

ABOUT THE BOOK

The journey towards educational inclusion is a critical and evolving process aimed at ensuring all students, regardless of their backgrounds or abilities, have equal opportunities to learn and thrive within the educational system. It is about creating a learning environment where every student feels valued, respected, and supported in reaching their full potential. It requires a collaborative effort from all stakeholders to build inclusive schools that reflect and embrace the diversity of their communities. In essence, the significance of a book on the educational journey towards inclusion lies in its potential to drive systemic change, promote equity and justice, foster diversity and inclusion, improve educational outcomes, and empower stakeholders to create more inclusive educational environments for every learner.

**"We cannot solve our problems with the same thinking
we used when we created them."**

- Diane Richler



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EDUCATIONAL JOURNEY TOWARDS INCLUSION



Editors

Rev. Dr. L. Vasanthi Medona

Dr. M. Maria Saroja

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FROM THE EDITOR'S DESK

Inclusive education is a journey fraught with both challenges and opportunities. We have made remarkable strides towards inclusivity. Schools across the globe are embracing new strategies, technologies, and methodologies to support diverse learners. From accessible classrooms to personalized learning plans, the innovations are inspiring. Yet, the path toward true inclusion is filled with challenges we must confront with resolve and creativity. One of the primary challenges we face is ensuring that our educators are equipped with the necessary skills and knowledge. Professional development must be continuous and robust, providing teachers with the tools and training to implement inclusive practices effectively.

Additionally, schools must navigate significant resource constraints whether it's funding for assistive technologies or physical adaptations to school infrastructure. Another challenge is the need for tailored approaches that recognize students' individual needs. Inclusion is not a one-size-fits-all solution; it requires flexibility and a willingness to adapt. It is marked not by a destination but by our persistent efforts to create a learning environment where every student is valued and empowered. Each challenge we overcome, and each opportunity we seize brings us closer to a future where inclusive education is not just an ideal but a reality. Creating a supportive environment is crucial for fostering inclusion. The strategies for enhancing physical accessibility, emotional support, and social integration ensure that all students, including those with disabilities, feel valued and supported. Social and Emotional Learning is critical to nurturing an inclusive educational environment. Some common obstacles include resource constraints, training needs,

and diverse student requirements while highlighting innovative solutions and success stories from schools making strides toward greater inclusivity. Explore the ongoing efforts to refine inclusive practices, enhance professional development for educators, and engage families and communities in supporting all students.

*As we navigate this issue, we aim to provide insights, practical strategies, and inspiration for educators, administrators, and policymakers committed to creating more inclusive educational environments. We are indebted to **Sr.Landrada Centre for Research, St.Ignatius College of Education(Autonomous), Palayamkottai**, for supporting the publishing of this edited book **“Educational Journey Towards Inclusion”**. We congratulate the authors who have contributed chapters to the book. The editors of this book thank the Management and Rev Sr A.Mary Selastina ICM, Secretary of our college, for the valuable support in publishing this book. We hope this book will be helpful for students, teachers, researchers, and academicians.*

Editors

Rev.Dr. L.Vasanthi Medona ICM

Dr.M.Maria Saroja

E. Michael Jeya Priya

Dr. R. Indra Mary Ezhilselvi

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CHAPTER-1

INCLUSIVE EMPOWERMENT: THE KEY TO UNLOCKING DIVERSITY'S FULL POTENTIAL

Vasanthi Medona, L

Principal

St. Ignatius College of Education (Autonomous)

Palayamkottai-2

ABSTRACT

Inclusive education is a critical aspect of creating equal opportunities for individuals with disabilities to access quality education. It is the process of integrating individuals with disabilities into a regular classroom, and it helps reflect the world's commitment to equal educational opportunities as outlined in UNCRPD. It emphasizes the importance of embracing diversity and promoting acceptance among impaired students. Many barriers hinder its implementation, such as a lack of professional development for teachers, insufficient facilities for learning, difficulty creating relationships between classmates, inadequate parent participation, and the absence of legislation and policies aligned with its practice. In conclusion, this chapter emphasized the transformative nature of inclusive education in fostering a learning atmosphere that promotes diversity, empathy, and acceptance, contributing to students' overall development.

Keywords: *Inclusive Education, SEL, Universal design for learning*

Inclusive Education

Inclusive education aims to preserve equity in society and make education accessible to all students, regardless of their disabilities. It emphasizes that students with special needs can attend regular classrooms without facing any discrimination. Provisions can be made for kids with special needs so they can learn with other students with comparable quality and facilities without confining them within the walls of special schools. Several barriers and difficulties in India must be overcome for inclusive education to be successful. Several issues, including a shortage of more highly qualified educators, curricula, resources, decent infrastructure, awareness, a positive outlook, plans, and policies, are making it difficult to expand the idea of inclusive education in India. The practice of inclusive education is still very much in the realm of theory (Kaur, A., Noman, M., & Hashim, R. 2015).

The role of several educational theories, such as social Constructivism, humanistic approach, and universal learning design (UDL), has been discussed to show their relevance in addressing challenges found in inclusive education. Social Constructivism shows how collaborative work can be used inside the classrooms to lessen peer rejection. The humanistic approach stresses the comprehensive growth of all individuals while addressing the needs of learners with disabilities. UDL focuses on promoting an accessible learning environment and eliminating physical barriers to foster successful student growth. Moreover, this chapter underlines the relevance of awareness of how children with impairments can be incorporated into conventional

classrooms and the benefits that inclusive education has for both disabled and non-disabled students.

Importance of Changes in Educational Setup

Lindsay (2007) states that creating a genuinely inclusive educational environment necessitates modifying content, approaches, structures, and strategies. Education content must be diverse and inclusive, representing different cultures, experiences, and perspectives. It should also incorporate materials and resources that cater to the specific needs of students with disabilities. It also revealed that teaching approaches must be flexible, adaptable, and differentiated to accommodate students' varying learning styles and abilities. This may involve using assistive technologies, individualized instruction, and collaborative learning techniques.

Furthermore, educational institutions' structures and physical environments should be accessible and inclusive. This includes providing appropriate infrastructure, such as ramps, elevators, and accessible restrooms, to ensure students with physical disabilities can navigate the campus comfortably. Additionally, the social environment should foster a culture of acceptance, understanding, and support, promoting positive attitudes toward individuals with disabilities.

The Role of Education to Minimize Exclusion

Education is pivotal in reducing exclusion from education, culture, and community. It bridges individuals and their needs and provides opportunities for personal growth, social interaction, and skill development (Marin, 2020). In an inclusive educational

setup, education becomes a powerful tool for empowering individuals with disabilities, enabling them to actively participate in society and lead fulfilling lives. To achieve this, it is essential to adhere to the rights, laws, and regulations that safeguard the rights of students with different abilities. This includes providing reasonable accommodations, ensuring equal opportunities for learning and participation, and promoting inclusive practices. Educators should receive proper training and professional development to effectively address the diverse needs of students with disabilities, fostering an inclusive learning environment (Blyth & Milner, 2002).

Challenges and Barriers to Implementation of Inclusive Education

Inclusive education in the present day faces several obstacles to the integration of learners with impairments in mainstream classes. The significant obstacles encountered in implementing inclusive education which include inadequate teacher preparation, rigid curriculum structures, limited support services, inadequate infrastructure, and gaps in knowledge among parents and educators regarding laws, regulations, and resources about inclusion (Priya,S.2016). Other significant challenges and barriers are listed below.

Attitudinal Barriers: Lack of knowledge about the advantages of inclusive education and negative attitudes might make it more challenging to execute.

Diverse Needs: It can be challenging to meet the different requirements of kids with varying impairments in the same

classroom; this calls for individualized and adaptable teaching strategies.

Lack of Teachers' Training in Inclusive Education: Teachers are not trained and unwilling to modify their teaching methods to accommodate children with special needs and other children. Teachers who are critical players in the teaching-learning process experience several challenges regarding inclusive education. Lack of professional training in dealing with students with disability is one of the obstacles to success in education (Materechera, 2020). Teachers may encounter differences in establishing inclusive learning environments and delivering appropriate support if they have limited fundamental understanding and capacity required to accommodate the different requirements of learners with disabilities. This phenomenon may lead to the pupils' inability to fully realize their potential both academically and personally. Since numerous educators are unfamiliar with the teaching approach in inclusive education, professional training is necessary to choose the best pedagogies to apply rather than depending on personal experience. (Zagona et al., 2017). Additionally, a lack of time and substantial class sizes prevent several educators from properly implementing inclusive education ideas (Materechera, 2020).

Lack of Adequate Facilities and Learning Materials: Many educational settings in modern-day schooling show a need for more facilities and learning resources to respond to impaired students' conditions. Some schools are still not set up to serve pupils with disabilities. Physical obstacles can have an impact on students with disabilities. These barriers include non-inclusive

sports programs, inadequately constructed classrooms, inaccessible facilities namely stairs without ramps, and a lack of adaptive equipment such as braille educational materials, translators for sign language, and screen readers. This underscores the need for academic institutions to adopt a comprehensive strategy to eliminate these physical barriers and ensure a welcoming educational setting that gives every student an equitable chance to succeed.

Lack of access to the mainstream: Only 4 to 5% of children with special needs out of 30 million have access to education. Unfortunately, so many schools do not cater to the needs of these children. Several factors contribute to the failure of inclusive education, including a lack of awareness, a lack of positive attitudes, and a lack of sensitivity on the part of teachers, classmates, parents, and community members. Consequently, these children face discrimination.

Large class size: Typically, there are 60 to 70 students in a class, which makes it difficult to provide individual attention to students, and even more difficult for teachers who are dealing with children who are special needs.

Parental Involvement: Parents must participate in their children's education when they have impairments. Working together, parents and educators can improve the system of support for inclusive education as a whole. To sum up, a thorough analysis of the literature on inclusive education should consider the changing approaches, the proven advantages, and the ongoing difficulties.

To guarantee an inclusive and fair learning environment for all students, it is crucial to investigate the dynamic character of inclusive education and pinpoint areas for development.

Lack of Child-centered and relevant Curriculum: The curriculum is rigid and does not offer many choices to the children. Moreover, the teaching-learning materials are inappropriate for children with and without special needs. Parents, special education teachers, and other relevant stakeholders have been arguing about whether inclusive education can be achieved (Samkange,2013). From Samkange's perspective, the point of contention revolves around the interpretation of inclusion. A few stakeholders are confused by this provision because it requires learners with disabilities and other special needs to attend mainstream classes regardless of their impairments, abilities, or age. Starczewska, Hodkinson, and Adams (2012) support a similar interpretation of inclusive education by arguing that it offers a chance for diverse learners, such as students with disabilities, to participate, and it calls for revisiting pertinent cultural policies and practices. Louw and Wium (2015) support this view and point out that many marginalized learners worldwide do not have the chance to attend school.

Strategies for Inclusive Education

Universal Design for Learning (UDL): Universal Design for Learning (UDL) creates curricular materials and activities so that all students, regardless of ability or disability, may use, understand, and access them.

Collaborative Teaching: Co-teaching approaches, in which special education and general education instructors collaborate to address the different needs of children, are generally beneficial for inclusive classrooms.

Adapted Instruction and Materials: Adapting teaching strategies and resources to different student learning styles and skill levels is essential to inclusion.

Assistive Technology: For students with impairments, the incorporation of assistive technology can offer crucial support, enabling them to participate in the educational process.

Benefits of Inclusive Education

Social Integration: Students with and without disabilities can form relationships and social interactions through inclusive education, which gives everyone a feeling of inclusion.

Academic Achievement: According to research, inclusive classroom environments can help disabled pupils do better academically than segregated ones.

Preparation for the Real World: Through promoting tolerance and understanding, inclusive education prepares pupils for the diversity they will face in the real world.

Conclusion

The education system needs significant reform, with the policy to include students with special needs in regular classrooms. First and foremost, all superstitious beliefs about disabilities need eradication to ensure long-term success for people with disabilities in education and the community. Accurate

documentation of children and youth with disabilities is crucial for effective programming. Additionally, all school officials must prioritize the proper deployment of special educators at primary and secondary school levels. It is ethically pointless for school officials and legislators to make ill-informed assessments about special education or even general education. Government officials should only endorse protocols of special education that have yet to be adequately evaluated or researched in developing countries.

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CHAPTER - 2

EFFECTIVE PEDAGOGICAL PRACTICES IN INCLUSIVE CLASSROOMS FOR STUDENTS WITH DISABILITIES

Maria Saroja, M

*Research Director, IQAC Coordinator &
Associate Professor of Biological Science
St. Ignatius College of Education(Autonomous)
Palayamkottai-2*

ABSTRACT

Today's inclusive education settings have a diverse student population that needs a different pedagogical approach. Both general and special education teachers may need help engaging students in meaningful tasks and promoting learning. Teachers may struggle to effectively reach all students with different abilities in an inclusive education setting. Teachers implement several strategies to keep students engaged in inclusive education settings. Teachers do multiple tasks, such as teaching students, developing engaging lessons, assessing and tracking students' learning, collaborating with teachers and rehabilitation professionals, implementing evidence-based strategies, and delivering instructions in various formats. Inclusive education needs administrators, related service providers, general education teachers, and special education teachers to optimize students' learning. This chapter highlights pedagogical practices in teaching students with disabilities in inclusive education settings.

Keywords: *Inclusive education, pedagogical practices, disabilities*

Inclusive Pedagogy

Inclusive pedagogy is a pedagogical approach that responds to learner diversity in ways that avoid the marginalization of some learners in the community of the classroom. This approach has emerged from research into teachers' craft knowledge committed to educational inclusion principles in their practice (Author et al., 2011). Originally conceived as an alternative to special education for students identified as having disabilities or difficulties in learning, the idea has broadened to include any learners who may be excluded or marginalized by schooling processes. However, the term is used idiosyncratically to mean different things, from a new name for special education to a new way of thinking about mainstream education. Inclusive pedagogy challenges the deterministic practices that pervade contemporary education.

Secondly, differences between students should be addressed by offering alternative provisions, whether through ability grouping within classrooms, settings, and streaming within year groups or separate provisions for 'special needs.' Thus, the structures of many schools have developed in ways that exacerbate differences by providing for some individuals or groups in ways that mark out and reinforce divisions. At an individual level, these practices have been shown to undermine some pupils' sense of self-worth selectively (Boaler et al., 2000) or their willingness to persist in the face of difficulty, while at a societal level, they reproduce social inequalities as specific groups, for example, some ethnic minorities, are over-represented in special education (Harry, 2014). The inclusive pedagogical approach favors classroom practices that encourage collaboration

between children in learning activities, building a sense of inclusive community learning together. However, it is also essential to be mindful of what each individual brings and gains from the complex classroom interaction (Kershner, 2009). Hence, it is not a slavish adherence to group work at all costs but instead asks that teachers draw on their professional judgment to choose the most appropriate approach to teaching and learning in any particular context, being ever mindful about how those choices will impact the opportunities for all children in the class (Valenzuela, 2014). Inclusive pedagogy also calls for a reconceptualization of professional partnerships in learning support by refusing to categorize children according to perceptions of ability. Classroom teachers and other specialists are urged to view children's difficulties in learning as professional dilemmas and to constantly work together to seek new approaches to support children and avoid stigmatization. By placing responsibility for all learners on classroom teachers, specialists are now seen as partners to explore new ways of working with children. In replacing older notions of consultation and advice, this model provides opportunities for professionals to co-construct knowledge by working with others (Trent et al., 1998).

Steps in Making Effective Classroom

Effective teachers tend to have well-managed classrooms, provide students with the maximum opportunity to learn, maintain an academic focus, have high expectations of what students can achieve, adopt a work-oriented style, show enthusiasm, use strategies to keep students on task, motivated, and productive, impose structure on the content to be covered,

present new material in a step-by-step manner, employ direct and explicit instructional procedures, use clear instructions and explanations, demonstrate appropriate task-approach strategies, monitor closely what students are doing, adjust instruction to individual needs; re-teach when necessary; provide Frequent feedback to students, use a variety of resources, spent a significant amount of time in interactive, whole-class teaching (Singh, P,2012).

Practices Understanding the Needs

Identification of diverse needs and planning accordingly is essential to

inclusive practices. Understanding the needs of CWSN with the help of parents can provide a considerable amount of helpful information about the child's needs. The needs of CWSN can be categorized under two categories: learning / academic (curricular and extracurricular) needs and supportive needs (medical or supportive aids and appliances). The child with sensory loss may be unable to hear or communicate in a regular pattern. S/he may not be able to learn or participate in the class as other children without impairment. A child with an intellectual disability or learning disability may have difficulty learning at the same pace or may not be able to learn some competencies as expected of other children in the same class. Firstly, the teacher has to identify learning needs about the curriculum so that s/he can develop effective lesson plans and classroom practices. Secondly, regarding supportive measures and medical rehabilitation/therapy, the child may require specialized equipment and training. Depending on the degree of hearing loss,

a child with hearing impairment may require a hearing aid, which will help with hearing and facilitate learning. The supportive need can be organized with the help of parents or resource support teachers in the community (Khatoon,A., Shilpi,K., & Malik, N.2022).

Educational Planning

A simple way to initiate Planning is by assessing the strengths and weaknesses of the child so that the plans can be developed based on the strengths rather than the weaknesses. A child with hearing loss may be intelligent. Similarly, a visually impaired or an intellectually disabled may have an interest in learning or potential for other activities such as sports, cultural activities, etc. It is essential to identify the learning gaps due to impairment or other problems and initiate education plans to overcome the issue from the educational perspective, especially keeping in view the curriculum objective rather than a medical diagnosis. Planning needs to be done regarding curriculum and learning needs, not just disability; the basis should be understanding the gaps in learning in the curriculum context and not just the textbook. The teacher should be able to understand the objectives /competencies about the subject for the particular class the child is studying rather than just concentrating on textbooks, as the objective /competency of the specific subject can provide her with an open mind to develop a baseline and identify the gaps. Teachers can use creativity to develop plans and methods for the desired outcome.

Effective teachers tend to have well-managed classrooms, provide students with the maximum opportunity to learn,

maintain an academic focus, have high expectations of what students can achieve, adopt a work-oriented style, show enthusiasm, use strategies to keep students on task, motivated, and productive, impose structure on the content to be covered, present new material in a step-by-step manner, employ direct and explicit instructional procedures, use clear instructions and explanations, demonstrate appropriate task-approach strategies, monitor closely what students are doing, adjust instruction to individual needs; re-teach when necessary; provide Frequent feedback to students, use a variety of resources, spent a significant amount of time in interactive, whole-class teaching.

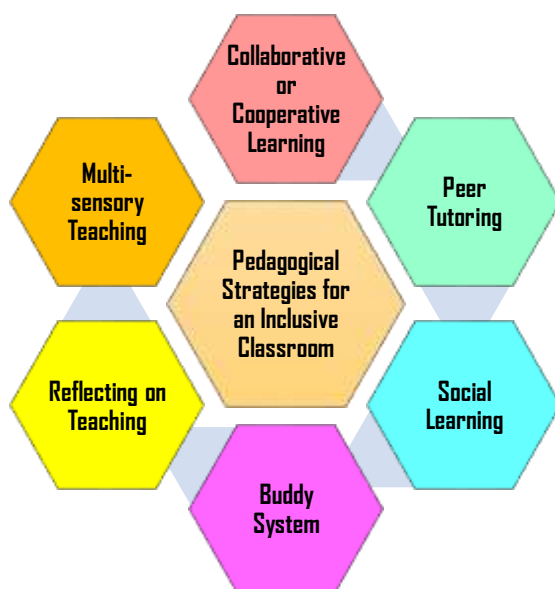
Collaborative or Cooperative Learning

Collaborative and cooperative learning is a learning strategy and process in which a group is formed. Every student can learn by themselves and in a group, helping one another and sharing their knowledge and understanding to enhance their learning. A particular topic can be shared as a common topic with all the students, or separate tasks can be provided to each student, which can be merged for an expected outcome or result. In an inclusive setup where every student is different from each other, they work together as a group regardless of their various abilities or disabilities in a class without competing. They work together and make all possible efforts to achieve their learning objectives. It helps and gives opportunities to utilize their abilities and potential to achieve excellence in their performance.

The Pedagogical strategies for an inclusive classroom

Teachers implement several strategies to keep students engaged in inclusive education settings. Teachers do multiple tasks, such as teaching students, developing engaging lessons, assessing and tracking students' learning, collaborating with teachers and rehabilitation professionals, implementing evidence-based strategies, and delivering instructions in various formats. Inclusive education needs administrators, related service providers, general education teachers, and special education teachers to optimize students' learning (Khazanchi,P.,& Khazanchi,R.2021).

Diagram-1-Showing the pedagogical strategies for an inclusive education



Peer Tutoring

Peer tutoring is an approach in which a weak/low-performing or disabled student is paired with a high-performing student. In which high-performing students teach academic material to low-performing students to achieve their learning goals. In this approach, higher- and low-per-flow-performing enhance their knowledge and mastery of content and develop themselves. In an inclusive classroom, high-performing and low-performing students (without discriminating on their disability) who have a better-performing level or have excellent academic knowledge will tutor confidence. As in peer tutoring, the tutor is of the same age group; they easily share and ask questions and clear their doubts without hesitation, communicate comfortably, and build a rapport, which helps them achieve their academic goals. It can be implemented for all subjects of all ages, groups, and levels. In an inclusive setup, this approach can be helpful for the student who is disabled because the peer tutor will use all the possible effective ways to boost the peer's academic achievement. In this approach, peer tutoring helps one or more fellow students achieve their academic education as they are of the same age and level, so they are closer. A slightly more skilled student is teaching a somewhat less capable student, so they accept one another more easily than a teacher. Famous Russian psychologist Vygotsky conveyed this through the concept of ZPD (Zone of Proximal Development), which states that a child quickly gets closer to the person near him in respect and possession of experience and knowledge. Peer tutoring has been accepted in an inclusive setup. It helps realize the dream of individualized instruction in a better life.

Social Learning

Social learning is the type of learning where a learner learns through observation, experience, and imitating or copying the behaviour of others; it can be learned from our elders or other knowledgeable or experienced persons. Such imitating, copying, or practicing through observation is very helpful for children who are disabled or nondisabled. Because the children who are disabled observe the nondisabled children and can learn new behaviour and knowledge, a nondisabled child will get motivation and inspiration from the disabled children who are being disabled but putting all their effort into achieving their goals. So, social learning means learning something from others through observation and imitating or copying their behaviour.

Buddy System

The buddy system is another approach that is very useful in inclusive classrooms. These are student volunteers of the same age, excellently selected from disabled and nondisabled students who are trained to understand the needs of disabled learners and help them accordingly. The Buddy System is a proactive approach that promotes inclusivity, empathy, and mutual support among students in inclusive classrooms. It aligns with the principles of Universal Design for Learning (UDL) by ensuring that all students have equal opportunities to learn and participate. The buddies help students with special needs to learn in the classroom. The non-disabled child helps the disabled child to adjust his learning. They do regular and co-curricular activities

together and motivate each other. It is a very effective way of teaching in an inclusive classroom.

Reflective Teaching

In an inclusive classroom, two students have different abilities, potentials, capabilities, interests, and needs to learn and develop. It's our responsibility to provide equal access and equal opportunity to all the students to develop according to their place. There are three levels of Teaching: memory level, understanding level, and reflective level. The teacher should use effective Teaching so that the students reflect on their learning. The teacher can create a situation and ask the learners to have a solution to a complex problem. The visually impaired student can try to find out the solution by using his other senses

Multi-sensory Teaching

It involves images of multiple senses (sight, hearing, smell, taste, and touch) during the teaching-learning process. The teacher creates an opportunity or situation where a child can learn during his multiple senses. Teaching will benefit learners by allowing them to learn and retain their learning for a long time. In the inclusive classroom, diversity occurs because learners from different backgrounds, abilities, and disabilities learn together. They have other types of needs and capabilities to learn in the school. We can use single-sensory Teaching to average students through lectures, and demonstrations.

