schuelka, 2018). Key to such successes is the implementation of innovative and robust teacher training programs where educators can learn and practice the skills and strategies that support productive learning environments for widely diverse student populations. One innovative instructional design approach that can facilitate such efforts is UDL, a unique framework that educators can use to design accessible and engaging learning opportunities for all students (Meyer et al., 2014).

Universal Design for Learning

The UDL principles and overall curriculum design framework that can be used to guide lesson planning now reach far beyond their American origin, as they have become globally recognized for their potential to address inclusive educational challenges. UDL featured prominently in the UNESCO 2020 Global Education Monitoring Report on education equity and inclusion, in which the UDL framework was identified as particularly relevant for addressing persistent barriers to learning and maximizing accessibility (McKenzie & Dalton, 2020). This report recognizes that maximizing accessibility and minimizing instructional barriers for students and teachers can ensure that educational equity around the world can be realized (UNESCO, 2020a).

The UDL framework was developed by the organization known as CAST in the early 1990s in the United States of America. The principles grew from CAST's direct experiences with students with disabilities and realizations that the focus of change needed to move from the medical model of disability that seeks to "fix the children" to the social model of disability that looks to "fix the environment" (Haegle & Hodge, 2016, p. 194). These views align with Bronfenbrenner's ecological systems theory, which describes the impacts of environmental interactions on a developing child (Guy-Evans, 2020). Their insights into the nature of disability and human development led CAST to further explore available neuroscientific research on how the brain learns. This exploration led to the development of the UDL core instructional design principles of providing multiple means of engagement, representation, and action and expression (Rose & Meyer, 2002). By applying these principles and the guidelines that further define them, educators have tools for building and implementing curricula and instruction that proactively address common barriers to learning, providing learners strategically with options that will enable them to achieve learning success.

In the United States, leading educators have agreed for many years that the needs of students in every classroom greatly vary and require teachers to develop diverse skills and new approaches to reach this wide range of learners (Caine & Caine, 1990; Meyer et al., 2014; Tomlinson, 1999; Wiggins & McTigue, 1998). While UDL has the potential to play a critical role in reducing barriers and increasing accessibility, innovative and ongoing professional development opportunities are required for teachers to adequately learn, understand, integrate, and maximize the impact of the guidance in the framework. For example, in examining education in India, a study of 223 primary and 130 secondary educators found the following regarding teacher readiness to support diverse needs in classrooms:

70% of the regular school teachers had neither received training in special education nor had any experience teaching students with disabilities. Further, 87% of the teachers did not have access to support services in their classrooms. . . . Both primary and secondary school teachers rated themselves as having limited or low competence for working with students with disabilities. (Das et al., 2013, p. 27)

The insights of IE from Sweden, India, and elsewhere lead to the consideration of UDL as a pathway to improve the implementation of inclusive educational practices. The UDL curriculum design framework can help educators address the varied needs of students through diversification of the design of their instructional methods, materials, and assessments (Rose & Meyer, 2002). The UDL guidelines and checkpoints further support the implementation of UDL principles in varied contexts. UDL does not exist in an educational vacuum; rather, it co-exists and is intended to work with other supportive educational

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frameworks and approaches (Dalton, 2020). When educators apply UDL to instructional planning, it can ensure content accessibility and support for varied needs (Courey et al., 2012) through curriculum integration in the learning goals, methods, materials, and assessments.

Connecting knowledge of UDL to lesson design and teaching is a learned skill. Edyburn (2010) asserts that key stakeholders need to be trained specifically in UDL principles in order to make meaningful differences in student engagement and learning. Educator professional development may take different forms, including coaching and mentoring, face-to-face training, train-the-trainer, and web-based training. For instance, Craig et al. (2022) described a successful five-day training institute on UDL that increased teachers' UDL knowledge and skills, leading to greater implementation of the framework into practice. As is evident in the literature, UDL is a valuable tool to guide the preparation of teachers to design and develop more inclusive learning environments for the diversity of students in classrooms.

To this end, the remainder of this chapter will describe two different models of UDL training for educators that were designed, developed, and implemented by educational colleagues from the United States, Sweden, and India. These two cases share similar goals of enhancing educators' UDL knowledge and skills, yet the training projects were necessarily designed very differently to meet the varied socio-economic and cultural needs of the different environments. Each case will describe why it was developed and how it was implemented. Then, comparisons and conclusions will be offered as considerations that can be used to guide professional development training decisions moving forward.