Strategies for Online Teaching

In an inclusive classroom, we have shifted from a traditional classroom

to an online mode due to the pandemic. It is a big challenge for a teacher to keep the student engaged throughout the teaching-learning process. The teacher uses different teaching strategies in an inclusive online classroom to make the classroom exciting and engage the students. We can access many options to instruct the learners in an inclusive online classroom. There are learners with or without disabilities in an inclusive classroom, so we can use different multimedia and content during the Teaching to cater to the diverse needs of learners; for example, if there is a visually impaired student, we can use the audio clip and storytelling for him. If a student has a hearing disability, we can display pictures, videos, etc., to cater to their needs. A teacher should use multiple and diverse examples.

- A teacher should use various resources: text, pictures, images, audio, videos, animations, etc.
- A teacher should establish healthy interactions among the learners.
- A teacher should examine the curriculum, content, and multimedia before delivering.
- A teacher can use port casting, Braille phones, and Braille slates for visually impaired students.

Conclusion

Good pedagogical practices for inclusive education are essential for both- academic and social contexts as they set the stage for interactive

dialogue as well as for appreciating the diversity that contributes to the creation of equal opportunities and the development of an appropriate school ecology for inclusive education. Teachers have to play a vital role in making the teaching-learning process more inclusive as they are the ones who, after parents, are most closely related to children. Hence, teachers are responsible for children's sociological, psychological, and emotional well-being and academic and co-scholastic achievements. If children feel heard and acknowledged in the classroom, they will most likely perform to the best of their capabilities. All they need is guidance and motivation from teachers who would believe in them and their abilities. All this would become easier for teachers if they use the proper pedagogical practices facilitated by their skills and competencies.

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CHAPTER – 3

THE ROLE OF THE TEACHER IN THE SPECIAL NEEDS OF CHILDREN WITH DISABILITIES

Kotra Balayogi

Assistant Professor

Unity College of Teacher Education

Dimapur, Nagaland

ABSTRACT

The special needs depend on the nature of their disability. Children With Special Needs (CWSN), have some form of disability with regards to physical, sensory, developmental, emotional, etc., and a teacher when working with special needs students, two terms to be considered are accommodation and modification. He/she has to be patient, listen, and enjoy spending time and learning together. CWSN demands more time and patience; and also necessitates dedicated instructional tactics in a structured environment that supports and enhances their learning potential. The concepts of detailed planning, individualized instruction, multiple learning styles, team teaching, assessment, etc. are all of direct benefit to them. The present study is presented in the context of the role of teachers in special needs of children with disabilities in an inclusive school and the role of the special educator varies depending on the needs of the children with disabilities in an inclusive school. Many studies show that teachers play a role as parents, leaders, etc. in the classroom from time to time, but teachers face many challenges while meeting the needs of disabled children in

schools and the study, presents solutions which have been about some important problems towards better results in the 21st century.

Keywords: *Challenges and Solutions, Curriculum, Disability, Inclusive Education, Special Needs of Children, Teacher*

Introduction

In present times the role of the teacher has changed from the dissemination of knowledge to playing the role of catalyst for the creation of knowledge, for children by providing various learning situations to the students and ensuring that every child is involved in the process of learning and education is derived from the transmission of cultural heritage from one generation to the next. According to A.S. Artelekar, "Education is the source of that light and sound that has changed our nature and made us beautiful via mental, intellectual, spiritual, and equivalent development, and educating a person is the greatest service by man. That is why just the teacher is called the builder of a good society and nation. The success and failure of a nation depend on both the teachers and the students. A teacher plays a central role in the education system and he/she plays an essential role in empowering students, being creative, interacting with each other, and learning.

Teachers are at the core of any education system. They empower students to access the latest developments, introduce them to new and emerging knowledge, trends, methodologies, etc., and encourage pedagogical reforms. William Glaser stated, "With the majority of today's special education students, we are not dealing with students with physical or mental incompetence,

we are dealing with children who do not learn what we teach" or do not like the way we teach it and improve what we teach and make it usable for students, and we have to improve how we teach it." and a lot is expected from the teacher in the periphery of the school his work is not limited to the classroom only. Still, on the shoulders, there are also complex tasks like establishing a high level of cordial relationship between the school and the community. Still, the first and foremost task is to make your teaching effective. A successful teacher accepts new facts and conveys them easily to other students, and an inclusive teacher creates a small inclusive class or society among the students removes individual differences, feelings of discrimination, and untouchability, and provides equal opportunities to all. The teacher guides, inspires, and shows the light in the darkness to the children, that is why it is said that just as the existence of the waves of the ocean cannot be erased easily, similarly the effect of his/her works and his personality on the students remains till the last moment of the life and an inclusive teacher should always keep in mind the qualities, abilities, skills, mental level, experience, the social behaviour of all children in the class but especially disabled children need more attention.

Disability is such a part of human life that can be found in every person either permanently or temporarily and dreams, aspirations, and hopes of modern India and to give flight to disabled children, depending on the quality of her/his teachers. An inclusive teacher can easily do this by his/her qualities. The objective of inclusion is in any field, to respect and promote the inherent dignity of human beings under this, the active participation of everyone in society is encouraged.

Inclusive Education (IE) is the process of meeting the learning needs of all students in the best possible way and it is a fundamental right to provide equal opportunities to children with disabilities. Especially in this class children with disabilities come from different backgrounds and the teachers try to develop the different qualities inherent in them and it is the dream of every parent that their children learn along with their peers without being discriminated against based on their abilities. IE is a step towards making that dream a reality and inclusive classrooms are a wonderful concept but require a lot of patience and training from teachers to create a balanced classroom and all teachers have to face many challenges in conducting 21st-century inclusivity classrooms.

Children with Special Needs (CWSN)

Physical: These disabilities are issues with movement and balance including conditions like Muscular Dystrophy which is muscle weakness and overall loss of muscle mass, it gets worse with time, Epilepsy and Cerebral Palsy are issues with muscle coordination impaired due to damage to the brain, Loco-motor Disability.

Sensory: These conditions hamper one/more sensory abilities of children and sensory disabilities include deafness, hard of hearing, low vision, blindness, etc.

Developmental: These Disabilities include autism spectrum disorder which affects communication and behaviour, and Down Syndrome (extra full/partial copy of chromosome 21 and hence,

also known as Trisomy 21, which creates various problems and may affect a person's physical as well as mental conditions.

Behavioural/Emotional: Attention Deficit/ Hyperactivity Disorder where children have difficulty playing quietly, talk excessively, often engage in dangerous play without thinking about the consequences, and often shift from one activity to other children with behavioural/emotional disabilities may also feel depressed or anxious and find it difficult to build/maintain interpersonal relationships or to learn new things.

Special Education Philosophy

The core concept of special education is that everyone, regardless of their specific limitations, can learn, and rather than isolating special education children in separate classrooms, public schools are increasingly integrating them into regular classes and special education's goal is to create an environment in which students with impairments can learn effectively.

The Era of Special Education

Exclusion: It is formally withdrawn from school due to inappropriate behaviour/ discipline.

Segregated: It is a system of classifying/separating children based on their disabilities.

Integration: It refers to teaching gifted children in a conventional classroom setting.

Inclusive Education: It refers to all students being taught in the same classroom.

Teacher's Challenges in the Inclusive Classroom

Lack of teacher training: The biggest challenge for an inclusive school is the lack of training of teachers and they do not understand the interests, and desires of children. These problems arise within the class, and children are not able to develop properly and are unable to join the mainstream.

Lack of experience in an inclusive setting: A teacher's experience is very important in running an inclusive classroom; certainly, the experience gained during training can prove useful in the teaching and development of children in the classroom.

Lack of teacher competencies: Teacher competencies are a central feature of the teaching and learning process and actually, when we consider inclusion that becomes more critical in this regard. When teachers do will have not the proper competencies and skills, they will not be able to manage or lead inclusive classrooms properly. Swart and Pettipher (2007) consider educators to be a key force in determining the quality of inclusion.

Lack of appropriate concrete learning materials: The biggest challenge for the teachers in teaching children with disabilities in an inclusive school is also the lack of appropriate and concrete materials visually impaired learners need concrete materials that they can touch and can feel, similarly an inclusive classroom has necessary learning facilities like computers, tape recorders, braille, hearing aids, an overhead projector, and magnifying glasses to make letters large and should be necessary for the class.

Large classrooms: Enrolment in the class beyond a limit is also a challenge for inclusive teachers; it prevents the development of close relationships between teachers and students, hindering the progress of the students and teachers therefore, the teachers are unable to help the learner. So, it is necessary to consider the student-teacher ratio in the classroom. Apart from that teachers are not able to pay full attention to each child just like when a teacher is busy with a slow learner child, so other children start getting bored and start making noise which spoils the atmosphere of the class.

Time allocation: The literature reflects that schools pay no attention to time allocation, due to which the teacher fails to give attention to their subjects and extracurricular activities, and the uncertainty about the class and activities makes students and teachers directionless.

Lack of experiences with severe and profound disabilities: Teachers need more attention in the classroom than normal students to students with serious and deep abilities and he/she does not use skills for removing important challenges by making lesson plans based on individual abilities and the diet chart of each child should be taken into account. If the teacher does not have enough experience, the child cannot progress in his/her skills. Along with this, when there are children of both physical and academic ability in the class, at that time the focus of the teachers is shifted from those children who are of medium ability but the need for proper attention to them is a challenge for the 21st-century teachers.

Not having enough assistance and teaching-learning material:

Usually, an inclusive school has a regular and a special needs teacher in inclusive classes these are due to the nature and size of the classroom but sometimes it is seen these number of assistance teachers are unavailable. Apart from this teachers do have not the resources of teaching they need most, including teaching-learning aids.

Tough behaviour of parents towards teachers: Children with certain types of disabilities behave very sensitively in the classroom and in such a situation, if there is no immediate solution to any problem, sometimes the teachers are treated with insensitive cruelty by the students and their parents which is a challenge for the teacher.

Policy development issues: Many policies and provisions are proposed by the government from time to time for the welfare of the disabled and stakeholders and due to the lack of proper knowledge and awareness by the school and the inclusive teacher has no use. As well parents and also children do not benefit from the policies and other welfare programs and while these are beneficial to them teachers have to face many difficulties in the proper inclusion and welfare of 21st-century children with disabilities.

Role of Teachers in the Inclusive Classroom

- Considering the children's physical, mental, and intellectual abilities, teachers should help them develop fully socially and

become valuable members of society. For this, he should also take the cooperation of the parents.

- Teachers should maintain a positive attitude toward every child and provide equal opportunity and primary education.
- Special classes have become a need for children, and the teacher should create these classes so that students can enjoy them and individual learning willpower can develop in them.
- They can develop cooperative learning skills, social development, better friendship qualities, community building, academic success, etc. qualities in the students.
- Keep the class size small to provide individual attention to the students so that the knowledge given to them is easily understood.
- Prepare a lesson plan before class, and take teaching material or any other needed material if necessary, so that it can be used in the classroom as needed.
- Use unique aids and tools to teach children, and follow the trial-and-error method.
- They can use the tool alternatively if one does not work, then use the other tool.
- Patience and tolerance of the teacher are meant to be the most critical keys in the classroom.
- A flexible, positive attitude is essential in the classroom. The wrong attitude of teachers can affect the cognitive ability of children.
- Develop community spirit in children because inclusive education is beneficial not only for the children but also for the family and society.

- Encourage interaction and friendship among these students so that positivity is generated and better friendships are developed among them.
- Teachers in IE are the enablers of cooperative learning.
- They should set up tasks and activities to encourage students to learn in groups and participate equally.
- Use games designed to build community.
- Share songs and books that teach community living.
- Teach students different ways to help each other.
- Inform the peer tutor about the present profile of the tutee and the levels expected from that tutee in a particular set time frame for the child.
- Seek permission from the parents of the tutor and the tutee for all activities.
- Parents should be informed that the tutor learns by teaching during this activity, and the tutee learns better.

Classroom Management Strategies for Children with Special Needs

Use computer-based programs to grasp the attention of students with autism. Set the desks in the classroom in rows rather than using circular seating around large tables. Students with autism need their own space. The student with ADHD is easily unfocused, so sitting close to the teacher, in front of a familiar, works best. Children with particular desires could be more focused, so keep their desks away from the classroom's windows, doors, and movement centers. Post classroom rules in a prominent

place in the school and review them regularly. Ask students to take turns reading the rules aloud as part of the daily routine.

Ensure all students understand the rules of the classroom and the consequences for not adhering to them. It may be supportive to allow the class to help prepare the classroom rules. Give oral prompts typically, and be sure your directions are easily comprehended. Replicate directions if the student does not understand what you are saying. Use visual aids such as charts, graphs, and pictures. Some computer programs consist of vibrant, energetic pictures that are sure to satisfy. Children with autism tend to act in response well to expertise.

Pair companionable children together when working on a project/participate in classroom performance. Instruct social skills, such as thoughtful raising, taking turns, and contributing, as part of the education core curriculum. Adolescents paying attention to dinosaurs, baseball, dogs, or water sports must show proficiency in that subject. Loud noises, bright illumination, and hot/cold temperatures can interrupt a child philosophy prototype and cause a redundant classroom flare-up. Be watchful of these environmental triggers and eliminate them every time potential.

Educational Implications and Suggestions

- Use peer tutoring and cooperative learning
- Provide different levels of books and materials
- Try thematic instruction
- Provide instant response to learning-disabled pupils
- Encourage supportive learning activities, once possible. Request pupils of varying capacities to work organized on an exact plan or toward a mutual goal line.

- Offer sufficient space around demonstration boards and other apparatus for physically disabled students.
- Provide written or pictorial directions.
- Use simple words, languages, and sentences.
- Deliver a variation of multisensory practices for pupils.
- Offer clear verbal guidelines.
- Deliberate suitable schoolroom behavior at regular breaks.
- Create regular eye contact.

Conclusion

Children with particular needs are no longer isolated in special education classrooms and only seen in the recreational area/in the lunchroom, and those with specific requirements prosper in the being there of their upper class. Teachers are called upon to be creative and innovative when preparing classrooms, and managing an all-inclusive classroom is easier if a simple, modified instruction strategy for the extraordinary needs of students is implemented. This chapter stresses that an inclusive teacher is a beautiful personality that can help children be awarded, empowered, and successful in fulfilling their purpose in life; therefore, the positive attitude and cooperation of the teachers move forward in the chain. Whether the child has any disability, teachers can help children conquer the world with their knowledge and support. Inclusive teaching and learning are designed in such a way as to provide fair access to knowledge to students with disabilities; therefore, inclusion teachers consider different needs and adopt different instructional systems to attract different learners, and the study will help to learn more about the role of teachers in 21st century inclusive classroom challenges and solutions.

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CHAPTER- 4

EXPLORING THE EFFECTIVENESS OF ASSISTIVE TOOLS FOR DIVERSE NEEDS IN CHILDREN WITH DISABILITIES: A REVIEW

Ramya, M

Sr.Lecturer

Department of Special Education

NIEPMD, Chennai.

ABSTRACT

Assistive tools play a crucial role in supporting children with disabilities, enhancing their abilities, and providing them with opportunities to participate fully in various activities. Children with disabilities face unique challenges that can impact their ability to participate in everyday activities and access education. Assistive tools and technologies are designed to address these challenges, providing support and enhancing the abilities of these children. While there are challenges related to access, affordability, and customization, the overall impact of these tools is overwhelmingly positive. Continued research and development, along with increased access and support, are essential to maximize the benefits of assistive technologies for children with disabilities. This review aims to explore the effectiveness of various assistive tools in meeting the diverse needs of children with disabilities, focusing on their impact on mobility, communication, education, and overall quality of life.

Keywords: *Assistive tools, technologies, disabilities*

Introduction

The world of childhood disabilities is a realm of incredible diversity, encompassing a wide range of unique needs, abilities, and challenges. In this chapter, we embark on a journey of exploration, seeking to unravel the profound impact of assistive tools on the lives of children with disabilities. This chapter of this comprehensive review explores a specific aspect of these tools, shedding light on their effectiveness in addressing the multifaceted needs of this exceptional population. As we begin this intellectual journey, it is crucial to recognize that childhood disabilities know no boundaries. They encompass physical disabilities, sensory impairments, cognitive differences, and a myriad of neurodevelopmental conditions. Each child, navigating their unique path through life, presents a distinctive mosaic of strengths and limitations, dreams and aspirations, necessitating a diverse array of assistive tools tailored to meet their specific requirements.

Assistive tools are not merely objects; they are the conduits through which children with disabilities access opportunities, realize their potential, and assert their agency in the world. These tools serve as bridges, connecting them to educational opportunities, facilitating communication, enhancing mobility, and providing sensory stimulation. More than that, assistive tools are instruments of empowerment and inclusion, challenging societal limitations and promoting a vision of a more equitable world where all children, regardless of their abilities, can thrive.

Throughout our exploration, we will not shy away from acknowledging the challenges that persist in the realm of assistive tools. Accessibility, affordability, awareness, and the rapid pace of technological advancements are among the hurdles we will address. Additionally, we will highlight the need for continued research and development, with a focus on creating cutting-edge assistive technologies that incorporate user feedback to ensure their effectiveness. In an increasingly inclusive educational landscape, the empowerment and education of children with disabilities have become a paramount concern. Assistive tools and devices have emerged as a powerful resource to bridge the gap between diverse needs and educational opportunities. This article embarks on a comprehensive review to explore the effectiveness of assistive tools for children with disabilities, shedding light on their impact, challenges, and promising prospects in the field of special education.

Understanding Diverse Needs

The first step in comprehending the significance of assistive tools for children with disabilities is acknowledging the remarkable diversity within this population. Disabilities among children encompass a wide range, including physical disabilities, sensory impairments, cognitive challenges, and neurodevelopmental disorders. Each child's journey is unique, with distinct needs, strengths, and limitations, demanding personalized solutions that cater to their specific circumstances.

Understanding assistive tools

Assistive tools encompass a wide array of devices, technologies,

and strategies designed to support children with disabilities in their educational journey. These tools are tailored to meet individual needs, fostering inclusion and participation in the classroom.

The Role of Assistive Technology

Assistive technology plays a pivotal role in facilitating communication, mobility, and learning. Augmentative and alternative communication (AAC) devices, speech-generating devices, and communication apps empower children with speech and language impairments to express themselves effectively. Mobility aids such as wheelchairs, walkers, and adaptive keyboards enhance physical access, enabling children with mobility impairments to navigate their environment and access digital resources.

Tools for Cognitive and Learning Disabilities

Children with cognitive and learning disabilities benefit from assistive tools like text-to-speech software, screen readers, and graphic organizers. These tools provide multiple means of representation, enabling children to access and process information in ways that align with their learning styles.

Assistive Tools for Mobility: Mobility impairments can profoundly affect a child's independence, participation, and overall well-being. Assistive tools designed to address mobility issues have evolved significantly in recent years. From traditional wheelchairs and walkers to more advanced solutions like exoskeletons and powered mobility devices, these tools offer

opportunities for children with mobility challenges to engage with their surroundings and live life to the fullest. In this Chapter, we delve into the nuances of mobility assistive tools and the importance of customization to meet individual needs.

Mobility Assistance Tools: Mobility impairments can significantly affect a child's ability to move, explore, and interact with their environment.

Wheelchairs: Traditional manual wheelchairs or powered wheelchairs provide children with mobility challenges and the means to move independently.

Mobility Scooters: These devices are particularly helpful for children with limited upper body strength, allowing them to navigate both indoor and outdoor spaces.

Adaptive Tricycles: Designed for children with mobility impairments, these tricycles offer a fun way to improve physical strength and coordination.

Exoskeletons: With cutting-edge technology in mobility assistive tools, exoskeletons provide powered support to help children with paralysis or muscle weakness stand and walk. Customization is essential in this category. The right mobility tool must be chosen based on a child's specific needs, taking into account factors like mobility level and individual preferences.

Assistive Tools for Communication

Effective communication is a fundamental human right, and for children with disabilities, it can be a monumental challenge. Highlights the significance of augmentative and alternative

communication (AAC) devices, which include speech-generating devices, communication boards, and software applications. These tools empower children with speech impairments or non-verbal conditions to express themselves, build relationships, and actively participate in educational and social contexts. The chapter also underscores the importance of tailoring AAC solutions to suit each child's unique communication style.

Communication Assistance Tools: Many children with disabilities face communication barriers, making it challenging for them to express themselves.

Speech-Generating Devices (SGDs): These devices generate speech for children who cannot speak independently.

Communication boards: They are visual aids with symbols, words, or pictures that help children communicate their thoughts and needs.

AAC apps are software applications that run on tablets or smartphones, providing a portable and customizable communication solution.

Eye-Tracking Devices: These tools allow children to communicate by tracking their eye movements and selecting on-screen options.

Effective communication tools are tailored to a child's unique communication style, ensuring they can express themselves, build relationships, and participate actively in educational and social contexts.

Assistive Tools for Learning

Inclusive education is a cornerstone of a more equitable society, and assistive tools are indispensable in creating accessible learning environments. The chapter explores the role of tactile learning materials, braille books, screen readers, and adaptive software programs in supporting children with diverse cognitive and sensory needs. These tools facilitate access to education and ensure that children with disabilities have the opportunity to learn and thrive alongside their peers.

Learning Assistive Tools

Inclusive education is a fundamental right for all children, and assistive tools play a pivotal role in making it accessible.

Tactile Learning Materials: Braille books, tactile diagrams, and 3D models support children with visual impairments.

Screen Readers: Text-to-speech software enables children with reading difficulties or visual impairments to access written content.

Adaptive software programs

They are educational software that adjusts to a child's learning pace and style, providing personalized learning experiences. Augmented reality (AR) and virtual reality (VR) are immersive technologies that enhance learning experiences, particularly for children with autism or sensory processing disorders. These tools cater to diverse cognitive and sensory needs, ensuring that all

children can access quality education tailored to their requirements.

Assistive Tools for Sensory Stimulation

Sensory impairments, prevalent among children with disabilities, can impact their perception and interaction with the world. The chapter shines a light on sensory integration tools, including sensory rooms, tactile toys, and sensory-friendly apps. These tools provide a multisensory experience that aids sensory development and emotional regulation, enriching the lives of children with disabilities.

Sensory Stimulation Tools: Sensory impairments are common in children with disabilities, affecting their perception and interaction with the world.

Sensory Rooms: specially designed spaces with interactive lighting, sound, and tactile elements to stimulate the senses.

Tactile Toys: toys with different textures, shapes, and materials that promote sensory exploration and tactile stimulation.

Sensory-Friendly Apps: digital applications designed to engage and stimulate a child's senses through interactive experiences.

These tools offer a multisensory approach to support sensory development and emotional regulation in children with disabilities.

Tailoring Assistive Tools to Individual Needs

The effectiveness of assistive tools lies in their customization. No one-size-fits-all solution exists, and a thorough assessment of a

child's strengths, limitations, and preferences is essential. Collaboration among parents, carers, educators, and healthcare professionals is crucial to selecting and adapting tools to meet the unique needs of each child.

Effectiveness of Assistive Tools

Numerous studies and research endeavours have explored the impact of assistive tools on the education of children with disabilities. Reviews consistently highlight their effectiveness in improving academic achievement, communication, and overall quality of life for children with diverse needs. By tailoring tools to individual requirements, educators can provide targeted support, fostering a more inclusive learning environment.

Challenges and Considerations

While the benefits of assistive tools are evident, challenges remain. Financial constraints, lack of awareness, and the need for ongoing training for educators are common obstacles. Additionally, the rapid evolution of technology requires a dynamic approach to tool selection and implementation.

Promising Prospects

Advancements in assistive technology continue to broaden the horizons for children with disabilities. Innovations like wearable devices, virtual reality, and artificial intelligence hold promise for further enhancing the educational experience for these students. The collaboration between educators, parents, and researchers is vital to harnessing the full potential of these tools.

Recommendations

Awareness and Training: Educational institutions and authorities should prioritize comprehensive training programs for educators and parents on the effective use of assistive tools.

Financial Support: Governments and educational institutions must allocate resources to ensure that children with disabilities have equitable access to necessary assistive devices.

Research and Development: Encourage ongoing research and development efforts to enhance the affordability, accessibility, and efficacy of assistive tools.

Collaboration: Promote collaboration among educators, parents, researchers, and policymakers to create a more inclusive educational environment.

Conclusion

"Exploring the Effectiveness of Assistive Tools for Diverse Needs in Children with Disabilities: A Review" has offered an insight into the transformative power of assistive devices and tools in special education. While challenges persist, the future is promising as technology continues to evolve and inclusivity remains at the forefront of educational initiatives. By understanding and harnessing the effectiveness of assistive tools, we can empower children with disabilities to reach their full potential and embark on a path of lifelong learning and achievement.

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CHAPTER- 5

HOW DOES CO-TEACHING WORK? AN OVERVIEW OF INCLUSION AND CO-TEACHING.

Halimabi, M C

*Research Scholar
Gandhi Gram Rural Institute
Dindigul, Tamil Nadu.*

ABSTRACT

Inclusion in education is a practice where students with special educational needs are integrated into general education classrooms. The goal is to provide all students, regardless of their abilities or disabilities, access to the same educational opportunities. Inclusion is based on the belief that all students benefit from being part of a diverse learning environment. By effectively implementing co-teaching and inclusion practices, schools can create a supportive and dynamic learning environment that benefits all students. Co-teaching is the practice of pairing teachers together in a classroom to share the responsibilities of planning, instructing, and assessing students. In a co-teaching setting, the teachers are considered equally responsible and accountable for the classroom. In co-teaching, educators in the general education classroom focus on integrating special education strategies and techniques into daily lessons that will enable students to achieve the goals of their individualized education programs (IEPs).

Keywords: *Inclusion, Individualized Education Programs, co-teaching*

Introduction

Co-teaching is putting two teachers in a classroom together to share the duties of lesson design, teaching, and student evaluation. The teachers are held equally responsible and accountable for the classroom in a co-teaching situation. To create a more inclusive classroom, co-teaching frequently occurs between general and special education teachers. As defined under the definition of inclusion, it is "a belief system that embraces the reality that diverse individuals are included within a positive learning environment." Stein (2016), page 8 The Individuals with Disabilities Education Act (IDEA), a federal law that guarantees students with disabilities access to free public education (FAPE) in the "least restrictive environment" (LRE) to "the maximum extent that is appropriate," is the foundation of the movement towards inclusion. An inclusion classroom is often chosen as the least restrictive environment since it allows students with special education needs to receive the support they require as part of their Individualized Education Program (IEP), build a stronger social connection with their peers, and benefit from the curriculum of the general education class. As you would have anticipated, having two teachers in charge of a classroom creates many options for teachers and the pupils. According to Ferguson, Desjarlais, and Meyer (2000), co-teaching in an inclusion classroom has several advantages.

Need and significance of Co-Teaching

The need and significance of co-teaching lies in its ability to create an inclusive, supportive, and dynamic learning environment that benefits students and teachers. By addressing

diverse learning needs, supporting teacher workload, and promoting professional growth, co-teaching enhances the quality of education and fosters a collaborative school culture with more chances for teachers and students to interact directly with one another, fostering stronger bonds. By legal requirements, students with disabilities receive access to the general education curriculum, which includes the classroom community and activities they otherwise wouldn't participate in. When necessary, specialized teaching is still available to students. The increased resources, support, and diversity in the classroom can help all students. Greater independence for disabled students Lessons that are stronger and more innovative due to teachers sharing the planning process By highlighting each other's skills and limitations, fostering camaraderie, and sharing the workload in the classroom, teachers can help one another.

What crucial components make up co-teaching?

According to the cooperating teachers, the five most important factors were sharing leadership in the classroom, collaborating on lesson plans for co-taught instruction, showing mutual respect and trust, being honest with one another even when it was difficult, and the teacher candidate taking charge of planning. There are numerous ways to put into practice a co-teaching collaboration. One of the six models listed below is frequently used to execute co-teaching (Cook & Cook, 2004):

Observe One, Teach One: In this methodology, one instructor conducts the class while the other monitors the pupils to spot problems and gauge their progress. This approach enables the co-

teaching pair to continuously improve their methods and better fulfill the requirements of all of the students in their classroom by allowing the observing teacher to provide input on which material and activities are most beneficial for kids.

One Educate, One Drift: This strategy is comparable to the "One Teaches, One Observes" concept, but instead of having only one instructor instruct the class, two teachers work together to support and assist the pupils as needed.

Station Instruction: With station teaching, the session is broken up into sections as the teachers educate different parts of the subject to different groups of pupils or cycle between them. This enables teachers to offer specialised assistance when presenting content in areas where they may have greater experience or if their teaching style is more appropriate for a certain section of a course.

Teaching in Parallel: The teachers divide the class into two groups and present the identical material to each group concurrently using the parallel teaching technique. The smaller groups in this setup allow for closer supervision and greater opportunity for teacher-student interaction.

Alternate Instruction: In this approach, one instructor instructs a larger class while the other works with a smaller class of students who require more care and support.

Learning in Teams: One of the most rewarding forms of co-teaching is team teaching, which demands the strongest

partnerships. In a "tag team" delivery of education, the co-teachers in team teaching split the workload.

Co-teaching Models in Use: A co-teaching pair doesn't always employ the same instructional strategy. The teachers' distinct teaching styles, the particular requirements of the classroom, and the lessons being taught all influence the technique they select. Students can benefit from a seamless and productive learning environment when the co-teachers are ready to employ a variety of models and feel at ease working together in the same classroom.

New co-teachers will undoubtedly need some time to acclimatise, and they must be committed to making their relationship work. Co-teachers must balance differing degrees of preparation for each model, discrepancies in their subject-matter expertise and instructional approaches, and the unique requirements of each student. We'll go over strategies for co-teachers to strengthen their relationship and work out differences that are getting in the way of them giving their students the best possible instruction in a later blog article.

The Cycle of Co-Teaching

The ongoing, cooperative procedures involved in an effective co-teaching practice are represented by the co-teaching cycle. The cycle gives instructors the framework they need to hasten their professional development while serving as a mirror to their practice.

The following diagram depicts the Integrated Collaborative Teaching Cycle



The advantages of co-teaching

Supporting both differentiation and inclusion

- More time spent alone.
- more attentive to the requirements of students.
- simultaneous education in small groups and classes more instruction and feedback.
- Earlier intervention in the classroom.

Comprehensive curriculum and assessment

- Planning and execution done in collaboration.
- Collaborative reflection on the effectiveness of teaching and learning outcomes.
- improved knowledge of student development.
- ongoing professional development.
- exposure to other viewpoints, approaches, and ideals.
- promotes the mentoring process.

Developing professionally

- ongoing professional development.
- Exposure to other viewpoints, approaches, and ideals.
- promotes the mentoring process.
- improves teaching abilities.
- increases possibilities for achieving professional objectives.

Effectiveness of the instructor

- Transparent classroom procedures.
- collaborative practice evaluation.
- favourable school climate.
- increased confidence and sense of legitimacy.

Student and teacher welfare

- atmosphere that is responsive and inclusive.
- bolsters emotional and social support.
- promotes tolerance for and knowledge of diversity.
- gives a framework for modelling healthy interactions.
- decreases stigma and prejudice.
- lowered burnout.
- encourages social and academic abilities in learners.

Enhancing the quality of education

- enables more adaptability.
- broadens the pedagogical approach and knowledge.
- permits more impactful collaborative feedback and a variety of instructional methods.

- increases the efficacy and efficiency of evaluation.
- allows for pedagogy to be improved and thought about.

All students receive higher-quality instruction when an inclusive environment is created utilising co-teaching techniques. This also promotes professional competence and teamwork among colleagues and builds respect within the school and the larger community.

Technology and design

During the curriculum's Textiles subject, students create clothing. From the front of the classroom, one co-teacher explains the idea of sustainable materials while the other circulates the room to monitor students' attention and assist with their queries. The pupils go on to sewing machines after the theory portion is finished. While the other teaches them practical skills and safety precautions, the teacher who oversaw the theory now helps the students.

Finally, while we work to better serve our kids with a variety of needs and talents, it's critical to take into account the particular circumstances of each school when putting these techniques into practice. To guarantee that all kids have access to high-quality education, schools need funding, infrastructure, personnel training, and support, and instructors need the time, materials, and assistance in the classroom. We are here to help you and your children with special needs create schools that are safer, more engaging, and more inclusive because it is something that is worth working towards.

Conclusion

To create a more inclusive classroom, co-teaching frequently occurs between general and special education teachers. According to the definition of inclusion, it is "a belief system that embraces the reality that diverse individuals are included within a positive learning environment."2016 Stein, p. The teacher-to-student ratio is improved via co-teaching, which enhances individualized education and boosts student engagement. The rising use of technology in the classroom has made it more crucial than ever to employ strategies like co-teaching because it is so distracting for pupils. A successful inclusive teaching technique for both students with and without disabilities is co-teaching. Studies have shown that having two teachers in the classroom to offer extra help was very beneficial to the pupils. successful inclusive teaching technique for both students with and without disabilities is co-teaching. Studies have shown that having two teachers in the classroom to offer extra help was very beneficial to the pupils. According to research, learning is deeper when it occurs during active, social, contextual, engaging, and student-owned educational situations. The development of spoken communication, self-management, and leadership abilities are among the advantages of collaborative learning.

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CHAPTER – 6

INCLUSIVE AND INTEGRATED APPROACHES TO SPECIAL EDUCATION

DAVASUBA, S

*Assistant Professor of Mathematics
V.O.C. College of Education, Thoothukudi-8*

ABSTRACT

Inclusive Education is a process for increasing participation and reducing exclusion in a way that effectively responds to the diverse needs of all learners. It takes into account the individual teaching and learning needs of all marginalized and vulnerable children and young people, including street children, girls, children from ethnic minorities, children from economically disadvantaged families, children from nomadic/refugee/displaced families, children with HIV/AIDS and children with disabilities. It means that all students attend and are welcomed by their neighbourhood schools in age-appropriate, regular classes and are supported to learn, contribute, and participate in all aspects of the life of the school. Inclusive education is about how we develop and design our schools, classrooms, programs, and activities so that all students learn and participate together. This chapter highlights about Intellectually Challenged Students in Inclusive Classrooms and the Suggestions for Inclusion of Hearing Impaired Child.

Keywords: *Inclusive Education, disabilities, Hearing Impaired*

Introduction

Inclusive Education is a process involving changes in the way schools

are organized, in the curriculum, and in teaching strategies, to accommodate the range of needs and abilities among pupils. Through this process, the school builds its capacity to accept all pupils from the local community who wish to attend and, in so doing, reduces the need to exclude pupils. Inclusive education affects not just the conceptualization of special educational needs and the nature of education provided for students with special educational needs, but it calls into question the broader aims of education, the purposes of schools, the nature of the curriculum, approaches to assessment, and schools accommodation to diversity. In its broadest and all-encompassing meaning, inclusive education, as an approach, seeks to address the learning needs of all children, youth, and adults with a specific focus on those who are vulnerable to marginalization and exclusion. It implies all learners, young people - with or without disabilities being able to learn together through access to common preschool provisions, schools, and community educational settings with an appropriate network of support services. This is possible only in a flexible education system that assimilates the needs of a diverse range of learners and adapts itself to meet these needs. It aims at all stakeholders in the system (learners, parents, community, teachers, administrators, and policymakers) to be comfortable with diversity and see it as a challenge rather than a problem.

Intellectually Challenged Students in Inclusive Classrooms

Intellectually challenged can be incorporated in the inclusive classroom while engaging in teaching through a variety of activities including the suggestions presented in the previous sections. Incorporating strategies for attending to diverse needs in classrooms would be particularly useful in developing CCE processes for the classroom. NCERT's CCE guidelines, in its publication for primary classrooms, offer indicators of assessment as follows; however, any of the approaches explained earlier, or a combination can be utilized to develop a plan for the CCE in an inclusive classroom:

Observation and Recording: Reporting, narrating and drawing, picture-reading, making pictures, tables, and maps.

Discussion: Listening, talking, expressing opinions, finding out from others.

Expression: Drawing, body movements, creative writing, sculpting.

Explanation: Reasoning, making logical connections.

Classification: Categorising, grouping, contrasting, and comparing.

Questioning: Expressing curiosity, critical thinking, developing questions.

Analysis: Predicting, making hypotheses and inferences.

Experimentation: Improvising, making things and doing experiments.

Concern for Justice and Equality: Sensitivity towards the disadvantaged or differently-abled, showing concern for the environment; and Cooperation.

Suggestions for Inclusion of Visually Impaired Child

Reserve a seat in the front row of the classroom (or, closer to the teacher).

- Keep the passages and available open spaces in the classroom clear.
- Provide students with tactile graphs and diagrams
- Consider alternative assignments (For example: the teacher may rely on the blackboard to write questions or problems for the class to copy and answer in their notebooks; the student with VI, alternatively, can work on the worksheet prepared with questions or problems, and answer them directly in these).
- Keep in mind, that there may be instances when the VI student may not have had exposure to the material discussed in class and for which the child may not have prior experiences or references (for example, food in altered form: popcorn v/s whole corn, sliced mango v/s the whole fruit/shape; materials and sources: water-ice, vapor; curd-buttermilk; milk-cows), occupations (tailor, doctor, engineer).
- Use educational aids like talking books, tape recorders, computers, and Use of color, contrast, and texture.

Suggestions for Inclusion of Hearing-Impaired Child

Get to understand the nature of your HI student's hearing loss and how you can include the student with the rest of your class.

- Focus on the development of language, communication, and concepts in students with HI.
- If possible, seek assistance from locally based experts, educators, family members, special educators, and speech and hearing specialists, to enhance teaching in the inclusive classroom.
- Use assistive devices where available, to facilitate teaching-learning in the classroom.

Barriers of Inclusive Education

Attitudes : The greatest barriers to inclusion are caused by society, not by particular medical impairments. Negative attitudes towards differences result in discrimination and can lead to a serious barrier to learning. Negative attitudes can take the form of social discrimination, lack of awareness, and traditional prejudices. Regarding disabled children some regions still maintain established beliefs that educating the disabled is pointless. Often the problem is identified as being caused by the child's differences rather than the education system's shortcomings. When looking at attitudes as barriers to inclusion of persons with disabilities, two questions arise: First of all what is a 'barrier', and, secondly, when does an attitude become a barrier? A barrier is anything that blocks equitable access to goods, services, or information for a person or group of people. Barriers can be physical or programmatic. Physical and programmatic barriers are not due to the characteristics of the person or group of people but rather to the attitudes held by others towards that individual or group. Negative attitudes often result in denying basic human and civil rights afforded to other members of their community.

Physical Barriers

The vast majority of centers of learning are physically inaccessible to many learners, especially those who have physical disabilities. In poorer, particularly rural areas, the centers of learning are often inaccessible largely because buildings are rundown or poorly maintained. They are unhealthy and unsafe for all learners. Many schools are not equipped to respond to special needs, and the community does not provide local backing. Environmental barriers included: doors, passageways, stairs and ramps, and recreational areas. A major problem identified by many students is physically getting into school.

Curriculum Related Barriers

In any education system, the curriculum is one of the major obstacles or tools to facilitate the development of a more inclusive system. Curriculum is often unable to meet the needs of a wide range of different learners. In many contexts, the curriculum is centrally designed and rigid, leaving little flexibility for local adaptations or for teachers to experiment and try out new approaches. The content might be distant from the reality in which the students live, and therefore inaccessible and unmotivating.

Teacher's attitude

Teachers' abilities and attitudes can be major limitations for inclusive education. The training of staff at all levels is often not adequate. Where there is training it often tends to be fragmented, uncoordinated and inadequate. If teachers do not have positive attitudes towards learners with special needs, it is unlikely that these children will receive satisfactory education.

Mis-Information

Some of the greatest barriers associated with inclusion in education are negative attitudes. As with society in general, these attitudes and stereotypes are often caused by a lack of knowledge and understanding. The attitudes and abilities of general education teachers and Para educators in particular can be major limitations in inclusive education. Training teachers and Para educators to understand and work with children with disabilities is often inadequate, or it may be fragmented and uncoordinated. If educators have negative attitudes toward students with special needs or have low expectations of them, children will unlikely receive a satisfactory, inclusive education.

Language and communication

The early studies of classroom language shared several common assumptions, drawn from work in sociolinguistics. For example, sociolinguists hold that differences in oral communication reflect social variables, such as gender, ethnicity, social class, and age. When children enter school, their mode of oral communication has been influenced by these factors; they also already work within a communication system, which consists of language structure (sound structure, inflection, syntax), content (meaning), and use (purposes of communication, appropriate forms of communication). Teaching and learning often occur in a language that is not the first language of some learners. This places these learners at a disadvantage and usually leads to significant linguistic difficulties, contributing to learning breakdown. Second language learners are particularly subject to low expectations and discrimination.

Funding

A major constraint is serious shortages of resources – lack of schools or inadequate facilities, lack of teachers and/or shortage of qualified staff, lack of learning materials, and absence of support. The inadequacy of resources available to meet the basic needs in education is a pervasive theme (Dakar Framework for Action, 2000).

Conclusion

Inclusive education strives to address the learning needs of children with special needs, focusing on those who are being isolated and excluded. The philosophy behind inclusive education is to promote opportunities for all children to participate, learn, and have equal treatment, irrespective of their mental or physical abilities. While the awareness of inclusive education in schools throughout the country is still in its infancy, educational institutions are skeptical about having normal and exceptional children studying in the same classroom. In circumstances where a former excluded child is given admission into a mainstream classroom, the outcome of the action is questionable. His terminological shift from 'integration' to 'inclusion' in special education and the arbitrary use of one term or another have distorted the real meaning of both. This semantic confusion suggests that when it was spoken of "integration," the socio-educative actions practiced had this goal but fell into a mere inclusion of individuals in the already set-out structures (ordinary schools in most cases). Meanwhile, the current "inclusive education" or "inclusive pedagogy," even referring to inclusion, pursues and practices integration into society. It must be remembered that genuine special education is personalized, and

therefore, it will sometimes require creating and arranging spaces and other facilities to meet every student's specific needs. We consider this semantic distinction to be crucial because each concept refers to different sociological logics that have diverse social educative implications, which range from educational policies to the selection of teaching methods and resources in the classroom.

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CHAPTER – 7

AN EMPIRICAL STUDY ON THE ADOPTION AND UTILISATION OF A VIRTUAL LEARNING ENVIRONMENT AMONG STUDENTS IN HIGHER EDUCATION

SARAVANAN, D. P

Assistant Professor

*Department of Educational Planning and Administration
TamilNadu Teachers Education University, Chennai*

PRIYANKA, G

Ph.D. Research Scholar

*Department of Educational Planning and Administration
TamilNadu Teachers Education University, Chennai*

ABSTRACT

The adoption and utilization of (VLEs) in education have revolutionized the way educators deliver content and students engage with their learning. With the dawn of the digital era, institutions recognized the need to transition from traditional teaching methods to more adaptable and flexible platforms, enabling learning beyond the confines of a physical classroom. VLEs, such as Moodle, Blackboard, and Canvas, offer students 24/7 access to course materials, interactive forums, and personalized feedback. These platforms support diverse teaching strategies, facilitate global collaborations, and provide robust analytical tools, allowing educators to monitor progress and tailor interventions. However, while VLEs have significantly enhanced the educational landscape, they also pose challenges.

Some educators face steep learning curves, and students without reliable internet access can be at a disadvantage. Yet, as technology continues to advance and institutions invest in training and infrastructure, the potential of VLEs in enriching higher education is immense. In summary, virtual learning environments have positively impacted students by offering greater flexibility, diverse resources, personalization, and opportunities for global collaboration. These advantages have made online education an increasingly popular and effective mode of learning for students of all ages and backgrounds.

Keywords: *Digitalization, adoption, virtual learning environment and higher education*

Introduction

Virtual learning environments are integrated throughout educational institutions. Hence, it appears inconsequential to inquire on their level of acceptability. Nevertheless, transforming these challenges into a significant enhancement in pupils' academic performance poses a considerable difficulty. Numerous factors exert an influence on students' academic performance, rendering it very challenging to comprehensively identify and evaluate the individual impact of each variable on learning outcomes. The utilization of learning analytics in higher education is not a new concept, since the industry has historically depended on comprehensive datasets. However, the current analytical systems can gather significant volumes of data in a centralized and standardized fashion. Furthermore, these systems have the capability to expedite the analysis of data and promote

the distribution of analysis results in easily understandable formats. Furthermore, the progress made in the field of learning data mining techniques, along with enhancements in data storage and processing capacities, has facilitated the surpassing of conventional retrospective reports. The advancements made thus far have established a foundation for a hypothetical future whereby it becomes feasible to forecast learning outcomes for potential students, particularly with regards to the likelihood of attrition, obstacles pertaining to assimilation, and impediments encountered during the learning process.

Theoretical overview of the study

Learning analytics plays a crucial role in the realm of virtual learning, providing educators and institutions with valuable insights into student performance and engagement. In virtual learning environments, data is generated at an unprecedented scale, including information about students' interactions with digital resources, participation in online discussions, completion of assignments, and assessment results. Learning analytics harnesses this data to help educators make informed decisions about curriculum design, teaching strategies, and individualized support. By analyzing patterns in student behavior, learning analytics can identify at-risk students early in their virtual learning journey. This proactive approach allows educators to intervene and provide targeted assistance, ultimately improving retention rates and student success. Additionally, learning analytics can offer personalized recommendations to learners, suggesting relevant resources or adaptive learning paths tailored to their individual needs and preferences.

Furthermore, institutions can use learning analytics to continuously evaluate and refine their virtual learning programs. Data-driven insights enable educators to identify areas for improvement, optimize course materials, and enhance the overall learning experience. As virtual learning continues to evolve, learning analytics becomes an indispensable tool for both educators and institutions, empowering them to adapt and thrive in the digital age. Interaction is a vital element within virtual learning environments; nevertheless, there exists a dearth of understanding on the precise kind of interactions that facilitate effective learning.

The primary objective of this study is to examine interaction data obtained from (VLEs) by employing data extraction and data mining methodologies. The purpose of this study is to ascertain linkages, extract relevant information, and get insights into the learning processes. The emergence of learning analytics as a discipline may be attributed to the convergence of two significant themes. One prominent trend is to the increasing utilization of virtual learning environments (VLEs) inside educational establishments. The data is obtained through the acts and activities carried out by the several stakeholders inside the educational institution. The utilization of analytical tools encompasses theoretical frameworks that analyze the behaviour shown by various stakeholders within the educational setting, and the subsequent influence of this behaviour on educational results. The technologies comprise both physical and virtual elements, encompassing analytical algorithms, reports, and visualization tools that are accessible in many formats.

External limitations encompass many customs, practices, and legal obligations that pertain to the realm of data privacy. Finally, internal constraints refer to the competencies and capacities of the many players involved in the learning analytics endeavour.