IMPLEMENTING UDL IN PRACTICE: TWO CASE STUDIES

The Swedish Perspective: Setting the Stage

The Swedish school system has international recognition for having a fair and inclusive education system for all students, like the rest of the Nordic countries (Arnesen & Lundahl, 2006). Sweden, like most European countries, follows the Universal Declaration of Human Rights (UN, 1948) and is a signatory to the Convention on the Rights for People with Disabilities, which was signed by the Swedish government in 2007 and implemented in 2009. The second article of the Convention states that all programs, environments, services, and products shall be universally designed in order to be usable for all people, with or without disabilities (UN, 2006).

Based on the international policy documents, the Swedish School Law 2010:800 stipulates that education within every school must be equivalent for all students regardless of where in the country it is organized. Further, the standards for equivalence are specified through national goals. In 2015, Sweden developed a supplement to the Discrimination Act (2008:567) stating that lack of accessibility in education from that moment on shall be seen as a discriminatory act for which schools can be prosecuted. The Swedish curricula for compulsory schools put demands on teachers to meet the diversity of students found in every classroom by declaring that "equivalent education does not mean that the education should be the same everywhere or that the resources of the school are to be allocated equally. Account should be taken of the varying circumstances and needs of pupils" (The Swedish National Agency for Education (SNAE), 2022, p. 6). It further stipulates that there must be different ways for students to reach educational goals and stresses that schools have a specific responsibility to support students who have difficulties reaching those goals. These expectations put explicit demands on teachers' abilities to

differentiate instruction in order to support access for all students and optimization of student opportunities for reaching their educational goals.

Previous research regarding IE in Sweden has primarily focused on theoretical, philosophical, and policy levels of inclusion regarding differing views of related concepts rather than on connecting policy to practice (Leifler, 2022). Thus, there is limited research on IE implementation in the Swedish context (Linton, 2015). Furthermore, Magnússon (2020) claimed that most of this research seems to focus on student placement, yet the concept of inclusion is far more complex (Florian & Linklater, 2010). Nilholm (2006) compared the ideology of inclusion to the associated ideologies relating to the concepts of freedom and democracy, which have a variety of interpretations that can create distance between theoretical discourse and teachers' work in practice. The complexity of the concept has led to differing views on how inclusive educational programs should be structured and for whom they serve (Leifler, 2022; Magnússon et al., 2019; Nilholm, 2006). Thus, as previous research tends to focus primarily on policy or theoretical levels of inclusion, it trends toward telling us what to do and why to do it while leaving the *how* to do it unanswered. However, in order to promote inclusion, the Swedish National Agency for Education and the National Agency for Special Education and Schools in Sweden provided resources to support school leaders and teachers in their ambition to implement inclusion in Swedish schools on a general basis. Also, more recent research indicates a shift among researchers towards an increased practical focus on the implementation of inclusive practices (Bloom, 2022; Leifler, 2022). Research such as these challenges researchers, collaborating school leaders, and partnering in-service teachers to rethink how they view inclusion, equality, and accessibility in practice.

Amid such efforts, there continues to be an increase in the number of Swedish students who need special support (Magnússon, 2022), which could be a possible reason for the increased interest in UDL among Swedish school leaders and teachers in recent years. The UDL framework is viewed as offering practical suggestions that can increase inclusion and accessible learning for all students in Sweden. As such, UDL serves as a pragmatic framework for teachers' practical work in designing IE for all students, as it offers a flexible point of departure based on "what works." UDL is one of many ways of working with inclusion in practice. Theoretical discussions about inclusion are also valuable. Thus, theory and practice are working synergistically in this context to answer the *why*, *what*, and *how* of inclusion.

Universal Design for Learning in the Municipality of Lidingö

The Beginning

In 2016, a new head of administration was appointed for the learning and culture administration in Lidingö municipality. To familiarize himself with his new employment, he started a solid inventory of how the organization was designed and how education was performed within the municipality schools. This was done by interviewing employees in central administration as well as the school principals. The inventory visualized an organization in need of developing the educational environments to increase the opportunities for accessibility and IE for all students. He had prior experience with UDL from Harvard Graduate School of Education (HGSE), and he saw UDL as one way of improving IE and accessibility among all students within the municipality schools. To create the conditions for such a development, he sponsored an educational trip for eight representatives from Lidingö municipality to Boston to attend a course held by HGSE. For this trip, the head of administration was joined by the head of the central child and student health operations, principals, and teachers. The participating principals and teachers were

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selected through an application process that included an explanation of why they (and, subsequently, their school) should be a part of this educational effort. Selected participants committed themselves to work with inclusive learning as a prioritized goal at their school during a three-year period after the training.