Purpose of scoping Review

The most pertinent factors are linked to the domain of virtual space, temporal considerations, allocation of resources, and strategic approaches. Virtual Learning Environments provide educational institutions the advantage of accessing substantial amounts of material and effectively managing its dissemination to members, ensuring simplicity, quality, and validity. Virtual Learning Environments (VLEs) include distinct characteristics and capabilities that render them conducive to the exploration, advancement, and facilitation of novel, meticulously designed instructional and educational approaches. It is recommended to consistently observe the dynamic nature of resource utilization and the accompanying changes, as this enables them to be regarded as a contextual framework for the development of learning processes. Virtual learning environments have brought about several positive impacts on students, transforming the way they engage with education. Here are some of the key benefits:

Flexibility and Accessibility: Virtual learning environments provide students with the flexibility to access educational materials and resources at their convenience. This is especially valuable for those who have busy schedules or other commitments, as it allows them to learn at their own pace.

Diverse Learning Resources: Online platforms offer a wide array of multimedia resources, such as videos, interactive simulations, and e-books. This diversity of materials caters to different learning styles, making it easier for students to grasp complex concepts.

Self-Paced Learning: Virtual learning environments often support self-paced learning, allowing students to progress through materials as they master them. This empowers learners to take control of their education and spend more time on challenging topics while moving quickly through familiar ones.

Enhanced Engagement: Many virtual learning platforms incorporate gamification elements, quizzes, and interactive activities that make the learning process more engaging and enjoyable for students. These elements can boost motivation and participation.

Personalization: Virtual learning environments can use data analytics to tailor the learning experience to each student's needs. They can recommend additional resources, highlight areas where students need improvement, and adapt content to suit individual learning styles.

Global Learning Communities: Online learning enables students to connect with peers from around the world, fostering a global perspective and cultural understanding. Collaborative tools and discussion forums facilitate interaction and the exchange of ideas.

Skill Development: Virtual learning often encourages the development of digital literacy, time management, and self-discipline, which are valuable skills in today's technology-driven world.

Cost-Efficiency: Online courses and virtual learning environments can be more cost-effective than traditional in-person education, as they eliminate the need for commuting and physical infrastructure.

Accessibility: Virtual learning can accommodate students with disabilities more effectively. It can provide various assistive technologies and features to make learning accessible to all.

Environmental Impact: Virtual learning reduces the need for commuting and the use of physical resources like paper, leading to a lower carbon footprint and contributing to environmental sustainability.

Virtual Learning Environments

Virtual learning environments have shown to be highly crucial in facilitating and enhancing formal education since they are employed within educational institutions to implement the specified educational standards and curriculum of various nations. The current meaning of the term "Innovation" in modern society implies a need for change, revitalization, or the exploration of new activities. The researchers utilised a regression model in order to create a correlation between the amalgamations of data derived from nine degree programmes that are being given at an educational institution in Australia. The study's results

revealed that the variables of log count, forum activity count, and resource utilization were the sole predictors of students' academic achievement that exhibited statistical significance. Prior to employing data logs for the purpose of constructing predictive models regarding students' academic achievement, it is crucial to thoroughly contemplate the discrepancies in technology utilisation, specifically with regards to the way in which students interact with Virtual Learning Environments (VLEs).

Challenges and Concerns

Technological Barriers: Not all students have access to high-speed internet or personal devices, leading to digital divides.

Learning Curve: Both educators and students need to acquaint themselves with the platform, which might be daunting for some.

Engagement: Keeping students engaged in a virtual environment can be challenging, especially if the content isn't interactive or if students feel isolated.

Assessment Integrity: There are concerns about the authenticity of online submissions and the potential for academic misconduct in virtual environments.

Over-reliance: There's a potential risk of educators becoming overly dependent on the VLE, neglecting in-person interactions or other forms of pedagogy.

Future Trends

Learning with AR/VR: As AR and VR technologies become more accessible, VLEs might integrate these tools for a more immersive learning experience.

AI-driven Personalization: Using AI, VLEs can adapt in real-time to a student's needs, offering resources or exercises tailored to their current level.

Greater Emphasis on Social Learning: Incorporating more social media elements and gamification can help improve engagement and foster a sense of community.

Significance Statement

The rapid advancement of technology has persisted, prompting the current concern over the dissemination of enhanced technologies throughout many application domains. Concurrent with the rapid advancements in technology, there has been a corresponding rise in the integration of technology inside educational practices. Therefore, there has been a growing emphasis on research that examines the adoption and integration of new technologies, especially among student populations. The main aim of this study is to analyze several models documented in the existing literature that pertain to the adoption and usage of information systems.

Design and Methods

The present study employs a quantitative methodology, utilizing a desk review as the major means of data collection. The data was

obtained from databases that are connected to the student registration system. The collection and retrieval of data were conducted following the privacy policy of the institution, which encompassed authorization, data access, and confidentiality. Data was collected from 150 students through Google Forms. A simple random technique was used for the study. VLEs are instrumental in facilitating global collaboration, and broadening horizons for students and staff alike. Analytical tools embedded within these systems provide educators with real-time insights into student progress, enabling timely interventions and personalized learning experiences.

Analysis, Results, and Discussion of Theme

The importance of (VLEs) in higher education cannot be overstated. In a rapidly evolving digital age, VLEs stand as a testament to the power of technology to enhance learning. These platforms offer unprecedented flexibility, allowing students to access course materials and participate in learning activities irrespective of time or geographic constraints. They cater to diverse learning styles through multimedia content, interactive quizzes, and discussion forums, thus promoting inclusivity. Moreover, Furthermore, VLEs play a pivotal role in ensuring continuity of education in unforeseen circumstances, such as during global pandemics or natural disasters. In essence, VLEs are reshaping the contours of higher education, making it more accessible, engaging, and adaptive to the needs of the 21st-century learner.

Table 1: The adoption and utilization of a virtual learning environment among students

Variables	Mean	Std. Deviation	Mean Rank
Digital Revolution	3.01	1.031	4.07
Accessibility & Flexibility	3.96	1.273	4.21
Enhanced Pedagogy	2.81	1.124	3.98
Collaboration & Interaction	2.95	1.359	3.19
Tracking & Analytics	3.33	1.216	3.76
Standardization & Scalability	3.06	1.242	4.09
Integration with Other Tools	3.21	1.314	3.07

Acceptance and use of a virtual learning environment is Accessibility & Flexibility ranked first. Standardization & Scalability is rated at 4.09, which is followed closely by Digital Revolution rated at 4.07.

Digital Revolution: With the advancement of digital technology, there has been a paradigm shift in the way we access and share information. Students are now digital natives, and educators recognize the need to meet students in their digital realm.

Accessibility & Flexibility: VLEs allow students to access course materials, resources, assignments, and feedback from anywhere at any time. This flexibility is especially important for non-traditional students, those working while studying, or those in different time zones.

Enhanced Pedagogy: VLEs support a wide range of teaching strategies, from discussion forums to quizzes, multimedia content, and simulations. They cater to different learning styles and can be used to flip the classroom, allowing for more interactive in-person sessions.

Collaboration & Interaction: Discussion boards, collaborative wikis, and group assignments are much easier to coordinate within a VLE, facilitating interaction among students and between students and instructors.

Tracking & Analytics: Educators can monitor student progress, assess participation, and identify at-risk students. This data-driven approach helps in providing timely interventions and personalizing learning experiences.

Integration with other Tools: Modern VLEs can integrate with a plethora of third-party tools, from plagiarism detection software to virtual laboratory simulations. The statistical significance of the ranking result is assessed using Kendall's W test, as outlined below.

Table 2: Kendall's Coefficient of Concordance

N	150
Kendall's CC	0.011
Chi-Square	16.392
difference	6
Asy. Sig.	0.021

The Chi-Square test yielded a computed value of 16.392 for a degree of freedom of 6, which is deemed statistically significant at the 5% level. Therefore, it may be inferred that there is a considerable correlation between uses of a virtual learning environment among students.

Standardization & Scalability: Institutions can standardize the delivery of specific courses across departments or even campuses. This aids in quality assurance and scalability, especially in large institutions.

Conclusion

The popularity of online learning has increased due to its capacity to offer flexible access to educational information and teaching, unrestricted by time or location. The primary objectives often involve (a) enhancing access to educational opportunities for individuals who are unable or opt not to participate in conventional in-person courses, (b) optimizing the cost-effectiveness of creating and distributing instructional materials, or (c) enabling educators to accommodate larger student populations while ensuring that the quality of learning outcomes remains on par with those achieved through comparable face-to-face instruction. The progress in computer technology has enabled the electronic modelling of many learning contexts. The benefits of virtual learning environments (VLEs) outweigh the limitations for both students and educational institutions. The use of context-rich guided learning strategies allows students to acquire knowledge in a meaningful and immersive manner,

fostering the development of problem-solving skills that can be effectively utilised in practical situations. Nevertheless, it is crucial to evaluate the impact of the Virtual Learning Environment on the educational outcomes and identify the requisite approaches to augment its efficacy. (VLEs) serve a broader purpose than mere information dissemination, since its objective is to foster an interactive and collaborative learning atmosphere for students. Virtual Learning Environments (VLEs) have a crucial impact on the creation of training courses that concentrate on fundamental occurrences within safe and controllable environments. However, it is crucial that students are given the opportunity to experience the same stimuli that they would encounter in a genuine professional setting.

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CHAPTER- 8

THEORIES AND PRACTICES OF INCLUSIVE EDUCATION

JEYA SUDHA, A

*Assistant Professor of History
St. Ignatius College of Education (Autonomous)
Palayamkottai, Tirunelveli.*

ABSTRACT

Inclusive education is educating all students, regardless of their abilities or disabilities, in the same classroom environment. It is built on the principle that all children have the right to receive a quality education that meets their needs within the mainstream education system. It aims to create a learning environment where all students, regardless of their abilities, feel valued and supported. By implementing the theories and practices of inclusive education, schools can foster an environment of diversity, equity, and inclusion that benefits all students. Social inclusion is seen to be defined as social exclusion. Some analysts have argued that both inclusion and exclusion are inseparable side of the same coin. Social exclusion is the process of being shut out from the social, economic, political, and cultural systems that contribute to the integration of a person into the community. Social inclusion, community inclusion, social connectedness, normalization, social integration, social citizenship - all these are terms that relate to the importance of the links between the individual members of our society and the role of each person as a member of this group.

Keywords: *Inclusive education, social inclusion*

Introduction

Inclusive education is also called inclusion which includes everyone, with non-disabled and disabled people learning together in mainstream schools, colleges, and universities. This means the system must adapt to include Disabled people they should not have to adapt to the system. The education system must recognize that it creates barriers for Disabled learners, for instance, if parts of the school are inaccessible. Disabled pupils and students may require adaptations and support to access the curriculum.

An estimated 93 million children worldwide live with disabilities. Like all children, children with disabilities have ambitions and dreams for their futures. Like all children, they need quality education to develop their skills and realize their full potential. Yet, children with disabilities are often overlooked in policymaking, limiting their access to education and their ability to participate in social, economic, and political life. Worldwide, these children are among the most likely to be out of school. They face persistent barriers to education stemming from discrimination, stigma, and the routine failure of decision-makers to incorporate disability in school services. Nearly 50 percent of children with disabilities are not in school, compared to only 13 percent of their peers without disabilities. Robbed of their right to learn, children with disabilities are often denied the chance to take part in their communities, the workforce, and the decisions that most affect them.

Inclusive education is the most effective way to give all children a fair chance to go to school, learn, and develop the skills they need to thrive. Inclusive education means all children in the same classrooms, in the same schools. It means real learning opportunities for groups who have traditionally been excluded – not only children with disabilities but speakers of minority languages too. Inclusive systems value the unique contributions students of all backgrounds bring to the classroom and allow diverse groups to grow side by side, to the benefit of all. But progress comes slowly. Inclusive systems require changes at all levels of society. At the school level, teachers must be trained, buildings must be refurbished and students must receive accessible learning materials. At the community level, stigma and discrimination must be tackled and individuals need to be educated on the benefits of inclusive education. At the national level, Governments must align laws and policies with the convention on the rights of persons with disabilities, and regularly collect and analyze data to ensure children are reached with effective services.

The principle of inclusive education was adopted at the “World Conference on Special Needs Education: Access and Quality” (Salamanca Statement, Spain 1994) and was restated at the World Education Forum (Dakar, Senegal 2000). The Statement solicits governments to give the highest priority to making education systems inclusive and adopt the principle of inclusive education as a matter of policy. In India, the National Council of Educational Research and Training (NCERT) joined hands with UNICEF and launched Project Integrated Education for Disabled Children (PIED)

in the year 1987, to strengthen the integration of learners with disabilities into regular schools. In recent years, the concept of inclusive education has been broadened to encompass not only students with disabilities but also all students who may be disadvantaged. This broader understanding of curriculum has paved the way for developing the National Curriculum Framework (NCF-2005) that reiterates the importance of including and retaining all children in school through a program that reaffirms the value of each child and enables all children to experience dignity and the confidence to learn.

Theories and Practices of Inclusive Education

Inclusive education is understood to refer to the placement of students with special educational needs in mainstream settings, along with other students without disabilities (Artiles, Dorn, & Christensen, 2006). Salend (2011) defines inclusive education as a philosophy that brings stakeholders together to create a school environment based on acceptance and belonging within the school and the community. The learning theories provide curriculum designers with instructional strategies and techniques verified to facilitate learning in classrooms, which includes the need to implement inclusive education practices for students with special educational needs, especially in general education settings (Ertmer & Newby, 2013). These instructional strategies and techniques include modifications of curricula and instructional design, the development of structures, and the use of evidence-based practices. Three major theories are considered to underpin inclusive education theory. Effective inclusive education practices should incorporate ideas from each of these theories so

that teachers can successfully make curricular and instructional decisions for each student. Therefore, each of the theories underpinning inclusive education practice is theoretically and practically detailed as follows.

Theory of Behaviourism and Inclusive Education Practice

Theoretically, behaviourism is one of the classical theories of learning and also recognized as the oldest (Nalliah & Idris, 2014). Behaviourism is known as a predominant psychological model (Harold & Corcoran, 2013), as suggested by the metaphor for, 'learning as the acquisition of stimulus-response pairs' (Doolittle, 2014). Behaviourists 'believe the objective of the theory is to impart to the learner the knowledge of reality' (Hickey, 2014, p. 17). Behaviourism occurs when consequences are associated with the stimulus or response that is followed by reinforcement to be maintained (Ertmer & Newby, 2013). Even though behaviourism has been heavily criticized over the years, the behaviourist approach is "still vital and is considered a scientific enterprise" (Abramson, 2013). To summarize, the key principles of behaviourism that support education are: behaviour is learned, behaviour is governed by the setting in which it occurs, teaching does not occur without learning, learning equates to changing behaviour, behaviour is governed by what follows actions, and there needs to be a focus on the observable (Harold & Corcoran, 2013). Practically, behaviourism-based inclusive education practices include the application of behaviourism in inclusive education settings, which clearly appears in the emphasis on student behaviour and performance in manipulating stimulus materials (Ertmer & Newby, 2013).

Examples of behaviourism-based inclusive education practices are included in well-known instructional approaches such as explicit or direct instruction (Al-Shammari, 2019A; Steele, 2005). The method has shown positive research results with students with special needs in general education classrooms (Al-Shammari, et al., 2008). Practices based on explicit or direct instruction are systematic, involving a step-by-step process provided by a teacher and followed by students during instruction (Zhang et al., 2016). In addition, explicit or direct instruction-based practices that break down tasks into their smallest elements are widely used for teaching students with special educational needs in inclusive education classrooms (Steele, 2005). During the instructional process, Behaviourists assess learners to determine at what point to begin instruction and which reinforcers are most effective.

The teacher's role during the process is to:

- ❖ Determine which cues can elicit the students' desired responses;
- ❖ Arrange practices where prompts are paired with the target stimuli which are expected to elicit the responses in the 'natural' setting; and
- ❖ Arrange environmental conditions so that students can make the correct responses in the presence of those target stimuli and receive reinforcement for those responses (Ertmer & Newby, 2013).

Basic assumptions and characteristics of behaviourism are embedded in many current instructional practices. For instance,

some of the best interventions for students with special needs in inclusive education settings include: direct instruction, functional behavioural analysis, and assessment, evaluation, and feedback (Hattie, 2008). Direct instruction is commonly delivered in a teacher-led environment during which the teacher facilitates student learning through targeted lessons. For example, the teacher introduces a lesson, teaches a structured lesson, monitors student understanding, and receives student feedback to ensure understanding. Functional behavioural analysis categorizes and targets specific behaviours and their antecedents to change disruptive behaviours in the classroom, and encourage positive behaviour changes. A functional behavioural analysis of a student would involve using a chart with specific targeted behaviours monitored for frequency, time of day, antecedents, and consequences. Formative assessment, evaluation, and feedback assess the progression of learning and examine the gaps where remediation or even enrichment is necessary. An example of this in a behaviouristic classroom is the use of "Exit slips" which involve questions posed by teachers and students answer before leaving the classroom for the day including: "things I learned," "things I found interesting," and "questions I still have."

It is therefore considered that the Behaviouristic theory is related to several of the best practices in inclusive education. Direct instruction is the primary delivery of instruction in behaviorism within a teacher-centered environment in which the teacher designs and delivers lessons based on the objectives of the students. The behaviouristic classroom environment focuses upon conditioned responses, which is the basis of functional behavioral

analysis. Since the behaviouristic classroom focuses on condition responses, assessment, evaluation, and feedback, all are considered ideal methods for testing the transfer and generalization of knowledge gained.

Theory of Cognitivism and Inclusive Education Practice

Theoretically, cognitivism essentially focuses on the attributes of one's thinking, memory, self-reflection, and motivation to learn. Piaget argued that "during each developmental stage, the ability to learn and the process of learning are different" (Evgeniou & Loizou, 2012). The cognitive approach focuses on the mental activities of the learner that influence responses and acknowledges the processes of mental planning, goal setting, and organizational strategies. Cognitive theories place emphasis on making knowledge meaningful and helping learners is more organized and able to relate new information to existing knowledge stored. In addition, cognitivist approaches emphasize thought processes and their importance in learning, including memory, thinking, reflection, abstraction, and metacognition, which are all needed in the learning process (Petersen, 2014).

Practically, cognitivism-based inclusive education practices involve the applications of cognitivism in inclusive education settings, which appears in the emphasis on mental information processing and interactions in guiding student learning (Ertmer & Newby, 2013). Students are encouraged to express and connect their prior knowledge, learning experiences, and abilities to learn new information being provided to them. For instance, instructional strategies such as framing, outlining, mnemonics, concept mapping, and advance organizers should be

specifically used to support the cognitive needs of students with special educational needs (West et al., 1991).

Specific assumptions or principles that have direct relevance to instructional design practices include

- ❖ Emphasis on the active involvement of the learner in the learning process (i.e. self-planning, monitoring, and revising techniques).
- ❖ Use of hierarchical analyses to identify and illustrate prerequisite relationships (i.e., cognitive task analysis procedure).
- ❖ Emphasis on structuring, organizing, and sequencing information to facilitate optimal processing (i.e., use of cognitive strategies such as outlining, summaries, synthesizers, advance organizers).
- ❖ Creation of learning environments that allow and encourage students to make connections with previously learned material (i.e., recall of prerequisite skills, use of relevant examples, analogies) (Tunmer, et al., 2002).

Cognitivism-based inclusive education practices are implemented by applying different instructional approaches focused on learning activities, such as note-taking (Boyle & Rivera, 2012), underlining (Swanson et al., 2014), summarizing (Wittrock & Alesandrini, 1990), writing to learn, outlining and mapping, and use of the PQ4R method (Slavin, 2009). The use of these instructional approaches has shown positive results among students with special needs in general education classrooms. Other practices used, based on cognitivism, for students with special needs in inclusive education classrooms are various

metacognitive strategies, which are evidence-based such as study skills, concept mapping, and reciprocal teaching (Al-Shammari, 2019.,& Hornby, 2014). Metacognitive strategies teach students to understand the way they think. Through targeted study skills, concept mapping, and reciprocal teaching, students can plan, organize, and communicate information and learning. Another example of a metacognitive strategy in a cognitivism-based classroom is a flow chart used to organize information. Thus, cognitivism can be related to the key components of the best practices in inclusive education by helping students assimilate and accommodate information.

Theory of Constructivism and Inclusive Education Practice

Theoretically, constructivism focuses on creating cognitive tools that reflect the wisdom of the culture in which they are used as well as the insights and experiences of learning. Constructivism involves a person understanding the importance of the social dimension during the learning process through observation, treatment, interpretation, and adaptation of information on building a cognitive structure. Vygotsky (1962) emphasized the social role of learning because of its impact on cognitive development through learning and interaction between children and their peers, parents, and teachers. Constructivism equates to learning that involves constructing, creating, and inventing, basically for individuals to develop their own knowledge and meaning. Constructivists believe that an understanding of the brain informs teaching (Lenjani, 2016). Akpan and Beard state, "constructivism is the best paradigm for teaching all learners, but particularly students with special educational needs. Teachers are

essentially considered facilitators, providing essential information, and organizing activities for students to discover their own learning (Liu & Ju, 2010). Lenjani (2016) details the main guiding principles of constructivism as:

- ❖ Learning is searching for meaning;
- ❖ Meaning requires the understanding of the whole as well as the individual parts;
- ❖ Teachers should have an understanding of the mental models that learners use to perceive their world and assumptions that they make in order to support their models; and
- ❖ The purpose of learning is that an individual constructs his or her own meaning and does not include simply memorizing information for the correct answers or repeating merely what someone else has stated.

The key to constructivism is that learning should include learner-centered, task-based, hands-on, and minds-on activities (Shi, 2013) while also being meaningful and closely related to practical and real-life experiences (Lenjani, 2016). In addition, constructivist-based classroom activities should provide internal and external scaffolding strategies for all learners, which is essential for students with special educational needs (Shi, 2013).

Practically, constructivism-based inclusive education practices are the applications of constructivism in inclusive education settings, which would involve instructional methods and strategies to assist learners to explore complex topics actively. Possible strategies for exploring these topics include: situating tasks in real-world contexts and using real-life examples, utilizing

cognitive apprenticeships (i.e. modelling and coaching), presenting multiple perspectives (i.e. collaborative learning to develop and share alternative views), including social negotiations (i.e. debate, discussion), encouraging reflective awareness, and providing considerable guidance on the use of constructive processes (Ertmer & Newby, 2013).

The focus on key ideas and relationships between these tools are stressed as opposed to disconnected pieces of knowledge (Lenjani, 2016). For students with special needs, the most important facts or information related to key ideas under discussion should be prioritized by teachers, thereby not overwhelming them with the need for memorization. Graphic organizers and self-monitoring have been suggested as useful strategies for teaching content subjects encouraging confidence and success, accomplishments and, indeed, errors (Lenjani, 2016). According to Hulgín and Drake, (2011) "Inclusive education requires a constructivist approach to teaching and learning". Making this fundamental shift involves an explicit critique of assumptions, practices, and structures associated with a positivist approach.

An example of constructivism-based inclusive education practices is active learning (Steele, 2005). Steele suggested that practices such as "teaching students to summarize, paraphrase, predict, and use visual images, helps students with learning disabilities understand and remember". Some practices such as summarizing, predicting, and using visuals have also been found to have high to medium effects on students with special needs (Hattie, 2008). By adopting a constructivist perspective Botha

and Kourkoutas (2016) traced the support that children with behavioural difficulties receive and the development and implementation of innovative practices that support these children. The authors commented that children with behavioural difficulties might often develop varying degrees of psychological symptoms, including social withdrawal, learning difficulties, lack of motivation, and disengagement from school. Botha and Kourkoutas argue, therefore, for an inclusive model of teaching children with behavioral difficulties to address their antisocial behaviours and establish constructive relationships with peers and teachers, since anti-social behaviour also makes them prone to exclusion, isolation, or rejection from others within and outside of the school setting.

Additionally, ineffective inclusive education training is reported as a reason teachers lack an understanding of the range of inclusive approaches and the need for effective collaboration with professionals, such as psychologists and counsellors. Such collaborations are considered as being a prerequisite for inclusive education, therefore, a community of practice using a constructivist approach ‘embraces social engagement in practices that are directly related to the role of schools, families, and communities. It also provides opportunities to enhance the social integration of children, including those with behavioural difficulties in schools. Additionally, it allows for students to co-construct knowledge gained, which includes ways of supporting these children in their immediate contexts in their communities (Botha & Kourkoutas, 2016).

Students in a constructivist inclusive education setting would benefit most from the following best practices as reported by Hattie (2008) such as peer tutoring and cooperative learning. Through peer tutoring and cooperative learning, students can interact with each other and actively learn in a real-world setting. Cooperative learning groups, for example, may be formal or informal. Formal groups may be organized by student ability or interest, whereas informal groups may be spontaneous within which students are asked to pair and brainstorm on topics. In the constructivist inclusive classroom, the belief is that students learn from experience and real-life application.

Role of Teachers in the Implementation of Inclusive Education Practices

Teachers are the main in translating education policies into practice through the teaching learning process. The success of the inclusive education therefore depends upon the ability of teachers to respond to diversity in the classroom. Teachers with a positive attitude towards inclusion more readily change and adapt the way they work in order to benefit learners with a range of learning needs. Teachers must have appropriate skills and be able to alter the format of the lesson, change arrangement of the group, change the way the instruction is delivered, use different materials and provide alternative tasks (Westwood, 2007).

Teachers should provide differentiated instruction by acknowledging that students learn at different rates in different ways (Griffin and Shevlin, 2011). Teachers have a key role in creating an inclusive learning environment and climate for

learning by considering how they can take down barriers to learning to ensure every single learner feels they belong there and are not excluded. A successful inclusive learning environment depends on teachers open- mindedness; self-awareness and commitment to social justice (Garmon, 2005).

According to Suzanne (2009) teachers can foster independent learning through various ways:

- ❖ Making education relevant to student needs and interests.
- ❖ Using a variety of strategies to gain an understanding of students’ abilities, needs and interests.
- ❖ Providing students with choice in assignments and topics within a range of choice.
- ❖ Using collaborative instructional techniques.
- ❖ Teaching and modeling independent learning skills.

Rink (2003) states that teachers in inclusive settings must provide; developmentally appropriate content, clear instruction for practice, opportunities for practice at an appropriate level of difficulty and opportunities to participate in appropriately designed tasks and accurate feedback and assessment of subject matter and role performance. Teachers are crucial because of the central role they play in promoting participation and reducing underachievement among learners who might be perceived as having difficulties in learning. One of the most cited barriers to inclusion however is the teacher. Several studies (for example by Forlin1998; Hodge et al, 2004; Vaughn et al, 1996) argue that teachers negative attitude could undermine development of inclusion. Without teachers’ readiness to accept children with

special educational needs in their classrooms, inclusion will not be successful.

Corbett (2001) stressed that lack of training and opportunities for professional development are disincentives to inclusion. If teachers do not have the necessary skills to teach children with special educational needs they might feel frustrated and they cannot accommodate these children in their classes. Studies by (Winter, 2006; Reid 2005; and Kristensen et al, 2003) have shown that training, professional development and pedagogy are critical to the success of inclusion programmes. It is imperative therefore governments prepare teachers who have both the confidence and the skills to teach in inclusive settings and who are equipped to provide appropriate instruction for all learners. Another issue related to teachers is the work load; studies have shown that teachers feel they cannot tolerate the overwork load in case of inclusion (Bunch and Finnegan, 2000). This was linked to different barriers like large class size, insufficient time for teachers to cater for needs of children and lack of teachers desire to teach those children.

Corbett and Slee (2000) posit that the theory and practice that forms the special education tradition is essentially compounding the pattern of education and social exclusion witnessed in schools and communities. In contrast inclusive education does not involve itself in norming, labelling and pathologizing learners. It involves itself in identifying and minimizing the interactive social-cultural factors that influence the idea of disability and difficulty. A study by Kearney (2007) on disabled children who had been excluded and marginalized from

regular school found that teachers demonstrated a lack of responsibility to disabled learners.

With change of education worldwide, education systems are experiencing change in political, economic, social, and technological aspects. This calls for major change to the role of the teachers together with the introduction of new approaches to curriculum, assessment and inclusive education policies. This has necessitated the focus on what the child requires to support his/her learning. Such development has effect on professional identity as well as the roles and responsibilities of teachers. It has implications on how teachers are trained and supported in their professional development. In many teacher education programmes the infused or permeated mode of teacher preparation is adopted. This is a process by which special education needs matters are embedded within subject based parts of teacher training course. The infused mode is criticized for not allowing enough time for the preservice teachers to develop the necessary knowledge, skills and attitudes (Cook, 2002).

According to Anisow (2003) teacher development has to be the heart of initiatives for developing inclusive practices in schools. This requires building competencies of all “regular teachers” to deal with diverse population of students and to learn pedagogical strategies that facilitate the learning of all students in the classroom. Quality inclusive education system requires a more acknowledged, highly skilled teaching force. There is need to strengthen knowledge, skill, and attitudes of teachers for creating inclusive ethos and learning environment in schools.

Teacher education programmes should equip teachers with:

- ❖ Fundamental competencies which provide knowledge base to teachers for understanding Philosophy assumption underpinning inclusive education policies and practices, understand the nature and barrier to learning, learning style among others.
 - ❖ Skills to examine and reassure attitudes towards other cultures.
 - ❖ Skills to develop empathy and treat all students as individuals.
 - ❖ Skills to promote the success of all students and strategies to deal appropriately with prejudice at school.
 - ❖ Skills to work in multicultural settings including understanding of the value of diversity, and respect of differences.
 - ❖ Practical competencies which require teachers to develop the skills to perform the action creating a learning environment, undertaking analysis of barriers to learning, developing teaching strategies, developing resources to support learning.
 - ❖ Reflective competencies which help teachers to reflect how language, disability, race. Gender, geographical locations and their differences impact on learning and appropriate adaptation to teaching strategies to maximize participation of all learners
 - ❖ Skills to work in close collaboration with colleagues, parents and wider community.
 - ❖ Skills to monitor effectiveness of classroom interventions.
- Teacher education is therefore seen as a core element for building the capacities of education systems to move toward more inclusive system.

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CHAPTER- 9

REVOLUTIONIZING INCLUSIVE EDUCATION WITH ARTIFICIAL INTELLIGENCE

RIGANA FATHIMA, N

*Research Scholar
Manonmaniam Sundaranar University
Tirunelveli*

MICHAEL JEYA PRIYA, E

*Assistant Professor of Biological Science
St. Ignatius College of Education(Autonomous)
Palayamkottai-2*

ABSTRACT

Inclusive education is a system that provides the least restrictive environment for students regardless of their differences. The introduction of artificial Intelligence will make it more inclusive and accessible by identifying learning gaps and personalizing the educational experience. Inclusion encourages quality and equitable education for all, without exclusion, including those who may be marginalized by learning needs or social standing. Inclusive education is the most effective way to give all children a fair chance to go to school, learn, and develop the skills they need to thrive. Inclusive education allows students of all backgrounds to learn and grow side by side to benefit all. Inclusive education provides a better quality of education to children with special needs. As children from different backgrounds and disabilities learn together, it will create respect, understanding, and compassion. Inclusion, thus, leads to better civic participation, employment, and community life for all. The article provides a general view of the significance of artificial Intelligence in inclusion. Also, it gives some information regarding the Apps using AI

that can be included in inclusive teaching processes to make learning more convenient and comfortable for diverse learners.

Keywords: *Inclusive education, Artificial Intelligence, and Personalized Learning.*

Inclusive education: Things to keep in mind

Inclusive Education is implementing policies and processes that allow all children to participate in all programs. According to UNICEF, inclusive Education means all children are in the same classrooms and schools and have authentic learning opportunities for traditionally excluded groups. The fundamental principle of inclusive Education relies on the thought that despite their difficulties or differences, all children must learn together, whenever and wherever possible. The students' physical, cognitive, social, emotional, and academic differences and diversity should be accepted, and we should be understanding and attentive to them for successful inclusion in Education. Irrespective of gender, language, ability, religion, nationality, or other characteristics, every child should participate and, learn and develop their potential with their peers. Inclusive Education focuses on equity and fairness in inclusion without considering the pros and cons. Inclusive Education brings all students together in one classroom and community regardless of their strengths and weaknesses in any area and seeks to maximize the potential of all students. It simply affirms that everyone has a fundamental right to obtain an Education and not be excluded (Anju.,& Arulsamy.2022).

Inclusive education: Inclusion of AI

Intelligent Learning Environments (ILEs) are specialized technology-enhanced learning systems that aim to produce interactive and adaptive learning experiences that are customized for a learner using various AI techniques (Brusilovsky 1996). In the education sector, artificial intelligence can be used in several ways

- ❖ For personalizing Education: According to the potential needs and preferences of the individual, the teaching and learning process can be personalized.
- ❖ Humanoid robot teachers: It can assist human teachers in the teaching process and will make it more interesting and informative for the students.
- ❖ For tutoring: Chatbots like chat GPT and other AI-enabled tools will solve the problems and doubts of the learners, thus becoming a good tutor outside the classroom.
- ❖ Virtual Reality: The learner will get the real-time-like experience by introducing virtual reality in the classroom thus VR makes education more interesting and enjoyable to all types of learners, especially to learners with special needs.
- ❖ Multilingual teaching: The AI offers multilingual teaching which will help the students learn beyond the barrier of the language. Thus we can ensure the sharing of knowledge at a wider level beyond the language barrier (Salas-Pilco, S. Z., Xiao, K., & Oshima, J. 2022).

Contribution of AI to Inclusive Learning

Remove Bias: Human bias is an inherent part of our society. Artificial intelligence can help reduce and remove bias that comes in the way of the teacher-student relationship, especially when either of them belongs to different cultures, races, regions, etc. However, we need to ensure that the data fed into the AI systems are not biased.

Individualized Learning: eLearning platforms have been personalizing the content and the speed of training to suit the students. AI makes it easier for students with special needs to learn at their own pace without feeling stressed out.

Accessibility: Technology makes it possible for children from remote areas to access education which wasn't possible during the earlier days. Even if there are no schools/ colleges in the area, children can continue their education through eLearning apps. For example, MOOC (Massive Open Online Course) is a model that delivers online content and learning opportunities to anyone who wants to learn irrespective of physical attendance.

Affordability: The advent of AI is gradually reducing the cost of education. Students can apply for online courses and certifications that are cost-effective and provide the same quality of education. This helps students from highly diverse backgrounds to have a chance at education.

Teaching Techniques: Artificial intelligence is also helping teachers understand ways to teach students with special needs. AI in inclusive learning assists teachers in identifying the right method of teaching and the right channel of communication to interact with a student from a different background (Johnson, R., & Wang, L. 2021).

AI Apps for Inclusive Education

In many educational institutions, teachers are typically required to deliver instruction, feedback, and attention to a large number of students in a limited time with the goal of students passing assessments with good grades. This is often difficult to achieve because students have varied learning styles, different prior knowledge levels and cognitive skills, diverse emotional dispositions, and most importantly distinct learning needs. The field of Artificial Intelligence in Education (AIED) has been directly positioned to take on the challenge of advanced personalized learning since its formal inception in the late 1980s. Both research areas aim to provide an intelligent software tutor for every learner. By using interactive software, adaptive learning delivers paced, customized instruction with real-time feedback that allows faster student progression, encourages effective skill development, and promotes greater learner engagement with educational content. For over the past 20 years, there has been a growing body of positive outcomes reported in the literature where intelligent cognitive tutors perform as well as human tutors when producing learning gains in students (Gallagher, M. 2019).

Virtual Teaching Assistants

Virtual teaching assistants built using artificial intelligence are taking up a qualified trainer's roles and responsibilities.

Talk Now is an easy-to-use augmentative and alternative communication (AAC) app that allows even nonverbal kids of 5 to communicate by tapping images representing words.

Communication books can be customized using texts, voice photos, and videos.

Avaz Pro: An augmentative and alternative communication (AAC) app that empowers communication and customization. The exciting features are its color coding and child-friendly voices.

Cortana: Microsoft created this virtual assistant. It helps visually impaired users navigate their computer with their voice.

Voice Over It is a screen reader directly integrated into iPhones. It is used to enunciate emails or text messages. Voiceover also uses AI to describe app icons and battery-level information.

Nuance: It benefits students struggling with writing or with limited mobility. Nuance uses speech recognition software for students and faculty to transcribe up to 160 words per minute (Smith, A., & Jones, B. 2020).

Multilingual Chat Bot/Voice Bot: Chat Bot enables people with intellectual disabilities to develop and improve their social skills, thereby developing autonomy through communication skills training. It also enables people with intellectual disabilities to understand, analyze, and respond to different situations and also helps to initiate, maintain, and end an interaction with others; it also allows people with intellectual disabilities to be able to respond to the demands of others. These chatbots are especially for making the learning process a personalized one.

Duolingo is a popular multilingual AI platform with chatbots that help users learn languages without attending formal classes. AI

chatbots like ChatGPT can significantly improve it for people with hearing or speech impairments. The chatbot analyzes user input and creates responses by understanding needs and goals.

Adaptive Learning Management System

ALMS is designed to cater to students' individual needs like resources, assignments, activities, tasks, etc. ALMS is also known as adaptive learning environments based on individual learner models. STABLE (ABLE Students) is the first-ever adaptive learning management system for deaf students of age 6– 12 years old in the world. Prodigy Math is a perfect example of ALMS technology by which the kids can quickly learn mathematics. Kidaptive is an adaptive learning management system that supports educational institutions in increasing the learners' engagement in learning activities. This ALP platform uses AI to introduce and challenge students based on each student's perceived strengths and weaknesses.

AI-powered Test Generation and Evaluation Tools

AI is an automated question generation platform that uses AI to assess students' knowledge comprehensively. It reduces the effort of teachers in preparing test materials and thus will give them enough time to take care of the children. Another example is Kahoot, which is a game-based learning platform. It helps teachers in conducting tests and surveys for students. It also enhances peer-to-peer learning and encourages students to participate in learning.

Conclusion

In conclusion, the exploration of the role of artificial intelligence (AI) in inclusive education reveals a promising avenue for transforming the learning landscape and promoting accessibility for diverse learners. The integration of AI technologies has the potential to address the unique needs of students with varying abilities and learning styles, fostering a more inclusive educational environment. By providing personalized learning experiences, adaptive content, and real-time feedback, AI tools can cater to individual strengths and challenges, creating a more equitable educational experience. Artificial intelligence is becoming the core of the education industry. Teachers, students, and establishments will continue to rely more on advanced technology to create a better and student-centric learning environment. Educational institutions and eLearning platforms find it cost-effective to work with solution providers and customize AI software to suit their requirements. It's time to embrace the changes AI brings to education and take inclusive learning to every corner of the world. In conclusion, the development of AI in education is rapidly changing conventional thinking about teaching and learning. Traditional models of schools and classrooms are likely to see dramatic changes over the coming years and decades as technological advances filter down into educational institutions. For many years, AIED and ITS systems have been shown to live up to the potential of tailoring learning to the specific needs of individual students along cognitive, emotional, and instructional dimensions (Baker 2016).

Technology-enhanced learning environments such as content management systems, though not as sophisticated as the systems currently under development in research, can also liberate teachers from bureaucracy, so that they can concentrate on working with machines to facilitate the progress of each child. MOOCs should be considered not simply as courses but as vessels for interactive textbooks (Rosé and Ferschke 2016) where text-based adaptations are driven by the cultural factors important to students, and dictated by students (Mohammed 2017). The effectiveness of educational robots will be improved over time, although, regulation must be introduced to ensure that they properly serve their purpose from ethical perspectives. Irrespective of the type of technology-enhanced learning environment being used, the cultural factors that govern the presentation, delivery, and customization of content and system behavior need to be formalized using neutral, well-designed AI techniques.

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CHAPTER- 10

MULTIPLE INTELLIGENCE – A DIDACTIC STRATEGY IN INCLUSIVE LEARNING CLASSROOM FOR INTELLECTUALLY CHALLENGED

Sangeetha, G.S

Research Scholar

NVKSD College of Education, Attoor

Deepa, R.P

Assistant Professor

NVKSD College of Education, Attoor.

ABSTRACT

Raising better generations to fulfil the aspirations of the future is the goal of an educational system. The confluence of our unparalleled ability to interact with the growth of knowledge has led to new possibilities in today's world. To maximize effectiveness, these new opportunities must be grabbed with imagination and resolve. More is needed to address everyone's fundamental learning needs today than just recommitting to basic education as it is now provided. To deepen partnerships and advance fairness, what is required is a paradigm shift that goes beyond the current levels of resources, institutional structures, curricula, and conventional delivery methods while also building on the best practices currently in use. Gardner's theory of multiple intelligences (MI) can be used as a mediator, to

differentiate how students access this content. Using MI-inspired lessons allows students to explore important concepts using a range of domains, and find information based on their abilities. This chapter promotes an educational reform that aims to increase our school system's ability to be truly inclusive and encourage the academic achievement of all kids, regardless of their unique individual peculiarities by giving more importance to their Multiple intelligences in which they are strong enough to fight in this challenging world. Encouraging all students with diverse backgrounds and individual differences should be the goal as well as the challenge of inclusive education.

Keywords: *Multiple Intelligence, Intellectually challenged children, Inclusive classroom*

Introduction

According to the World Report on Disability, approximately one billion people in the world are living with a disability, with at least 1 in 10 being children and 80% living in developing countries (WHO, 2011). It is highly difficult for children with disabilities to start school and if they do so, they are unlikely to transition to secondary school further (Altan, 2018). Teachers exert a great influence on student learning outcomes. Pedagogic thinker Paul Freire has critiqued the mainstream idea of classroom education, which he calls the 'banking' concept of education. He equated teachers with bank clerks and saw them as depositing information into students rather than drawing out knowledge from individual students or creating inquisitive beings with a thirst for knowledge (Tripathi, A&Das, M., 2023). Inclusiveness in a classroom is very

essential to achieve complete literacy in our society. Education should be imparted compulsorily to all children with no implicit bias.

Indian Parliament has enacted the Right of a Person with Disability Act, 2016 which defines inclusive education as a system of education wherein students with and without disability learn together and the system of teaching and learning is suitably adapted to meet the learning needs of different types of students with disabilities (Kumar. A, 2022). The National Education Policy (NEP), 2020 emphasizes that “Education is the single greatest tool for achieving social justice and equality” which has implications for the development of an inclusive community and society at large. For policy to translate into practice, educational barriers, facilities, and services for Children with Special Needs (CwSN) must be addressed. Treat people as if they were what they ought to be, and you help them to become what they are capable of being -Goethe.

Multiple Intelligence and Inclusive Classroom

Multiple Intelligence-based Instruction helps learners capitalize on their strengths and skills to succeed more socially and personally. According to Howard Gardner, Intelligence is not made of a single entity; it is composed of eight types Linguistic Intelligence, Musical Intelligence, Bodily-Kinaesthetic Intelligence, Logical Intelligence, Spatial Intelligence, Intrapersonal Intelligence, Interpersonal Intelligence, and Naturalistic Intelligence. A child when taught based on his intelligence level sure can shine bright in his colour.

Howard Gardner in the year 1983, in his book 'Frames of Mind', states that "In my view, it should be possible to identify an individual's intellectual profile (or proclivities) at an early age and then draw upon this knowledge to enhance that person's educational opportunities and options. One could channel individuals with unusual talents into special programs, even as one could devise prosthetics and special enrichment programs for individuals presenting an atypical or dysfunctional profile of intellectual competencies."

Thomas Armstrong in his book 'Multiple Intelligence in the Classroom' states that, "Multiple Intelligence theory suggests that 'learning disabilities,' may occur in all eight intelligences. In addition to students with *dyslexia* (linguistic deficit) and *dyscalculia* (logical-mathematical deficit), some have *prosopagnosia*, or specific difficulties recognizing faces (a spatial deficit); *ideomotor dyspraxia*, or difficulty executing specific motor commands (bodily-kinesthetic deficit); *dysgeusia*, or difficulty carrying a tune (musical deficit); *dyslexia*, or difficulty reading nonverbal social signals, as well as specific personality disorders (intrapersonal deficit); and difficulty relating well to pets or working in gardens (nature deficit). These deficits, however, often operate relatively autonomously amid other dimensions of the individual's learning profile that are relatively intact and healthy.

MI theory thus provides a model for understanding the autistic who cannot communicate clearly with others but plays music at a professional level, the dyslexic who possesses special

drawing or designing gifts, the ‘developmentally disabled’ student who can act extremely well on the stage, or the student with cerebral palsy who has a special linguistic and logical-mathematical genius”. A teacher should be aware of sensory substitution, that they can engage all the students in a classroom using varied learning strategies based on students’ intelligence which they are strong enough. Murray,S.,2012 stated that Multiple intelligence-based learning strategies are one of the effective strategies that could be employed in the inclusive classroom to attain complete involvement of all students.

Multiple Intelligence-based learning environments

Some of the strategies to be followed in an MI Classroom were given by Howard Gardner in his book “Intelligence Reframed-Multiple Intelligence for the 21st Century” is as follows which is to be followed with more importance in inclusive learning,

- ❖ Cull as much data as possible about how a particular child learns and share that knowledge with the teacher and with the child. As children get older, they can provide much information and feedback themselves.
- ❖ Allow students to remain with the same teacher for several years so that they can get to know one another very well.
- ❖ Assign teachers and students flexibly, so that more compatible matches can be made.
- ❖ Have an effective information transmission system in the schools, so that the next year’s teachers know as much as possible about their new students. Also, make sure that the

teachers have ready access to this information and can update it as needed.

- ❖ Have older students work with younger students, or have students with compatible or complementary learning approaches work together.

Multiple Intelligence-based Intervention programs in Inclusive classroom

MI theory can help teachers identify a student's strengths, and this information can serve as a basis for deciding what kinds of interventions are most appropriate for an inclusive classroom (Armstrong, T). Howard Gardner's theory of MI assists in the creation of an inclusive classroom by eliminating the one-size-fits-all approach and allowing students to experiment in a range of styles and 'sizes' (Singal, N.2008). Teachers can use MI-influenced activities by assigning tasks throughout the day that allow students to access their intelligences individually and in connection to others (Jensen, 2006). Some of the strategies and tools used for empowering Intelligence are given by Thomas Armstrong in his book "Multiple Intelligence in the Classroom".

- ***Linguistic intelligence (words and language people use)*** - Brainstorm the roles of the different animals and their characteristics, storytelling, word games, and debates.
- ***Logical-*** Mathematical intelligence (logic and exploration of patterns and numbers) classify and categorize the characters based on visual characteristics, logic puzzles and games,

Socratic questioning, Heuristics, mathematical problems on the board, Piagetian cognitive exercises.

Spatial intelligence (perceptions of images and space) - using the characteristics that have been outlined, draw a visual description of the rabbits identified in the visual storyline, 3-d construction kits, color cues, draw-and-paint, mind-maps and other visual organizers, visual pattern seeking, visual puzzles and mazes, visual thinking exercise.

Bodily-kinesthetic intelligence (body movement control) - Classroom theatre of how the invaders are depicted by the visual images on key pages, body answers, body maps, Cooking, gardening, and other “messy” activities, Manipulatives, mime, physical awareness exercises, tactile materials, and experiences.

Musical intelligence (see/recognize patterns of sounds and rhythm) -create mood music from the illustrations, which depict the invaders and how they have been portrayed. creating new melodies for concepts, group singing, and linking old tunes with concepts using background music.