The professional development program was named “Leading for Inclusive Schools in Sweden” and addressed inclusive teaching as well as knowledge about UDL and perspectives on school development and management. The educational effort also incorporated study visits at schools in Boston that were following the UDL framework. These visits were much appreciated by the participants, as the Boston schools provided concrete examples of how student learning and special student supports were taken care of through the design and the variety of classrooms and teaching.

Expanding the Effort

For the two following years, three schools per year took part in annual study trips to Boston. On their return after the training, principals at each participating school formulated accessible and inclusive learning environments as a target area in their systematic quality development work. Principals led school development locally in their school unit, intending to change existing focus and discourse. They also worked with teachers to have a more explicit focus on instructional design. The effort seemed to pay off, as there was an observable increase in students’ achievement in the schools where personnel participated in the Boston training. Other factors could have also contributed to the student gains, though, so further investigation is needed.

Inspired by the increased student achievement, the municipality’s central administrative management sought to expand the initiative. Trainers from HGSE were invited to Sweden to lead a two-day training for a larger group in the summer of 2018. The training resulted in deepened knowledge and awareness of accessibility, inclusion, and UDL at different levels of the school system, including the policy committee, managers, administrators, principals, and teachers. After observing the positive results of the training, it was decided to make another targeted effort where two centrally employed special educators would attend UDL training at CAST in Boston. Upon their return, they would be expected to train others in UDL locally in the municipality schools. This effort led to a recurring training effort where the two special educators, together with educators from CAST and Kristianstad University, led training for teachers regarding how to use the UDL framework in classrooms. By 2021, 40 teachers had participated in these trainings.

Changing Circumstances for Professional Development Implementation

As individuals from the central administration moved on to other jobs, those key roles were filled by new leaders. Such changes could have negatively impacted the project, as the administrators were key in ensuring that learning environments were inclusive and accessible for all students. However, since the infrastructure was well established, the school development process was able to continue despite the personnel changes. The central administration’s targeted area around accessibility was maintained. Further, the steering group for UDL continued with new administrators who had renewed focus on the areas of accessibility and UDL.

The effort was subsequently expanded, and in 2022, 120 teachers and approximately 40 principals participated in a revised version of the UDL training. The training differed from the previous version in a couple of ways. First, it was co-developed by CAST, Kristianstad University, and the municipality of Lidingö. Second, a part of the training was designed to address UDL in a Swedish school context,

considering features of the Swedish school system and curriculum. To facilitate implementation in this context, the trainer from Kristianstad University included theoretical and practical elements to provide attendees with helpful tools as they implemented UDL at their schools. Through these modifications, the training evolved from a professional development effort to a professional learning effort, as characterized by Timperley (2021). It provided opportunities for the educators to professionally discuss and reflect on the content of the professional development programs efforts based on their contexts and with a focus on their students. According to Timberley (2021), teachers' active collaboration in collegial processes tends to generate a greater impact on teachers' work in practice than teacher development shaped through lectures alone; therefore, the UDL teacher training initiative was designed in several stages and iterations, providing opportunities for all of the teachers and school leaders in the municipality to take part in the effort. The scope of this training series included two key components:

1. Initial lectures on UDL that were designed to interweave theory with practical exercises and reflection to help teachers understand UDL as a framework for accessible learning and how UDL can be interpreted based on Swedish policy and Swedish school context; and
2. Follow-up UDL lectures with practice sessions for participants to enact a conversation leader role in professional meetings that simulated a UDL school-based implementation process. This step was designed to equip teachers with the skills they would need to start implementing the UDL framework at their schools.

The second component was designed using Timperley's (2021) learning cycles together with Blossing and Wennergren's (2019) thoughts of collegial learning as a tool for school improvement. In sum, this two-step program is designed to build more than simply foundational competencies. It seeks to support broader, more sustainable change, with each part having a supporting function and prerequisites to contribute to the system as a whole. Throughout the training, UDL was approached not simply as a checklist, but rather as an inspiration for teachers to use in differentiating teaching and examination in order to motivate, engage, and provide students increased access to learning. The two training steps enabled professional learning processes among teachers in their daily work. What was needed next was a focus on establishing an infrastructure that could support teachers' professional learning through the collegial learning processes of discussion and reflection.