Interpersonal intelligence (ability to interrelate with others) - using peer sharing and cooperative groups, students brainstorm what the book cover suggests about the characters, academic clubs, Cooperative groups, cross-age tutoring, and peer sharing.

Intrapersonal intelligence (access to inner feelings) - individual time to create connections between how students view the characters before peer sharing and how differing views have helped them create a whole picture of the characters, Diary

writing, independent study, Individualized projects and games, self-paced instruction.

Naturalistic intelligence (discriminate between living things)-students are asked to look at the relationship between the animals in the story and compare these to another set of animals that exist in a natural setting, aquariums, terrariums, class weather station, eco-study, gardening.

All of the activities above cannot be executed at once; however, the activities can be used throughout the study to reinforce the main concepts in a variety of ways. This allows students to further develop their strengths and build on their weaknesses (Nicholson-Nelson, 1998). For example, a student may be unable to complete $2+2=4$ on a piece of paper (spatial intelligence), however, can understand and complete the task when asked to do it physically with concrete materials (bodily-kinesthetic intelligence). This allows students to explore how intelligence can be used to supplement and extend their knowledge and understanding (Murray,2012).

Promoting the use of learning stations allows students to choose how they will learn and demonstrate their knowledge of a particular topic. In some cases, however, all stations must be utilized for students to truly understand the main concepts. Choice can then be used to allow students to choose a starting point for their introduction to the main concepts. The other stations are then used to reinforce initial understanding and build upon this. A choice of activities enables students to identify their personal qualities, and preferred learning styles and to feel that they are

valued for their achievements. With the use of strategies to accommodate students' MI in the classroom, teachers can differentiate the content and how it is taught to more beneficially cater to students' blend of intelligence and preferred learning styles.

Conclusion

Inclusive education is not a program. It is an educational philosophy that values the participation and education of students with and without disabilities in the same classroom where all students are nurtured equally (Altan, 2018). The application of Gardner's Multiple Intelligence theory helps to promote an inclusive environment by valuing that all individuals have strengths in different areas. The eight intelligences identified by Gardner can be used individually or in conjunction with one another to enable students to identify their preferred style of learning, as well as allow students access to explore other preferred styles of learning. This promotes teaching in a range of ways to cater to individual differences and ensure education is accessible for all (Murray, S. 2012). Educationally meaningful activities that stimulate students' intellects increase their involvement in the classroom. As a teaching and learning methodology, Multiple Intelligence Based Instruction provides a novel way to impart life skills. Teachers can encourage the development of all types of intelligence in their pupils if they make an effort to activate all intelligence through the pedagogical assignments they use in the classroom (Ghaznavi, N.et.al.,2021).

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CHAPTER- 11

ASSISTIVE DEVICES AND TOOLS FOR DIVERSE LEARNERS

Jayashree Priyadharsini, V

*Assistant Professor of Biological Science
N.K.T. National College of Education for Women
Chennai, Tamil Nadu, India.*

ABSTRACT

We are all different and that is beautiful- Karen Salmansohn.

Inclusive Education is a means of creating effective classrooms where the educational needs of all children including children with disabilities are addressed. In India, the need for inclusive education has to be viewed with services for children with disabilities. The Salamanca Statement and Framework for Action (1994) strongly promote “Inclusive Education” or “Schools for all”. Three elements are essential for exceptional children i) Trained Professional to handle the exceptional children (ii) Special curriculum has to be created for children which suit different areas of exceptionality such as mental retardation, giftedness, deafness, blindness, orthopedic handicap, cerebral palsy (iii) Special building features, study materials, and equipment have to be prepared. Educating these children is a demanding, tedious, and one-to-one teaching-learning process. On the other hand, assistive devices help in adaptation to the physical environment, reading, writing, arithmetic, communication, and adaptations to personal skills.

Individualized Education Plan (IEP) is a critical tool in deriving achievement and well-being for students. The Secondary Education Commission recommends that curriculum should not be taught traditionally. The advanced assistive devices are being upgraded as and when needed. Assistive Technology and Tools are devised to enhance the mobility of learners.

Keywords: *Disability, Inclusive Education, Assistive Technology, Assistive tools.*

Introduction

Special Education can be said as the education that meets the needs of those children who are deviant from average children either mentally, physically, and or socially. The children may suffer from deafness, dumbness, blindness, mental retardation, emotional disturbance, and any other ailments which hamper the intellectual growth of the individual. Special education schools have specific norms and infrastructure which facilitate the development of children with special needs. The Persons with Disabilities Act 1995 is the main legal instrument for persons with disabilities. The Act has seven categories of disabilities such as blindness, low vision, leprosy-cured, hearing impaired, locomotors-disability, mental retardation, and mental illness. Other disabilities include learning disabilities, Autism multiple disabilities, and so on.

Visual Impairment

Vision impairment is a problem in seeing, that even with correction, adversely affects a child's education performance. Children with low vision may have difficulty with reduced levels

of speed, endurance, and accuracy. Educational provisions for visually impaired and low vision children include assistive aids such as Dogs, Cane, and assistant from a sighted person, Braille, Closed-circuit television Systems with a small camera and zoom lens, Overhead projectors, Micro-computers, Telescopic-aids, Audio aids, Optical Character Recognition Device (OCR Device).

Leprosy Disabilities

In the case of leprosy disabilities such as nerve damage or mobility issues, special education professionals would collaborate to provide tailored support. Special education programmes typically aim to support students with diverse needs including those with physical disabilities. In special education for individuals with Locomotor disabilities, a comprehensive approach is taken to address their unique needs.

Hearing Impairment

There are two types of hearing impairment. It is Deafness (severe disability) and Hard of hearing (less severe disability). To assist students with Hearing Impairment are Oral Communication, Sign Language, Auditory Learning, and Cued Speech. Special types of Assistive Listening Devices are Hearing aids, FM transmission, Audio loops, and amplification devices, Fingerspelling and American Sign Language, etc.

Role of Teachers in handling of Students with Hearing Impairment

- ❖ Proximity with teacher and student.

- ❖ Speak slowly and with clear articulation
- ❖ Reduce noise around the classroom.
- ❖ Use face-to-face contact
- ❖ Use visual cues
- ❖ Encourage independent activities.
- ❖ Check the hearing aid before the class starts.

Dumbness

There are two types of communication disorders; that affect speech and language communication. There are speech disorders which include articulation disorder, voice disorder, and fluency disorder. Language disorder is a child's receptive or expressive language. It may vary as receptive language disorder and expressive language disorder. The educational provision for speech-impaired children through speech therapy, speech training activities, adequate motivation, and avoidance of overemphasis on the handicap, creates anxiety, and embarrassment.

Role of Teachers with Communication Disorders

- Integrate language development activities into all curriculum areas.
- Foster and value the supportive environment for communication.
- Value speech and language delivery.
- Arrange activities like oral book reports, mock job interviews, and speeches with different audiences
- Use areas of strength to compensate for weaknesses.

Mental Retardation

Mental Retardation refers to significantly sub-average general intellectual functioning in association with concurrent impairment in adaptive behavior. For mental Retardation Children Functional Curriculum is given more importance than Regular Educational Curriculum. The IQ Level of Mental Retardation children is very low when compared to Normal children. The Average IQ quotient is between 90 and 110 for standardized Intelligence Tests. According to the World Health Organization, one-third of the people in most countries report mental illness in their lives. It is treated through two major ways and it is Psychotherapy and Psychiatric medication.

Other Disabilities

Dyslexia and Dyspraxia are Specific Learning Disabilities. In the school system, social support can be a crucial component for students with specific learning disabilities. Individuals with specific learning disabilities can face unique challenges throughout their life span.

Autism: Autism is a disorder characterized by impairments in communication and social development. Autism is an intervention-challenging task for special language pathologists and therapists. The specific difficulties experienced by children with autism help plan intervention programs.

Multiple disabilities: Augmenting and alternative communication (AAC) devices aid those with speech difficulties

and the personalized learning materials, interactive whiteboard, and a visual schedule enhance engagement and understanding.

Conclusion

In education, implications are necessary for students with epilepsy. The teacher should obtain state and national agencies concerned with epilepsy. All children with convulsive disorder benefit from a realistic understanding of the condition and accepting the attitude on the part of teachers and classmates.

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CHAPTER- 12

CURRICULUM AND PEDAGOGY IN INCLUSIVE EDUCATION

Meera Farzana, S

Research Scholar

Department of Education

Manonmaniam Sundaranar University, Tirunelveli

Deepa, H

Associate Professor of Education

Department of Education (DD&CE)

Manonmaniam Sundaranar University, Tirunelveli

ABSTRACT

Inclusive education is a paradigm shift in the field of education that strives to provide equitable opportunities for all learners, regardless of their diverse needs and abilities. It has emerged as a progressive and transformative approach to education, aiming to ensure equitable opportunities for all students, irrespective of their diverse abilities and background. It represents a transformative approach to schooling, aiming to provide every student with equitable access to quality education, regardless of their diverse backgrounds, abilities, or learning styles. At its core, inclusive education embraces the principles of diversity, equity, and social justice, fostering an educational environment where all students can thrive and succeed. Central to the success of inclusive education are carefully designed curricula and

pedagogical strategies that accommodate the needs of every learner. This chapter explores the methods, characteristics, and importance of curriculum and pedagogy in the context of inclusive education.

Keywords: *Curriculum, Pedagogy and Inclusive Education.*

Introduction

“The child lives in a somewhat narrow world of personal contacts. Things hardly come within his experience unless they touch, intimately and obviously, his own well-being, or that of his family and friends. His world is a world of persons with their personal interest, rather than a realm of facts and laws. Not truth, in the sense of conformity to external facts, but affection and sympathy, is its keynote.”- John Dewey, *The child and curriculum*. (1902). Inclusive education (IE) is an educational approach that aims to address the diverse needs of all students, including those with disabilities, special needs, and different learning styles. The curriculum and pedagogy of inclusive education are designed to create a supportive and equitable learning environment for every student. IE recognizes that all students can benefit from learning together in a diverse classroom. The curriculum and pedagogy aim to create an inclusive and supportive learning environment where every student has the opportunity to succeed and reach their full potential. IE is an ongoing journey, and both curriculum and pedagogy need to evolve to meet the changing needs of students and society. By prioritizing inclusivity, we move towards a more just and equitable educational system, where every learner has the opportunity to reach their full potential and contribute

meaningfully to their communities. IE emphasizes the importance of creating an equitable and supportive learning environment for all students, regardless of their diverse abilities and backgrounds.

Curriculum in Inclusive Education

Curriculum refers to the set of planned educational experiences, content, and activities that students engage with in a school or educational institution. In the context of IE, the curriculum is designed to provide equitable learning opportunities for all students, including those with diverse needs and abilities. It encompasses not only academic subjects but also social, emotional, and life skills, and it may be flexible and adaptable to cater to the individual needs of students.

Pedagogy in Inclusive Education

Pedagogy refers to the methods, strategies, and approaches used by teachers to facilitate learning and instruction in the classroom. Inclusive pedagogy focuses on creating an inclusive and supportive learning environment where all students, regardless of their backgrounds or abilities, can participate and succeed. It often involves collaborative teaching, differentiation, Universal Design for Learning (UDL), and individualized support to ensure that every student has access to effective and meaningful learning experiences.

Importance of Curriculum and Pedagogy in IE

The significance of a well-designed curriculum and inclusive pedagogy in IE cannot be overstated. These elements are fundamental in creating an inclusive learning environment that accommodates the unique needs of all students. IE not only

prepares students for active participation in a diverse society but also promotes a sense of social justice and equity. By embracing diversity and fostering an inclusive learning environment, curriculum and pedagogy in inclusive education lay the foundation for building inclusive societies that value and celebrate differences. The importance of curriculum and pedagogy in IE lies in their role in creating an equitable and supportive learning environment for all students, regardless of their abilities, backgrounds, or learning styles.

Characteristics of Curriculum in IE

Flexibility: Inclusive education curriculum is adaptable to accommodate a wide range of learning styles, abilities, and needs. It allows for modifications and individualization.

Holistic Approach: It focuses on a holistic approach to education, encompassing not only academic skills but also social, emotional, and life skills necessary for students to thrive.

Diversity and Multiculturalism: The curriculum reflects diversity in culture, language, and experiences to promote a more inclusive and culturally responsive learning environment.

Differentiation: Differentiated instruction is a fundamental characteristic, where teachers adjust content, teaching methods, and assessments to suit individual student needs.

Collaboration: Collaborative planning, involving general and special education teachers ensures that all students' needs are addressed effectively.

Characteristics of Pedagogy in IE

Collaborative Teaching: Inclusive education pedagogy often involves co-teaching, where general and special education teachers work together in the same classroom to provide support to all students.

Universal Design for Learning (UDL): UDL principles are applied, ensuring that teaching methods, materials, and assessments are designed to accommodate a wide range of learners.

Individualization: Teachers develop Individualized Education Plans (IEPs) for students with special needs, tailoring instruction and support to their specific goals and challenges.

Positive Behaviour Support: Strategies for managing behavior are used to create a positive and inclusive classroom environment, focusing on teaching appropriate behaviors rather than solely reacting to misbehavior.

Access to Assistive Technology: Inclusive pedagogy may involve the use of assistive technology to aid students with disabilities in accessing the curriculum and participating fully in class activities.

Emphasis on Social Skills: Social skills training is integrated to help students build relationships, practice empathy, and develop effective communication skills.

Regular Assessment and Progress Monitoring: Continuous assessment and progress monitoring help teachers make data-driven decisions to adjust instruction and support as needed.

Conclusion

The curriculum and pedagogy of inclusive education are integral components of an educational approach that champions diversity, equity, and the full participation of all students. Both curriculum and pedagogy ensure that all students, regardless of their abilities, disabilities, or backgrounds, have equal access to education. This fosters a more inclusive society where everyone can participate. Inclusive curriculum and pedagogy recognize that each student is unique. They allow for differentiation, adaptation, and personalization to meet the diverse learning needs of students, promoting better learning outcomes. Inclusive curriculum reflects the rich tapestry of cultures, experiences, and perspectives in society. This not only enriches learning but also encourages tolerance and understanding among students. Pedagogy in inclusive education often involves collaboration among educators, parents, and support staff. This collaborative approach ensures a comprehensive and holistic support system for students. Both curriculum and pedagogy contribute to creating an inclusive and accepting classroom environment. Students are more likely to feel valued, respected, and engaged, which enhances their overall educational experience. Inclusive education equips students with not only academic skills but also the social and life skills necessary to succeed in the real world, promoting independence and self-sufficiency. In many countries, inclusive education is mandated by law to ensure equal educational opportunities for all. Effective curriculum and pedagogy are essential to meet these legal obligations.

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CHAPTER- 13

ASSISTIVE TECHNOLOGIES FOR DIVERSE NEEDS

Daniel Sathya Singh, G

*Research Scholar & Assistant Professor
PSN College of Education, Tirunelveli*

Maria Saroja, M

*Research Director, IQAC Coordinator &
Associate Professor of Biological Science
St. Ignatius College of Education(Autonomous)
Palayamkottai-2*

ABSTRACT

Assistive technologies encompass a range of equipment, devices, services, and adaptations in the environment designed to support individuals with special education needs in their functioning. Technologies that serve to improve the student's quality of life in a manner appropriate to their differences and needs can be used to support persons with special educational needs in many areas of education. Assistive Technologies helps students with special needs develop independent thinking skills, maintain self-reliance, increase autonomy, develop problem-solving skills, facilitate a sense of continuity in living conditions as much as possible, and become more actively involved in their educational activities at home, schools, and communities. There is a rise in implementing assistive technology into the classroom, as it helps educators create an inclusive environment for their students. This chapter reviews some of the assistive technologies for communication,

reading, writing, computer access, and mathematics for diverse learners as well as the high-tech devices available for a wide variety of students with special learning needs.

Keywords: *Assistive technologies, problem-solving skills.*

Introduction

The evolution of technology has brought about significant changes in various aspects of life, particularly in education. The landscape of technologies utilized in special education has undergone substantial transformations over time (Edyburn, 2001). Within the educational process, assistive technologies present diverse solutions to offer students the tailored support they require (McKnight and Davies, 2012). These technologies play a vital role in assisting individuals with special educational needs in learning, fostering self-confidence, promoting independence, and ultimately contributing to a higher quality of life (Reed, 2007). In summary, assistive technologies contribute to enhancing both functional performance and academic success among students (Edyburn, 2005). Hersh and Johnson (2008) define them as equipment, devices, apparatus, services, systems, processes, and modifications made to the environment to enable full, active, and easy participation in society for disabled and/or elderly individuals.

According to Lancioni et al. (2013), assistive technologies encompass a variety of devices aimed at assisting disabled individuals and those with special educational or rehabilitation needs in functioning better in daily life and achieving a higher quality of life. Assistive technology encompasses any device, software, or equipment designed to help people overcome

challenges. These tools enable individuals to work around their difficulties, capitalizing on their strengths. This is particularly crucial for students facing learning challenges, whether in reading, writing, math, or other subjects. Assistive technology can empower these students to thrive in both school and life, fostering confidence and independence.

Assistive Technologies in Communication

Assistive technologies help to facilitate communication for students with special educational needs in different situations and environments (Cumley, Maro, and Stenek, 2009). The methods used to help students who have difficulty in speaking communicate with their environment are called Augmentative/Alternative Communication (AAC). Generally, several technologies, including communication boards/books with pictures, eye gaze boards/frames, speech-generating devices, text-based devices with speech synthesis, and picture exchange communication systems, can be used to support persons with communication problems and speech disorders (PECS) (Coleman, 2011; Reed, 2004; Reed, 2007, Reed, 2009; Reed and Bowser, 2013; McMullock, 2004; Day, Dell and Smith, 2011).

Communication board: A communication board is a device to help people with limited language abilities express themselves. The board has photos, symbols, letters, and pictures that the user can gesture, point, or blink at to communicate with others.

Speech-generating devices: Speech-generating devices are hand-held electronic devices that play words or phrases when the user touches a switch or press buttons or keys. Some devices ‘speak’

words as the words are typed on a keyboard. Speech-generating devices can be specialized devices used only for communication. These devices are most commonly used by people who have difficulty pronouncing words because of a physical disability like cerebral palsy or acquired brain injury. Autistic children sometimes use speech-generating devices, particularly when they're developing speech and language.

Picture Exchange Communication System: The Picture Exchange Communication System allows people with little or no communication abilities to communicate using pictures. People using PECS are taught to approach another person and give them a picture of a desired item in exchange for that item. By doing so, the person can initiate communication. A child or adult with autism can use PECS to communicate a request, a thought, or anything that can reasonably be displayed or symbolized on a picture card. PECS works well in the home or the classroom.

Augmentative and Alternative Communication (AAC) Devices: AAC devices assist individuals with communication impairments by enabling them to express themselves through symbols, pictures, or speech-generating devices. AAC tools are handy for students with speech and language disorders.

Assistive Technologies for Reading: Assistive Technologies facilitate the access of students with physical, visual, or hearing incompetence and students who have difficulty in communicating reading texts (Fruchterman, 2008). Jansson (2008) expresses that assistive technologies such as audio texts or Braille can be used for students with visual incompetence to support their reading skills. In the study conducted by Earman-Stetter and Tajero-

Hughes (2011), it was shown that daily computer-aided reading practice positively affected the reading comprehension skills of students with learning difficulties. Meyer and Bouk (2014) reported that the students believed they read faster and more fluently by using text-to-speech software.

Text-to-Speech (TTS) Software tools convert written text into spoken words, helping students with reading or visual impairments access and comprehend written content more effectively.

Audiobooks and digital TTS books : These tools allow kids to hear books read aloud. Some learners like to read along with the book so they can see the words at the same time. Audiobooks are read by human voices. Digital TTS books are created with TTS and use computer-generated voices.

Electronic Braille Displays: Electronic Braille displays provide tactile feedback by transforming digital text into Braille characters. They are designed for students with visual impairments, allowing them to access digital content and participate in computer-based activities.

Assistive Listening Devices: Devices enhance sound quality and reduce background noise, benefiting students with hearing impairments. Assistive listening devices include personal FM, loop, and amplified classroom sound systems.

Assistive Technologies for Writing: Writing skills require certain cognitive skills, such as the ability to bring words together, as well

as certain physical skills (Reed, 2007). Studies may have different results regarding the effect of assistive technologies on writing skills depending on the assistive technology used. For example, according to Peterson-Karlan (2011), different types of computer software such as voice recognition, word estimation, and text-to-speech, facilitate successful outcomes for students with writing difficulties. Belson, Hartman, and Sherman (2013) found that the use of digital pens by persons with learning difficulties positively affected the quality of note-taking.

Speech-to-text tools and devices: Speech-to-text tools allow students to use their voices as input devices to the computer to dictate responses. This software generally can recognize speech up to 160 words per minute. This strategy can help students express themselves without physically typing or writing and improve communication skills. Produce legible text, demonstrate writing composition skills, Improve writing efficiency, Improve speaking/articulation skills, improve English language proficiency, organize ideas, develop paragraphs, edit, and revise writing. The following software are used as speech-to-text tools Apple Dictation, Windows 11 Speech Recognition, Dragon by Nuance, Google Docs voice typing, Gboard, and Otter.

- ❖ Grammar/spelling/homophone checkers: White Smoke Grammar-spelling assistant, Ginger
- ❖ Word-prediction software: Co: Writer; WordQ; text help Read&Write Gold

- ❖ Word-prediction software combined with speech-recognition software: SpeakQ
- ❖ Graphic Organizers: Report Writer Interactive; Inspiration; Kidspiration; Draft:Builder; VYM (View Your Mind); MindMapper
- ❖ Writing Online: Writing Fun; Wacky Web Tales; Writing Fix; Read/Write/Think; OurStory; Memograph; ToonDoo; Ginger Spelling; Ghotoit

Assistive Technologies in Computer Access

As computers provide convenience in many areas of daily life, they can be of fundamental importance for persons with special educational needs in enabling them to learn new skills and acquire information, to demonstrate what they learn in school, and to participate in class activities (Lindstrom-Drescher, 2009; Brodin and Peg, 2004; Alcade, Navarro, Marchena and Ruiz, 1998).

Optical character recognition (OCR) software: Optical character recognition (OCR) software systems are used to scan printed materials directly into the PC to accommodate many types of disabilities.

Screen Readers: Screen readers are software programs that provide either speech or Braille output, and are commonly employed by persons who are blind or visually impaired.

Non-assistive Computer Programs : Non-assistive computer programs like electronic mail and instant messaging empower

individuals with hearing-related impairments to communicate over the Internet.

Magnification Software -Magnification software enlarges text and graphics displayed on PC monitors. Magnification programs are widely used by persons with poor vision or who have difficulty reading.

Assistive Technologies in Mathematics

Different technologies, such as the abacus, extended worksheets, and audio calculators, enable students to improve their mathematics skills (Adebisi, Limsan, and Longpoe, (2015). The study results about supporting the mathematical skills of students with special educational needs show that assistive technologies positively affect these students' mathematical success. For example, Bouck et al. (2015) stated that the use of calculators in mathematics courses positively affected the success of disabled students.

Virtual Pencil Arithmetic (Hunter Math): It is computer software that is used to interactively solve math problems. It is designed for those who cannot use pencils to write. It moves to the right spot on the “paper”, guided by the user, and inputs the answers that the user selects. This software can do anything that a student is required to do in the math classroom (Burns, 2007).

Math: This tool works with dragon products to write mathematics. It enables math students to do math without the use of a keyboard or mouse. Math students can choose to translate math problems into Braille in Duxbury Translator.

Portable Calculator with Talking Multiplication Table: This small folding calculator performs standard arithmetic functions, including displaying mathematical tables. When the key is pressed, followed by the number of the multiplication table the user wants to access, the program verbally reads the table to the student.