The Principal's Leadership Is Crucial

Over the course of the Swedish initiative, there was developing recognition of the need to offer leadership development in UDL for principals and assistant principals. The previous initiatives had offered general UDL training but essential aspects of how to lead the implementation of UDL were needed for these educational leaders. Without developing capacity in such aspects, the work toward implementing UDL would lack an enabling infrastructure, as principals seemed to assume that central functions and teachers would instead be leading and operating the implementation work. However, the review of the initiative that was jointly completed by CAST, Kristianstad University, and the municipality of Lidingö highlighted that managers and school leaders would be integral to the success of the implementation. Therefore, they were going to need to deepen their understanding of the UDL framework and its importance in managing and enabling the implementation process. These insights led to the organization of annual training opportunities for school leaders.

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A full-day training was developed by Kristianstad University, focused on principals and assistant principals of municipal and independent schools. The educational effort involved a deepened understanding of accessible learning environments through UDL alongside national governing documents and significant research in the area. Some parts of the training content were the same as the one offered to the teachers to create a common ground of knowledge. However, while the teacher training contained knowledge of how to implement UDL thru professional learning, the principals' training contained training on how to lead the implementation. This was done by using Novak and Rodrigues' (2016) five phases for universally designed leadership. However, as the dynamic nature of the school system means that some individuals leave positions and others join, the implementation process is viewed as an ongoing process. Therefore, the municipality intends to continue annual training opportunities for school leaders, led by the offices of central child and student health together with Kristianstad University. Offering the school leaders this recurring professional development is projected to support their ever-deepening knowledge within a context of collegial learning.

The Indian Perspective: Existing Landscape of Education

The focus of the chapter will now shift to a different context in which UDL professional development will be described from an Indian perspective. It is important to begin by stating that school education for children with special needs (CWSN) in India is at a crossroads. A severe shortage of data regarding the number of children with disabilities in India makes it difficult to determine whether children with disabilities of school age are actually in school or not. The responsibilities for the education of children with disabilities primarily lie within two ministries: the Department of Empowerment for Persons with Disabilities (DEPD; under the Ministry of Social Justice and Welfare) and the Ministry of Human Resource Department (HRD). The former deals with specialized issues such as launching and implementing special schemes related to the rehabilitation and education of persons with disabilities (PWDs), education and training of rehabilitation professionals, and compliance with international conventions like the United Nations Convention on the Rights of Persons with Disabilities. The latter addresses the educational needs of children with disabilities through schemes under Samgra Sikhsha Abhiyaan and the National Council of Educational Research and Training (NCERT). Children with disabilities are also covered under the Right to Education (RTE) Act (2009) as a “disadvantaged group” and are eligible for free and compulsory education from ages 6–14 years. The Act talks about the rights of admittance and education, but it fails to mention how an enabling environment will be created and educational inclusivity promoted through the deployment of adequate physical and digital infrastructure or provision of access to appropriate teaching tools and technologies. Further, the existing model of pre-service teacher training in India separates regular and special education teacher training, which limits a more multidisciplinary focus that characterizes modern classrooms and a more integrated application of theoretical understandings to practice.

Thus, inclusion is not seen as synonymous with mainstreaming. While mainstreaming can serve as a benchmark where students “earn” their way back into the classroom, inclusion establishes the student’s “right” to be in the general education classroom in the first place. Services and support are brought to the regular classroom as needed. The current inclusion movement challenges educators to look beyond mainstreaming to find inclusive strategies to meet students’ individual needs. Inclusion calls for a more complete merger of regular and special education (Hines & Johnston, 1996; Kurth & Foley, 2014). In India, although most regular classroom teachers support and believe that inclusion, philosophically, is

the best answer, most prefer the traditional “pull-out” model for delivering special education services. Regular classroom teachers also argue that many existing constraints do not allow them to make significant changes in their practices. These constraints include large class sizes, vast amounts of content to cover, minimal resources, and a lack of support from management in terms of academic flexibility. Thus, they tend not to feel adequately prepared to handle special education challenges within a regular classroom (Florian & Linklater, 2010; Hines & Johnston, 1996; Kurth & Foley, 2014). Many teachers believe that if they were to receive appropriate training, the inclusive classroom would offer unlimited opportunities for developing more flexible and responsive instruction.

Therefore, in India, Block Resource Centres (BRCs) and Cluster Resource Centres (CRCs) have been established in each block of every district under Sarva Shiksha Abhiyan (SSA) to conduct in-service inclusive education teacher training, provide academic support to teachers and schools, and help in community mobilization activities (Gulzar, 2021). Similarly, District Institutes of Education and Training (DIETs) and State Councils of Educational Research and Training (SCERTs) support children with special needs attending regular schools. What has been observed is that there is a shortage of special education teachers to address the needs of children with special needs attending mainstream schools. Many children thus leave mainstream schools and return to special schools. Thus, for inclusion to become a reality in this context, the capacity-building of mainstream teachers will be essential.

Capacity Building of Teachers and the Inclusive Approach to Teacher Education

Capacity building of Indian teachers for the development of inclusive education has been mentioned in the Rights of Persons with Disability Act (RPWD; 2016) and is also the core of the 21st-century learning model. National Education Policy (NEP) 2020 specifies that service environments and service conditions be maintained to ensure that teachers and students, including children with disabilities, have a safe and healthy environment, as workplace safety is most essential (Ministry of Human Resource Development, 2020). NEP 2020 focuses on the Continuous Professional Development (CPD) of teachers and principals on aspects of the latest pedagogies and competency-based education.

One of the inclusive pedagogies that has grown in its popularity globally, and specifically in India, is UDL. Ji (2019) reported that there is an urgent need for teachers to understand and address the range of diverse learning needs in their classrooms. In order to do this, teachers will need expanded skills, training, and support from the educational system. Furthermore, teachers will need to find ways to plan and work jointly for the greatest benefit to their learners. UDL is, as its name suggests, an attempt to maximize learning in a universal manner. It aims to apply the same principles to all learning rather than proposing specific learning programmes for different forms of diversity or disability. If a teacher can implement the basic UDL principles by planning for a variety of learner presentation methods that allow different forms of expression and learner engagement, then a whole range of needs can be met.

The principles and framework of UDL to design for learner variation through intentional aspects of curriculum development are internationally recognized for their potential to address inclusive educational challenges. As described by McKenzie and Dalton (2020),

The [UNESCO] Global Education Monitoring report on inclusion and education promotes the UDL framework as being particularly relevant to a broad understanding of inclusive education. . . The [UDL] concept encapsulates approaches to maximize accessibility and minimize barriers to learning. (p. 3)

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Regarding where such changes need to take place, the report speaks to the need for maximizing accessibility regarding learning environments and minimizing instructional barriers for both students and teachers. Doing so would likely ensure the realization of educational equity in classrooms, schools, and universities around the world (UNESCO, 2020a).

Indian Educator Professional Development Training in UDL

With this background, a collaboration was formed among four UDL leaders from India and the U.S., resulting in the development of a 10-hour virtual “master course” for in-service teachers, rehabilitation professionals, and university pre-service teacher educators in India and UAE that took place over two weeks in January 2021. Titled “UDL Implementation from Access to Build to Internalize,” the course focused on the preparation of educators to teach both about UDL and to teach using the UDL framework. The course included lectures, activities, examples, and conversations about how UDL can be brought into the teaching process in varied settings, including primary, secondary, and higher education levels. Some of the themes addressed within the course included UDL foundations, barriers to learning, the vertical orientation of UDL, accessible educational materials, educational and assistive technologies, building capacity through UDL, integrating UDL in lesson planning, and developing a community of practice. The overall goal of the course was to expand participant understanding of how to plan for instruction that effectively integrates UDL in the processes of teaching and learning.

An evaluation study collected data on course impacts through pre- and post-course surveys and analysis of course artifacts, including assessment of chat transcripts, activity documents, exit tickets, reading response submissions, and learner-developed lesson plans. The pre- and post-surveys were distributed to participants ($N = 45$) using Qualtrics. The surveys contained 15 UDL knowledge items (Grant & Pérez, 2018), rank ordering potential course outcomes, writing a course goal statement, and open-ended feedback items. Institutional Review Board (IRB) approval was obtained through the University of Houston for the protection of human subjects. Thirty participants completed both pre- and post-surveys in which there was an 8% average increase in UDL knowledge observed from pre-to post-course. Even more noticeably, 83% of participants said the course impacted their understanding of UDL “a lot” to “a great deal,” and 80% felt they achieved their goals for the course to the extent of “a lot” to “a great deal.”