GTCalc Scientific Calculator software offers a comprehensive range of scientific functions in logical groups for easy accessibility. Accessibility features include input via keyboard or mouse with input and output spoken, a large number display, a Mouse Talk feature that speaks the button captions, and four levels of screen magnification.

Conclusion

Ensuring equitable learning opportunities for students with distinctive characteristics and requirements is essential in the educational process. Granting access to suitable assistive technologies and providing support for their education are fundamental elements in establishing parity in educational opportunities for individuals with special educational needs. The objective of this study is to outline the some of assistive technologies for communication, reading, writing, computer access, and mathematics in the education of individuals with special educational needs. Technologies designed to enhance the quality of life for students, tailored to their unique differences and needs, can be harnessed to offer support across various educational domains for individuals with special educational needs. Educators should have access to professional development and training programs to augment their knowledge and skills in

effectively employing assistive technology in the classroom. Through investments in research, accessibility, training, and advocacy, we can effectively utilize assistive technology to dismantle barriers, champion equal opportunities, and ensure that each student possesses the tools essential for success in their educational journey. The seamless integration of assistive technology into educational settings is transforming how educators approach inclusive education, fostering equal opportunities, and enriching the overall educational experience for all students.

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CHAPTER- 14

BRAIN-BASED LEARNING STRATEGIES IN THE INCLUSIVE CLASSROOM

Sonia,R

Research Scholar

NVKSD College of Education, Attoor

Deepa,R.P

Assistant Professor

NVKSD College of Education, Attoor

ABSTRACT

Education plays an important role in bringing about life-changing changes in culture. It seeks to promote the harmonious development of human beings' "cognitive", "effective", and "psychomotor" domains. The importance of education is becoming more widely recognized, and efforts are being made to the educational system. According to UNICEF(2023), inclusive education is the most effective way to teach children with disabilities and learning challenges along with normal children in a single classroom environment. It is intended to maximize each student's potential by bringing all students together in a single classroom, regardless of their disabilities in any area. To improve inclusive education quality, we have to adopt suitable learning strategies to satisfy the needs of all children irrespective of their disabilities. The study of neuroscience is an ever-changing field that explains the structure and function of the human brain at different developmental stages and how the brain

learns. Brain-based learning emphasizes how the brain learns naturally, and using various brain-friendly strategies that provide holistic development and active engagement of students in the learning process. This paper deals with the role of brain-based learning strategies in inclusive classrooms for effective learning.

Keywords: *Inclusive education, Brain-based learning, Disabled children, Neuroscience.*

Introduction

Education is a basic human right. Every child has the right to learn. Children can learn cultural norms and values through education, which helps them integrate into society. Inclusive education is an innovative approach to creating a school environment where all students can Participate. NEP(2020) emphasizes that “Education is the single greatest tool for achieving social justice and equality” which has implications for the development of an inclusive community and society at large. The goal of inclusive education is social justice and equality through integrating children with disabilities into the educational process and making adjustments to secondary schools for disabled students. Deignan, S.(2022) stated that Inclusive teaching often referred to as equitable or equality-focused teaching is a method in which educators create a learning environment where all students regardless of ethnicity, disabilities, gender, sexual orientation, and background-have equal opportunities to succeed.

Teachers in the current scenario face difficulty in employing suitable learning methods to sustain attention and

maintain active engagement of children with disabilities as well as normal children. Sousa's (2004) Brain-based teaching approach integrates the engagement of emotions, enriched environments, music, movement, meaning-making, and the absence of threat for maximum learner participation and achievement. Herson (2006) defined Brain-Based Learning as the understanding of the relationship between the educational environment and the complexities of the human brain. It focuses on teaching and lesson design methods that adapt to social emotional, and cognitive factors. Brain-based learning improves student's ability to remember new facts.

According to Jenson (2000), Brain-based learning is all about smarter, more purposeful teaching that can reach a greater number of students. It's not any one single thing you do. It's more about the ongoing, purposeful aggregate of environment, instruction, and curriculum strategies that makes it all work. Eric Jensen (2005) pointed out that brain-based learning consists of the following factors engagement, repetition, input quantity, coherence, timing, error connections, and emotional states which provide a conducive learning environment and active involvement of students.

Inclusive Education

According to the National Commission of Special Needs in Education and Training (NCSNET), Inclusive education is defined as a learning environment that promotes the full personal, academic, and professional development of all learners irrespective of race, class, gender, disability, religion, sexual

preference, learning styles, and language. Across the world, initiatives have been made to integrate children with problems into normal education. Children with special needs must be considered and included in regular classrooms if we are to attain truly inclusive education. Teachers shall understand the need to embrace each student in their own right as the variety of pupils in general education classrooms.

Giffard-Lindsay, K., (2007) opined that inclusive education was a better way to help all students to learn and perform better when exposed to the depth of the general education curriculum. Singh, J., (2016) stated that inclusive education allows all students to participate in all learning activities in the classroom equally.

Brain-based learning

The term Brain-based learning refers to the brain's learning mechanism (Jensen, 1998). According to Caine & Caine (1994), Jensen (2008), and Sousa (2017), Brain-based learning provides a rich learning environment that supports the brain's inherent ability to learn while also assisting each student in participating in the learning process in their way. Thomas and Swamy (2014) stated that brain-based learning is a student-centered strategy that improves student's cognitive structures and speeds up their learning. Brain-based learning activities involve both hemispheres of the brain at the same time, which strengthens learning and creates lasting connections in the brain. To apply Brain-based learning strategies as an intervention to enhance self-regulation skills which in turn will enhance the academic

achievement of the students. Brain-based learning uses neuroscience to create an informed curriculum and lesson design. It involves specific learning methods developed from the principles of human attention, memory, motivation, and the process of acquiring conceptual knowledge. The adoption of brain-based learning techniques helps maximize student learning. The motivation of students, attention processes, memory development, information presentation, and other factors become critical components of learning. Ramakrishnan, J. (2018) stated that brain-based activities encourage exploration and learning and support learning standards. Brain-based learning helps students with better retention and higher academic performance.

Brain-based learning strategies for children in the Inclusive Classroom

Brain-based learning considers what is natural to our brain and how the brain is impacted by circumstances and experiences. The following strategies could be employed for the Children with diverse needs in the inclusive classroom.

- Written and verbal information could be combined to boost learning retention
- Hands-on and creative activities could be used for teaching complex concepts that have an impact on their emotional balance.
- Learning activities are designed to develop critical thinking skills
- Projects and assignments could be connected to real-world challenges that students can relate to

- Create a learning environment that develops team-building skills among the students
- Continuous repetition and practice exercises could be done for each course content before moving on to the next unit
- Create a conducive classroom environment to make learning joyful and interesting.
- A new concept can be demonstrated by chunking lengthy texts into smaller bits, helping students grasp the material in their terms, identifying essential words and phrases, and paraphrasing.
- Visual aids such as posters, animations, movies, and guided imagery could be used to develop metacognition
- Implementing “turn and talk” time in classes can help students to discuss ideas and clarify problems they may have had while completing homework.
- A concept map is an effective way of learning concepts by connecting learned facts in a meaningful way.
- Engaging in games that require critical thinking, problem-solving, and decision-making can enhance cognitive and strategic thinking skills.
- Brainstorming is the best technique to induce brain function and improve creativity and divergent thinking.

Conclusion

Brain-based learning strategies would improve students’ performance and increase their chances of success. It is the responsibility of educators to ensure that students receive the right experiences and make the most of them. Education professionals

may design environments where students have a higher chance of learning success by understanding how the brain functions best. Brain-based learning is a paradigm shift in the teaching-learning process in which students acquire knowledge through the way the brain works. Brain-based learning helps students to build their memories and retention. To make a difference in student's learning and enhance Inclusive education, teachers should become familiar with what is known about the brain and how cognitive psychology makes use of this information. The brain, the mind, and the individuals need to be engaged simultaneously and interactively to account for individual differences, cognitive processes, as well as social and affective influences on the learning process. Inclusive education can improve academic outcomes for all students by providing brain-based learning strategies. Students in inclusive classrooms can perform better on tests and have higher graduation rates than in non-inclusive classrooms.

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CHAPTER- 15

NURTURING EMOTIONAL INTELLIGENCE IN INCLUSIVE CLASSROOMS

Theresita Shanthi, N

*Research Scholar &
Assistant Professor of Physical Science,
St. Ignatius College of Education, Palayamkottai.*

Maria Saroja, M

*Research Director, IQAC Coordinator &
Associate Professor of Biological Science
St. Ignatius College of Education (Autonomous)
Palayamkottai-2*

ABSTRACT

Inclusive classrooms, which cater to diverse student populations, benefit significantly from the integration of emotional intelligence (EI). Emotional intelligence encompasses self-awareness, self-regulation, motivation, empathy, and social skills, all of which contribute to a supportive and effective learning environment. This paper explores the critical role of EI in enhancing social interactions, improving academic performance, supporting mental health, and resolving conflicts within inclusive classrooms. Strategies for developing EI in students include modeling by teachers, creating safe and inclusive environments, integrating social-emotional learning (SEL) programs, and incorporating mindfulness practices. The paper also emphasizes the importance of professional development for teachers,

reflective practices, mentorship, and collaborative learning communities. Additionally, methods for assessing EI, such as self-assessment tools, observational assessments, peer feedback, and performance tasks, are discussed. Practical activities, including emotion journals, role-playing, group projects, mindfulness exercises, circle time discussions, empathy mapping, and conflict resolution workshops, are highlighted as effective means to enhance EI. The role of school leadership in promoting EI through creating a vision, professional development, supportive culture, providing resources, and evaluating progress is also examined. By nurturing emotional intelligence, inclusive classrooms can foster a harmonious, academically successful, and emotionally supportive environment for all students.

Keywords : *Emotional Intelligence, Inclusive Classrooms, Self-Awareness, Self-Regulation, Social-Emotional Learning (SEL)*

Introduction

In an increasingly diverse educational landscape, inclusive classrooms are becoming the norm rather than the exception. Inclusive education aims to provide all students, regardless of their abilities or backgrounds, with equitable learning opportunities. Emotional intelligence (EI) plays a crucial role in fostering such an environment. Emotional intelligence, the ability to recognize, understand, manage, and utilize emotions effectively, is essential for both teachers and students in creating a supportive and inclusive classroom.

Understanding Emotional Intelligence

Emotional intelligence comprises several key components:

Self-Awareness: Recognizing one's own emotions and their effects on thoughts and behavior. This component helps students identify their emotional triggers and understand how their emotions influence their interactions with others.

Self-Regulation: Managing one's emotions in healthy ways, controlling impulsive feelings and behaviors, and adapting to changing circumstances. Self-regulation allows students to maintain composure in challenging situations and respond appropriately to their peers.

Motivation: Harnessing emotions to pursue goals with energy and persistence. Motivated students are more likely to set and achieve academic and personal goals, even when faced with obstacles.

Empathy: Understanding the emotions of others, which is critical for building relationships. Empathy enables students to connect with their peers, appreciate diverse perspectives, and provide support when needed.

Social Skills: Managing relationships to move people in desired directions, effectively communicating, and resolving conflicts. Strong social skills facilitate collaboration, problem-solving, and the development of a positive classroom community.

The Importance of Emotional Intelligence in Inclusive Classrooms

Enhancing Social Interactions: Emotional intelligence fosters positive interactions among students. It helps them understand and respect each other's differences, promoting a sense of

community and belonging. Inclusive classrooms where emotional intelligence is emphasized tend to have more harmonious relationships and fewer incidents of bullying.

Improving Academic Performance: Students with high emotional intelligence are better at managing stress, staying motivated, and persevering through challenges, leading to improved academic outcomes. By understanding their emotions, students can focus better, handle exam anxiety, and stay committed to their studies.

Supporting Mental Health: Emotionally intelligent classrooms provide a supportive environment where students feel understood and valued, which is vital for their mental health. When students feel emotionally secure, they are more likely to participate actively and take intellectual risks.

Conflict Resolution: Emotional intelligence equips students with the skills to manage conflicts constructively, leading to a more harmonious classroom environment. Students learn to approach disagreements with empathy and problem-solving strategies, reducing the likelihood of escalation.

Strategies for Developing Emotional Intelligence in Students

Modelling Emotional Intelligence: Teachers should model emotionally intelligent behavior by demonstrating self-awareness, self-regulation, empathy, and effective social skills. This sets a positive example for students to emulate. For instance, teachers can openly discuss their emotions and coping strategies during challenging times.

Creating a Safe and Inclusive Environment: Establishing a classroom culture where students feel safe to express their emotions and opinions is crucial. This can be achieved through clear communication, consistent routines, and respect for diversity. Encouraging an atmosphere of acceptance and support helps students feel secure.

Social-Emotional Learning (SEL) Programs: Integrating SEL programs into the curriculum can provide structured opportunities for students to develop their emotional intelligence. Programs like CASEL's SEL framework offer practical strategies for fostering self-awareness, self-management, social awareness, relationship skills, and responsible decision-making.

Mindfulness Practices: Incorporating mindfulness activities, such as meditation and deep-breathing exercises, can help students develop greater self-awareness and self-regulation. These practices promote relaxation and emotional balance, helping students to manage stress and anxiety.

Emotion-Focused Discussions: Regularly discussing emotions and their impact on behavior can help students develop a better understanding of themselves and others. Teachers can use stories, role-plays, and real-life scenarios to facilitate these discussions. For example, discussing the emotions of characters in a story can provide insights into handling similar situations in real life.

Encouraging Empathy and Perspective-Taking: Activities that encourage students to put themselves in others' shoes can enhance empathy. For instance, discussing characters' feelings in a story or engaging in group projects where collaboration is key. Role-

playing different perspectives in classroom debates can also foster empathy and understanding.

Supporting Teachers in Developing Emotional Intelligence

Professional Development: Schools should invest in professional development programs focused on emotional intelligence for teachers. Training can include workshops, seminars, and online courses that provide strategies for integrating EI into teaching practices. These programs can offer practical tools and techniques for teachers to use in their classrooms.

Reflective Practices: Encouraging teachers to engage in reflective practices, such as journaling or peer discussions, can help them become more aware of their emotional responses and improve their self-regulation and empathy. Reflective practices enable teachers to evaluate their interactions with students and identify areas for improvement.

Mentorship and Coaching: Providing teachers with access to mentors or coaches who specialize in emotional intelligence can offer personalized support and guidance. Mentors can share their experiences and offer advice on handling specific classroom challenges.

Collaborative Learning Communities: Creating communities of practice where teachers can share experiences, challenges, and strategies related to emotional intelligence can foster a collaborative and supportive professional environment. Regular meetings and discussions can help teachers stay motivated and continuously improve their practices.

Measuring and Assessing Emotional Intelligence

Self-Assessment Tools: Providing students with tools to assess their own emotional intelligence can help them gain insights into their strengths and areas for improvement. These tools can include questionnaires, reflective journals, and self-evaluation checklists. Self-assessment encourages students to take ownership of their emotional development.

Observational Assessments: Teachers can use observational assessments to evaluate students' emotional intelligence in real-time. This can involve noting behaviors that indicate self-awareness, self-regulation, empathy, and social skills during classroom activities. Observations can be recorded and reviewed to track progress over time.

Peer Feedback: Encouraging students to give and receive feedback from their peers can provide valuable perspectives on their emotional intelligence. This can be facilitated through structured activities such as peer reviews and group discussions. Peer feedback helps students develop a deeper understanding of their social interactions.

Performance Tasks: Designing performance tasks that require students to demonstrate emotional intelligence in practical situations can provide a comprehensive assessment of their skills. Examples include group projects, role-plays, and problem-solving activities. These tasks allow students to apply their emotional intelligence in real-world contexts.

Practical Activities for Enhancing Emotional Intelligence

Emotion Journals: Encourage students to keep an emotion journal where they can record their feelings, what triggered them, and how they responded. This practice helps increase self-awareness and allows students to reflect on their emotional patterns.

Role-Playing: Use role-playing exercises to help students practice empathy and social skills. For example, students can act out scenarios that require them to navigate social interactions, resolve conflicts, or support a peer in distress.

Group Projects: Organize group projects that require collaboration and communication. Such projects help students practice social skills, manage group dynamics, and appreciate diverse perspectives.

Mindfulness Exercises: Integrate short mindfulness exercises into the daily routine. Techniques like deep breathing, guided imagery, or mindful listening can help students develop self-regulation and stress-management skills.

Circle Time Discussions: Dedicate time for circle discussions where students can openly talk about their feelings, share experiences, and offer support to one another. This practice fosters a sense of community and enhances emotional awareness.

Empathy Mapping: Use empathy mapping activities where students can visually map out and discuss the emotions and perspectives of different characters or peers. This helps in building empathy and understanding diverse viewpoints.

Conflict Resolution Workshops: Conduct workshops focused on conflict resolution skills. Teach students techniques such as active listening, "I" statements, and finding common ground to resolve disputes amicably.

The Role of School Leadership in Promoting Emotional Intelligence

Creating a Vision for EI: School leaders should articulate a clear vision for integrating emotional intelligence into the school culture. This includes setting goals, allocating resources, and establishing policies that support EI development.

Professional Development for Leaders: School administrators should also engage in professional development to enhance their own emotional intelligence. Leaders with high EI can effectively model and promote these skills within their school community.

Building a Supportive Culture: School leaders can foster a supportive culture by recognizing and celebrating emotionally intelligent behaviors. This might include acknowledging teachers and students who demonstrate empathy, collaboration, and effective conflict resolution.

Providing Resources: Ensuring that teachers have access to resources, such as SEL program materials, training sessions, and coaching, is crucial for the successful implementation of emotional intelligence initiatives.

Evaluating Progress: School leaders should regularly evaluate the progress of EI initiatives. This can involve collecting feedback

from teachers, students, and parents, as well as monitoring changes in school climate and student outcomes.

Conclusion

Nurturing emotional intelligence in inclusive classrooms is essential for creating a supportive and effective learning environment. By developing self-awareness, self-regulation, empathy, and social skills, both teachers and students can contribute to a more inclusive and harmonious educational experience. Investing in emotional intelligence not only enhances academic performance but also supports the overall well-being and social development of students.

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CHAPTER- 16

UNVEILING THE ROLE OF PROBLEM-BASED LEARNING APPROACH

Jyothish John Kizhakkethalackal

Research Scholar

Department of Education

Manonmaniam Sundaranar University, Tirunelveli

Deepa, H

Associate Professor of Education

Department of Education (DD&CE)

Manonmaniam Sundaranar University, Tirunelveli

ABSTRACT

The vision of personalized Problem Based Learning (PBL) represents a significant departure from traditional teaching methods and requires a paradigm shift in education. It is a fact that, not every teacher may be immediately ready for this change, and there are challenges associated with disrupting established educational norms. However, the call for working toward making personalized PBL a reality underscores the potential benefits for student engagement, critical thinking, and real-world application of knowledge. Efforts to promote personalized PBL may involve professional development for teachers, changes in educational policies, and a broader shift in the culture of education. Collaborative initiatives and a commitment to innovation can contribute to creating a system that supports personalized and impactful learning experiences for students.

Keywords: *Personalized Learning, Problem Based Learning.*

Introduction

Problem-Based Learning (PBL) is indeed a student-centered instructional strategy that emphasizes active learning and critical thinking. In a PBL approach, students are presented with a real-world problem or scenario that requires them to investigate, analyze, and solve. The process typically involves collaboration within small groups, and students take on the responsibility of driving their learning. In PBL, the focus is shifted from traditional methods of direct presentation of facts and concepts to a more dynamic and student-driven approach. The use of complex, real-world problems as the central element of instruction provides a context for learning and encourages students to actively engage with the material. In PBL, students are often presented with a scenario or case study that mirrors challenges they might encounter in professional or real-life situations. They then work collaboratively to analyze the problem, identify relevant concepts and principles, conduct research, and propose solutions. This process not only enhances their understanding of the subject matter but also develops critical thinking, problem-solving, and teamwork skills. By emphasizing the application of knowledge to practical problems, PBL aims to better prepare students for the complexities of the real world.

Features of the Problem-Based Learning Approach

Problem-based learning is designed to go beyond rote memorization of facts and encourage students to engage with the material in a meaningful way, fostering skills that are valuable

both academically and in real-world applications. The following are the key features of the PBL approach.

Real-world Problems: PBL scenarios are designed to simulate authentic, complex problems that professionals in the field might encounter. This helps students see the relevance of their learning to practical applications.

Student Autonomy: PBL encourages students to take ownership of their learning. They decide how to approach the problem, what resources to use, and how to present their findings. This autonomy fosters a sense of responsibility and self-directed learning.

Collaboration: Working in small groups is a central aspect of PBL. Collaborative learning helps students develop interpersonal skills, teamwork, and the ability to communicate effectively.

Inquiry and critical thinking: PBL promotes inquiry-based learning, where students ask questions, conduct research, and critically evaluate information. This process helps them develop problem-solving skills and a deeper understanding of the subject matter.

Reflection: Throughout the PBL process, students reflect on their learning experiences. This reflection helps them consolidate their understanding, identify areas for improvement, and make connections between theory and practice.

Facilitator Role: In a PBL environment, the instructor serves as a facilitator rather than a traditional lecturer. The facilitator guides the process, provides support, and ensures that students stay on track, but the emphasis is on student-led exploration.

Steps in the Problem-Based Learning Approach

Step 1: Explore the issue and necessary information and learn new concepts, principles, and skills related to the proposed topic. This may involve initial research, reading, and discussions to build a foundational understanding of the problem.

Step 2: State What is known-Individual students and groups list what they already know about the scenario and identify knowledge gaps. This step encourages students to reflect on their existing knowledge, share perspectives within their group, and recognize areas where additional information is needed.

Step 3: Define the issues and the problem within the context of what is already known and what information students expect to learn. This step involves clarifying the problem statement, ensuring that students understand the scope and context of the issue they are addressing.

Step 4: Research the knowledge resources and information that will contribute to a comprehensive understanding of the problem. Students engage in research, consulting various sources to gather information that is relevant to the problem at hand.

Step 5: Investigate possible actions and solutions to the problem, and formulate and test potential hypotheses. Students brainstorm potential solutions, analyze their feasibility, and conduct experiments or simulations to test hypotheses.

Step 6: Present and support the chosen solution: Clearly state and support conclusions with relevant information and evidence. Groups or individuals present their findings, explaining their

chosen solution and providing evidence to support their recommendations.

Step 7: Review the performance: Evaluate performance and plan improvements for future problem-solving. Reflection is key; students assess the effectiveness of their approach, identify areas for improvement, and consider how they can enhance their problem-solving skills in the future.

Role of the Teacher in the PBL Approach

The role of the teacher aligns with a more facilitative and student-centered approach, where teachers act as guides, advisors, and facilitators rather than traditional instructors.

Teacher as Advisor: In personalized PBL, teachers take on the role of advisors, guiding students through the learning process. This involves helping students refine their projects, formulate driving questions, and create effective project plans.

Question Techniques: Teachers use questioning techniques to help students focus and crystallize their projects and plans. This encourages critical thinking and helps students clarify their understanding and goals.

Formative Assessments: While teachers are still involved in formative assessments, the focus shifts from planning all instructional activities for students to helping them plan their own learning experiences. This promotes student agency and autonomy.

Alignment with Standards: Teachers assist students in selecting standards and learning targets that align with their projects and products. This ensures that the personalized learning experiences still address the required academic standards.

Infrastructure Facilitation: Instead of designing PBL projects themselves, teachers create and facilitate the infrastructure for learning. This involves setting up the framework, resources, and support systems that enable students to engage effectively in personalized PBL.

Benefits of the Problem-Based Learning Approach

PBL appears to have advantages in improving social and communication skills, problem-solving, and self-learning skills, both PBL and traditional methods can be effective in imparting factual and clinical knowledge. The choice between the two approaches may depend on the specific learning objectives, the context, and the preferences of both educators and students. The following are the benefits of the PBL approach.