In the Indian context, practicing UDL principles is a productive solution to addressing many of the barriers faced by teachers in mainstream classrooms. There is substantial diversity in Indian classrooms in terms of linguistic, socio-economic, religious, and geographic diversity; caste differences; and diversity based on student abilities and disabilities. India has the second largest population in the world, and as a developing nation, India cannot possibly provide schools designed for the same gender, ethnicity, or cultural background. Further, having schools that address the diverse population is more economically viable and paves the way for building an inclusive society wherein students learn to appreciate diversity from the start of their school experiences. Teachers trained in UDL can follow principles of multiple means of representation, multiple means of engagement, and multiple means of expression to fulfill the educational needs of all students in their classes.

CONCLUSION

The two teacher training projects presented in this chapter illustrate UDL as a framework with the potential for application in varied contexts. UDL implementation is supported by the intentional consideration of unique needs and cultural perspectives within each context. While UDL as a framework may be universal, connecting theory, policy, and practice are quite contextual. Different schools and systems have organized the implementation process differently, which exemplifies how UDL as a concept is universal but how different contexts put different demands on the implementation process.

In both project settings, a need for strong leadership and infrastructure that embraces the development and implementation of IE was identified. In Sweden, for example, a UDL training component was specifically designed for administrators, municipality leaders, and principals, which supported greater alignment across the system for UDL implementation. The common ground provided through the teacher and administrator training offered a foundation from which the implementation of UDL flourished at the school level. Participants gained different tools and resources through the training that enabled them to enact UDL in their particular roles. Teachers received instructional strategies for implementing UDL in their practices, and principals were equipped with leadership tools to facilitate UDL-sustaining environments at their schools. Similarly, the faculty participants of the project in India trained teacher educators from local colleges and developing nations of Nepal, Bhutan, and Nigeria in the use of UDL principles through a project undertaken by Tata Institute of Social Sciences, expanding the higher education infrastructure for supporting IE.

While there are diverse needs in both India and Sweden, these diversities vary significantly between the two countries. In Sweden, supporting students with different learning needs is the priority area for UDL implementation. India is using UDL to address varied learner needs relating to multilingualism, the caste system, religious differences, rural and urban settings, and socio-economic disparities. One cultural difference described in the projects pertains to large numbers of first-generation learners in schools in India as contrasted with the lengthier educational experience of students across generations in Sweden. Another area of difference relates to instructional technology access. Equipment and resource provisions were not an issue in the Swedish project, but for teachers in India, access to technology tends not to be as feasible for many due to a huge economically driven digital divide. A lack of support in terms of flexibility from the administrative heads and the demand for the completion of the syllabus weighs hugely on teachers in India, as well. Many mainstream teachers feel burdened with their large class sizes and do not wish to go for additional training. The prevailing sentiment seems that they would rather have special educators address the needs of diverse students. This attitudinal barrier is one of the largest challenges to inclusion in the Indian educational setting. Many teachers have yet to accept the rights-based approach to inclusive education. Therefore, training teachers in UDL must be contextualized to the environment in which it will be implemented, which includes considerations about available classroom resources and infrastructure, administrative provisions, and overarching socio-political environment.

Several commonalities between both projects exist in relation to teacher training needs and approaches. There is a similar emphasis on hands-on learning for teachers, as contrasted with content lectures. Structuring professional development programs with engaging, creative, and active-learning approaches for teachers will model strategies that they can then utilize in their own classrooms to support diverse learners. UDL implementation needs to be supported through professional development programs that

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consider the varied roles within an educational system. Movement toward cross-disciplinary professional development programs could facilitate smoother UDL implementation in school systems, since teachers from different disciplines would gain a shared understanding of UDL. Key strategies identified in these projects for increasing the spread of UDL locally in schools include a train-the-trainer model and the process of professional learning (Timperley, 2021).

Across both projects, UDL embodies strategic flexibility and collegiality. Designing and participating in UDL professional development can engage the creative thinking of educators to envision new possibilities for applying inclusive pedagogy in their own settings. Swedish teachers, including preschool teachers, who participated in the training were quite positive, expressing great appreciation for the training. Further, these participants relayed that they had higher awareness of how to plan their teaching to make it accessible for all students. In both projects, partnering experienced UDL professional development trainers with local educators seems to have helped connect the UDL approach to the realities, rules, and resources of the specific country or local setting.

Moving forward, the projects recognize different issues related to training that should be considered, including motivational factors such as legal mandates, perceived needs, and situational pressures. For example, professional teacher trainers in India are experiencing some resistance from mainstream school-teachers. Both countries have policy implementation challenges, a lack of clarity of desired outcomes amongst teachers and administrators, and a need for improved coordination of support systems for students with disabilities. The leaders of both projects struggled with how best to measure the impacts of UDL implementation following professional development efforts. In India, there has been an increase in the enrollment of out-of-school children. While this positive change means more children are being provided educational access, the challenge of ensuring high-quality, equitable education for all enrolled children still remains. Some mainstream teachers have difficulty with effectively engaging students with disabilities so that they may be fully included in their classrooms.

The teacher training programs described in this chapter have equipped teachers with numerous strategies for designing and teaching UDL-based lessons that seek to enable active engagement and expression of every learner in each classroom. Evidence of the impacts of these lessons is possible through studies involving the student's voice in these varied educational settings. Students can provide input on social, emotional, and engagement outcomes of learning. Supporting students to become expert learners is a major aim of UDL; therefore, understanding and integrating student perspectives of their classroom experiences can significantly inform instructional planning moving forward and can empower students as instructional design contributors.

The next steps for development across these projects will focus on a shared need for more systematic monitoring of UDL work at various schools to identify how teaching practices may have changed as a result of UDL professional development experiences. Following training, school leaders from different schools in Sweden have enabled the implementation of UDL by contributing an infrastructure where collegial learning, joint workshops, and professional conversations are prioritized. Synthesizing results to gain insight into different systems' needs for instructional adaptation will be an important step toward systemic change. A further desired step is to create a forum in which to share and spread successful examples of UDL implementation more widely than just with those who have completed the training.

Considering the development of UDL in preschools is another area in need of development, due to great interest existing at this level. In Sweden, the need for a review of possible reorganization at the preschool level, transferable training components, and other factors is recognized. In Indian pre-service teacher training programs, preschool teacher trainees are educated in writing universally designed lesson

plans and in executing the same in inclusive classrooms. Students then reflect on their teaching, supervisors evaluate their performance, and discussions are held for further improvements.

Future work in UDL implementation, as informed by these projects, suggests the linking of different schools and faculties together for enhanced learning and professional development opportunities. Both projects emphasize that capacity building of teachers in how to understand students' diverse needs better and address them is critical for inclusion to move forward. Educators need new skills and training in order to address the diverse learning needs of students in today's classrooms, and they need concrete examples of effective design diversity. UDL points the way for educators to maximize accessibility, minimize barriers to learning, and integrate greater variability into their instructional designs. The framework can offer an economically viable and educationally appropriate means not only for developing countries but for a wide range of countries. By training teachers in UDL knowledge, skills, and applications, they can be better prepared to serve our widely diverse student populations effectively and equitably.

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KEY TERMS AND DEFINITIONS

Accessibility: The nature of being able to be reached or obtained or easily used, commonly associated with quality services for those with disabilities.

CAST: The educational organization responsible for the development of the universal design for learning principles and framework, located in Wakefield, Massachusetts, USA.

Competence: Having the ability to carry out a task effectively and efficiently, with proficiency.

Differentiated Instruction: The process by which the instruction is tailored to meet the needs of the learner in a variety of ways.

Diversity: Variety or variability; in relation to people, involving a variation or range of factors, such as societal, economic, ethnicity, race, gender, and ability.

Equity: Involves achieving fairness and justice for all; equity is not the same for all but recognizes the need for adjustments to reduce barriers and achieve balance.

In-Service Training: Training that is provided to individuals while involved in their service activity or employment.

Inclusion: The state of being part of a group with equal access to opportunities and resources.

Inclusive Education: When all students can access, participate in, and benefit from equal opportunities in general education classrooms, regardless of their varying needs and abilities.

Professional Development: Taking part in continuing education and career training after entering the workforce to develop new skills and keep up to date in a profession.

Universal Design: A set of principles guiding the design of physical spaces, products, and environments to be accessible to all people, regardless of age, disability, or other factors.

Universal Design for Learning (UDL): A framework of principles and guidelines that addresses varied learning needs and differences through the design and development of flexible learning environments and curriculum.