Long-Term Knowledge Retention: PBL encourages a depth of understanding that contributes to long-term retention of knowledge. Instead of memorizing information temporarily, students engage with the material in a way that supports lasting comprehension.

Continuous Engagement: PBL acts as a dynamic and engaging method, providing a refreshing break from traditional lessons. This approach sustains students' interest and involvement throughout the learning process.

Development of Transferable Skills: PBL fosters the development of skills that can be applied in real-world scenarios. Students acquire problem-solving, negotiation, and communication skills, preparing them for the challenges of an evolving world.

Teamwork and Interpersonal Skills: Collaborative problem-solving in PBL cultivates teamwork and interpersonal skills. Students learn to effectively communicate, collaborate, and navigate group dynamics, essential in both academic and professional settings.

Higher-order Thinking Skills: PBL shifts the focus from rote memorization to the cultivation of higher-order thinking skills. Students engage in critical thinking, analysis, synthesis, and application of knowledge to solve complex problems.

Increased Motivation: The real-world relevance of PBL motivates students to learn. Connecting classroom learning to practical problem-solving enhances students' intrinsic motivation to explore and understand the material.

Opportunities for Collaboration: PBL provides a platform for collaborative learning. Students work together, practicing communication and interpersonal skills while gaining exposure to diverse perspectives and ideas. Working as a team thereby increases the output, making the student more proficient and competent.

Student-Centered Learning: PBL places students at the center of their learning experience, fostering self-directed learning. This

approach encourages students to take responsibility for their education and become active participants in the learning process.

Specificity in learning: PBL encourages focused and targeted learning. Students concentrate on the specific areas relevant to the identified problem, leading to a deeper and more meaningful understanding of the material.

Problem Identification and Solution-Oriented Thinking: PBL stills in students a proactive approach to problem identification and solution-oriented thinking. This mindset prepares them to face challenges with confidence and creativity. Thus, Problem-Based Learning offers a holistic approach to education, addressing not only academic knowledge but also the development of critical skills and attitudes that are valuable for a lifetime.

Conclusion

Problem-based learning often involves group work and collaborative learning, which can enhance social and communication skills. Students in PBL settings often need to discuss and solve problems together, improving their ability to work in teams and communicate effectively. PBL places a strong emphasis on problem-solving. Students are presented with real-world problems and are tasked with finding solutions. This process encourages critical thinking, analytical skills, and the ability to apply knowledge to practical situations. PBL encourages students to take responsibility for their learning. They are expected to identify what they need to know to address the problems at hand and then seek out the relevant information. This

can foster a sense of self-directed learning and lifelong learning skills. It encourages a deeper understanding of the material and fosters skills that go beyond memorization, promoting a more holistic and integrated approach to learning.

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CHAPTER -17

TECHNOLOGY FOR INCLUSIVE EDUCATION: POLICY PERSPECTIVES AND IMPLEMENTATION IN INDIA

Rawoofu Nisha, J

*Assistant Professor of Education
St. Ignatius College of Education(Autonomous)
Palayamkottai*

ABSTRACT

This chapter explores the potential of technology to promote inclusive education in India. It outlines the rapid growth of technology in Indian education and its potential benefits for enhancing access, personalization, and bridging learning gaps for diverse learners. The chapter defines inclusive education, encompassing students with disabilities, diverse learning needs, and learners from marginalized communities, and highlights the challenges they face in traditional settings. It then explores how technology can create more accessible, equitable, and personalized learning experiences, empowering both teachers and learners. The chapter further analyses provisions of NEP 2020 regarding technology integration and its alignment with the principles of equity, access, and quality education for all enshrined in the SDGs and other relevant Indian policies. It realistically discusses the challenges of implementing NEP 2020, including the digital divide, teacher preparedness, and funding concerns, suggesting potential solutions and strategies. The chapter examines various technology tools and applications for

inclusive education, including assistive technologies, adaptive learning systems, and online learning platforms. It emphasizes the importance of teacher training and professional development to equip them with the skills to integrate technology effectively and utilize pedagogical approaches that cater to diverse learning needs. Successful case studies from India and around the world showcasing innovative practices and potential adaptations for the Indian context. Finally, the chapter concludes by summarizing the key opportunities and challenges associated with technology for inclusive education in India, reiterating the importance of strategic policy implementation, teacher support, and continuous innovation. It emphasizes the need for collaborative efforts among policymakers, educators, technology developers, and advocates to create a truly inclusive educational environment for all learners in India.

Keywords: *Inclusive Education, Technology Integration, NEP 2020, Assistive Technologies, Adaptive Learning, Teacher Training, Sustainable Development Goals (SDGs)*

Introduction

India has witnessed a rapid surge in technology adoption across various sectors, including education (Chaudhary et al., 2021). This is evident in the growing use of smartphones, internet connectivity, and educational technology (EdTech) tools in classrooms (Mitra & Ranade, 2020). This digital transformation holds immense potential to reshape the educational landscape in India by:

Enhancing Access to Education: Technology can bridge geographical and physical barriers, allowing students from remote or underserved communities to access quality educational resources and learning opportunities (Kumar & Mishra, 2021).

Promoting Personalized Learning: Digital tools and platforms can personalize the learning experience by catering to individual learning styles, paces, and needs (Mishra et al., 2018). Adaptive learning platforms, gamification elements, and individualized learning plans are the ways to achieve personalized learning.

Bridging Learning Gaps: Technology, such as online learning platforms and remedial software, can provide additional support to individuals struggling with specific concepts or facing learning difficulties (Bhattacharya & Misra, 2019). However, implementing technology effectively requires addressing existing infrastructure disparities and ensuring equitable access to technology resources across diverse socio-economic backgrounds (Sawhney, 2020).

Inclusive education refers to the practice of educating all students with diverse learning needs, including those with disabilities, diverse learning styles, and learners from marginalized communities within the same classroom environment (UNESCO, 2017). This approach aims to create a learning environment that caters to individual needs and ensures equal participation and opportunities for all learners.

In traditional educational settings, students with diverse needs often face challenges such as

- Lack of access to learning materials and resources tailored to their specific needs.

- Limited access to specialized support services and individualized instruction.
- Negative attitudes and discriminatory practices within the educational system.

These challenges can hinder their academic progress, well-being, and overall learning experience. Technology has the potential to be a powerful tool for promoting inclusive education by:

Creating more accessible learning environments: Assistive technologies, such as text-to-speech software, screen readers, and magnification tools, can remove barriers and facilitate learning for individuals with disabilities (Sharma et al., 2019).

Providing personalized learning opportunities: Online platforms and adaptive learning software can cater to diverse learning needs by offering differentiated instruction, individualised feedback, and diverse learning pathways (Kumar & Mishra, 2021).

Empowering teachers and learners: Technology can empower teachers to provide more effective support and differentiated instruction through various digital tools and resources (Mishra & Koehler, 2006). It can also empower learners by giving them greater control over their learning pace, style, and access to information.

By creating more accessible, equitable, and personalized learning experiences, technology can play a crucial role in promoting meaningful inclusion in Indian education.

Policy Framework: National Education Policy 2020 (NEP 2020) and Inclusive Education

NEP 2020 emphasis on inclusion directly aligns with multiple international and national initiatives aimed at achieving equitable access to quality education for all. Here's how:

Sustainable Development Goals (SDGs): NEP 2020 focus on technology-enabled inclusive education contributes to achieving SDG 4 - "Quality Education" (United Nations, 2023). By promoting inclusivity and accessibility, NEP 2020 strives to ensure "inclusive and equitable quality education and promote lifelong learning opportunities for all" (United Nations, 2023).

Rights of Persons with Disabilities Act (RPWD) 2016: NEP 2020 aligns with the RPWD 2016, which mandates inclusive education and equal access to education for individuals with disabilities (Government of India, 2016). NEP 2020 provisions regarding technology adoption can further support the implementation of this act by providing accessible learning materials and facilitating differentiated instruction.

Furthermore, NEP 2020 resonates with principles of equity, access, and quality education for all embedded within the Indian Constitution (Preamble, Article 21A) and various national educational policies like the Sarva Shiksha Abhiyan (SSA) and the Rashtriya Madhyamic Shiksha Abhiyan (RMSA) (Ministry of Education, Government of India, n.d.). These policies aim to provide universal access to elementary and secondary education, respectively, and emphasizing inclusivity aligns with these broader goals.

Challenges and Opportunities in Implementation

While NEP 2020 holds significant promise for promoting inclusive education, several challenges need to be addressed for successful implementation. These include:

Digital divide: Bridging the digital divide and ensuring equitable access to technology resources and infrastructure remains a crucial challenge (Mitra & Ranade, 2020). This necessitates addressing issues like affordability, connectivity, and digital literacy gaps across diverse communities.

Teacher preparedness: Equipping teachers with the necessary skills to integrate technology effectively and cater to diverse learning needs requires ongoing professional development programs and support systems (Mishra & Koehler, 2006).

Funding concerns: Implementing NEP 2020 provisions effectively requires significant investment in infrastructure, technology procurement, and teacher training programs. Collaborations with private and philanthropic sectors, along with efficient resource allocation, are crucial (Sawhney, 2020).

Potential solutions and strategies for addressing these challenges include

Public-Private Partnerships: Collaborations between government, NGOs, and private entities can leverage diverse resources and expertise for infrastructure development, technology provision, and teacher training programs.

Community Engagement: Engaging with local communities in designing and implementing inclusive education initiatives can foster ownership and ensure contextual relevance.

Focus on Affordability and Accessibility: Prioritizing affordable technology solutions, promoting open educational resources (OERs), and investing in accessible infrastructure can address the digital divide and ensure equitable access to learning opportunities.

Teacher Training and Support: Providing ongoing professional development opportunities, including technology integration strategies, differentiated instruction methods, and inclusive pedagogy training, is crucial for teachers to implement effectively the vision of NEP 2020.

By acknowledging these challenges and proactively implementing appropriate solutions, India can harness the potential of NEP 2020 and technology to create a truly inclusive and equitable educational system for all learners.

Technology Tools and Applications for Inclusive Education

Assistive technologies are tools and software designed to support individuals with disabilities in overcoming barriers and enhancing their participation in educational settings (Sharma et al., 2019). These technologies play a crucial role in promoting inclusive education by:

Facilitating access to learning content: Text-to-speech software reads digital text aloud, allowing visually impaired individuals to access and understand written materials (Bhattacharya & Misra,

2019). Screen readers provide audio descriptions of visual elements on computer screens, aiding individuals with visual impairments in navigating digital environments.

Supporting diverse learning needs: Audio recording tools and dictation software can be beneficial for individuals with learning disabilities or motor impairments, allowing them to participate in class discussions and complete assignments without relying solely on writing.

Promoting independence and self-learning: Assistive technologies like voice-activated devices or alternative keyboards can empower individuals with physical disabilities by facilitating independent learning and participation in activities.

Adaptive learning systems

It utilize artificial intelligence (AI) to personalize the learning experience by tailoring content and instruction to individual student needs (Kumar & Mishra, 2021). These systems analyze student performance, learning pace, and preferences to adjust the difficulty level, provide targeted feedback, and recommend relevant learning materials. By offering a variety of learning pathways and catering to diverse learning styles, adaptive learning systems can:

Address diverse needs of learning: They cater to individual differences by adjusting the content delivery, difficulty level, and instructional approach based on each student's progress and understanding (Mishra et al., 2018).

Promote mastery learning: Adaptive learning systems can provide individualized feedback and additional practice

opportunities to ensure students grasp concepts before moving on to new ones.

Enhance motivation and engagement: Personalized learning experiences tailored to individual needs and preferences can increase student engagement and motivation, leading to improved learning outcomes. Online learning platforms offer the potential to increase access to quality education, particularly for individuals in remote or underserved communities where access to traditional schools might be limited (Kumar & Mishra, 2021). However, for online learning to be truly inclusive, the following aspects are crucial:

Universal design principles: Online learning platforms and content should adhere to universal design principles, ensuring accessibility for individuals with diverse abilities (Bhattacharya & Misra, 2019). This includes features like text alternatives for images, captions for videos, and keyboard accessibility for all functionalities.

Web Accessibility Standards: Following web accessibility standards like the Web Content Accessibility Guidelines (WCAG) ensures that online content is perceivable, operable, understandable, and robust for users with disabilities (World Wide Web Consortium, 2023). By investing in accessible online learning platforms and adhering to universal design principles, educational institutions can extend educational opportunities to a wider range of learners and promote inclusive learning environments.

Teacher Training and Professional Development

The increasing adoption of technology in education necessitates a corresponding evolution in the role of teachers. This section explores the changing role of teachers, the importance of technology integration and pedagogical approaches, and the need for ongoing professional development and support systems for the successful implementation of technology-driven inclusive education.

Role of teachers: a significant change

As technology becomes more integrated into classrooms, the role of teachers shifts from being sole sources of information to facilitators of learning, guides, and mentors (Mishra & Koehler, 2006). This requires teachers to:

Curate and utilize technology effectively: Teachers need to identify and select appropriate technology tools and resources that align with learning objectives and cater to diverse learning styles (Kumar & Mishra, 2021).

Design Engaging and Interactive Learning Experiences: Teachers can leverage technology to create engaging and interactive learning experiences that promote critical thinking, collaboration, and problem-solving skills.

Provide Differentiated Instruction: Technology allows teachers to personalize learning experiences by offering diverse content formats, instructional approaches, and assessment methods to meet the individual needs of each student (Mishra et al., 2018).

Support and encourage student agency: By fostering a collaborative learning environment where students actively participate in using technology for learning, teachers can empower students to become independent learners and develop technological fluency.

Technology Integration and Pedagogical Approaches

Effectively integrating technology into teaching practices requires more than simply incorporating technological tools. Teachers need to be equipped with the skills to blend technology seamlessly with sound pedagogical principles to create inclusive and effective learning environments. Here are some key aspects to consider:

Pedagogical Approaches: Shifting from traditional teacher-centered methods towards student-centered approaches that encourage active learning, collaboration, and critical thinking is essential (Mishra et al., 2018). Technology is used to facilitate these approaches through collaborative tools, online simulations, and project-based learning activities.

Universal Design for Learning (UDL): UDL principles are used to design learning experiences that are flexible and meet the needs of diverse learners (CAST, n.d.). Technology can support UDL by providing multiple means of representation, engagement, and action and expression for all students.

Ongoing Professional Development and Support

Continuous professional development (CPD) is crucial for teachers to stay updated on emerging technologies and develop

skills to integrate them effectively. This includes:

Training programs: Providing access to training programs that equip teachers with the knowledge and skills needed to use technology for inclusive learning effectively (Sawhney, 2020).

Mentorship and peer support: Establishing mentorships and fostering collaborative networks among teachers can facilitate knowledge sharing, peer learning, and problem-solving, providing invaluable support for effective technology integration.

Technical support: Readily available technical support within schools can help teachers overcome technical challenges and ensure technology can be utilised seamlessly in their teaching practices. By equipping teachers with the needed skills and fostering ongoing professional development, educational institutions can empower them to leverage technology as a powerful tool for creating inclusive learning environments that cater to the diverse needs of all learners.

Examining past successes and effective methods

Indian Initiatives

Eklavya Model Schools: This initiative by the Ministry of Tribal Affairs provides technology-enabled classrooms in tribal-dominated areas (Ministry of Tribal Affairs, Government of India, n.d.). These classrooms utilise interactive digital boards, tablets for students, and digital content specifically designed for tribal languages and cultural contexts.

Successes: Increased student enrollment and engagement, improved learning outcomes in core subjects like mathematics

and language, and enhanced teacher capacity through technology training.

Lessons Learned: Importance of contextualizing content and instruction to cater to specific cultural and linguistic needs, ongoing teacher training and support, and ensuring equitable access to technology infrastructure across remote locations.

Aarambh - Inclusive Classrooms: This non-profit organization utilises custom-designed apps and digital learning tools to create inclusive classrooms for children with disabilities (Aarambh - Inclusive Classrooms, n.d.). Their interventions focus on personalized learning pathways, gamified learning experiences, and teacher training in using technology for inclusive practices.

Successes: Improved learning progress for children with disabilities, increased parental engagement, and development of teacher expertise in technology-based inclusive education.

Lessons Learned: Importance of collaboration between NGOs and educational institutions, focusing on accessibility features and user-friendliness of technology tools, and building capacity within communities for sustainable implementation.

Global Examples

Finland's Personalized Learning Platform (PLE): This digital platform provides students with personalized learning pathways based on individual strengths and weaknesses, utilizing AI and adaptive learning algorithms (Finnish National Agency for Education, n.d.).

Potential adaptations for India: Implementing similar platforms focusing on local languages and incorporating cultural contexts. Emphasizing teacher training in using the platform for personalized instruction and ongoing monitoring of student progress.

Assistive Technology Resource Centers (ATRCs) in the United States: These centers provide individuals with disabilities access to assistive technologies, training on utilizing them, and technical support (National Clearinghouse for Assistive Technologies and Technical Assistance Systems, n.d.).

Potential adaptations for India: Establishing similar centers within schools or community hubs, tailoring training programs to specific needs and contexts, and fostering partnerships with technology companies for affordable assistive technologies.

India can learn from successful initiatives and global examples to gain valuable insights and apply them to its situation. This includes focusing on culturally relevant content, providing continuous teacher support, and prioritizing accessibility and affordability of technology solutions. Continuous evaluation and adaptation are crucial for building upon existing successes and ensuring technology truly serves as a tool for creating truly inclusive and equitable educational opportunities for all learners in India.

Conclusion

Technology holds immense potential for transforming the educational landscape in India, particularly by promoting

inclusive education. This paper has explored the various opportunities and challenges associated with leveraging technology for this purpose.

Key Opportunities

Enhanced Access: Technology can bridge geographical and physical barriers, allowing students from diverse backgrounds to access quality education (Kumar & Mishra, 2021).

Personalized Learning: Technology can cater to individual learning needs and styles through adaptive learning systems, online learning platforms, and differentiated instruction (Mishra et al., 2018).

Empowerment: Assistive technologies can empower students with disabilities to overcome barriers and actively participate in learning (Sharma et al., 2019).

Enhanced Engagement: Technology can create engaging and interactive learning experiences, fostering student motivation and interest (Mishra & Koehler, 2006).

Challenges to Address

Digital Divide: Bridging the digital divide and ensuring equitable access to technology resources remains a critical challenge (Mitra & Ranade, 2020).

Teacher Preparedness: Equipping teachers with the skills to integrate technology effectively and implement inclusive pedagogy is crucial (Mishra & Koehler, 2006).

Funding Concerns: Implementing technology-driven inclusive education requires significant investment in infrastructure, resources, and ongoing support systems (Sawhney, 2020).

Moving Forward

To unlock the full potential of technology for inclusive education in India, a multi-pronged approach is crucial. This includes:

Strategic Policy Implementation: Effective implementation of policies like NEP 2020, alongside addressing funding concerns and ensuring accessibility, is essential (Government of India, 2016).

Teacher Support: Providing ongoing professional development opportunities and creating support systems for teachers are necessary for successful technology integration (Kumar & Mishra, 2021).

Continuous Innovation: Collaboration between educators, policymakers, technology developers, and advocates is crucial to developing culturally relevant, affordable, and accessible technology solutions (Aarambh - Inclusive Classrooms, n.d.).

By acknowledging both the opportunities and challenges presented by technology, and through collaborative efforts, India can strive towards creating a truly inclusive educational environment where all learners can thrive.

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CHAPTER- 18

INCLUSIVE EDUCATION: A PATH TO EQUITABLE LEARNING

Gnana Kamali, M

*Assistant Professor of Computer Science
St.Ignatius College of Education(Autonomous)
Palayamkottai*

ABSTRACT

Inclusive education is a transformative approach that aims to ensure all students, regardless of their abilities, backgrounds, or needs, have access to a high-quality education. By embracing diversity and promoting equity, inclusive education seeks to create an environment where every learner can thrive. It is a cornerstone of equality and empowerment at the elementary stage, aiming to provide all students, regardless of their background or abilities, with equal opportunities for learning and growth. It explores the benefits of inclusive education, including enhanced academic, social, and emotional development for all students. Additionally, it examines common challenges and barriers to implementing inclusive practices, such as limited resources and attitudinal barriers, and discusses strategies for overcoming these obstacles. The role of teachers and school leadership in creating inclusive classrooms is emphasized, along with the importance of collaboration and community engagement in supporting inclusive practices.

Keywords: *Inclusive education, equality and empowerment, emotional development*

Introduction

Inclusive education is a dynamic and progressive approach to teaching that aims to ensure all students, regardless of their physical, intellectual, social, or emotional challenges, have equal opportunities to learn and participate in the educational process. At school level, inclusive education becomes even more critical as students prepare for adulthood, higher education, and their future careers.

Understanding Inclusive Education

Inclusive education is built on the premise that all students should learn together, regardless of any differences they may have. This model contrasts with traditional special education, which often involves segregating students with disabilities into separate classes or schools. Inclusive education strives to integrate all students into mainstream classrooms and provide them with the support they need to succeed.

The Importance of Inclusive Education at the Higher Secondary Level

Promotes Diversity and Acceptance: Higher secondary schools that embrace inclusive education foster an environment of diversity and acceptance. This helps students learn to appreciate differences, leading to a more tolerant and understanding society.

Improves Academic Outcomes: Research shows that inclusive education can lead to better academic outcomes for all students. Inclusive settings encourage diverse teaching methods, benefiting not only students with special needs but also their peers.

Prepares Students for Real-World Challenges: In the real world, individuals must interact with a diverse range of people. Inclusive education prepares students for these interactions, promoting social skills and emotional intelligence.

Enhances Personal Growth: For students with disabilities, being included in mainstream classrooms enhances their self-esteem, motivation, and social skills. For their peers, it fosters empathy, leadership, and a deeper understanding of equity and justice.

Strategies for Implementing Inclusive Education

Teacher Training: Effective inclusive education requires teachers who are well-trained in inclusive practices. Professional development programs should focus on differentiated instruction, classroom management, and the use of assistive technologies.

Curriculum Adaptation: The curriculum should be flexible to accommodate the diverse needs of students. This might involve modifying lesson plans, using multi-sensory teaching methods, and providing additional resources.

Collaborative Teaching: Co-teaching models, where general and special education teachers work together, can be highly effective. This collaboration ensures that all students receive the support they need without being segregated.

Parental Involvement: Engaging parents in the educational process is crucial. Schools should provide resources and support to help parents advocate for their children and participate in their education.

Support Services: Schools should offer a range of support services, including counseling, speech therapy, and occupational therapy. These services should be integrated into the school day to provide seamless support to students.

Challenges and Solutions

While the benefits of inclusive education are clear, implementing it effectively can be challenging. Some of the common challenges include:

Resource Limitations: Many schools lack the resources needed to support inclusive education fully. This can be addressed through government funding, community partnerships, and grants.

Resistance to Change: Teachers, parents, and students may resist inclusive practices due to a lack of understanding or fear of change. Continuous education and open communication can help overcome this resistance.

Varied Needs: Students in an inclusive classroom have a wide range of needs, making it difficult to provide individualized support. Schools can tackle this by employing teaching assistants and utilizing technology to offer personalized learning experiences.

Conclusion

Inclusive education for higher secondary school students is not just a pedagogical approach but a moral imperative. It reflects a commitment to equity, diversity, and the belief that every student

has the right to a quality education. By embracing inclusive education, schools can ensure that all students, regardless of their abilities, are prepared to lead fulfilling and productive lives. Inclusive education is a transformative approach that benefits all students. It requires commitment, resources, and a willingness to adapt and innovate. However, the rewards in terms of academic achievement, personal growth, and social harmony are well worth the effort. By fostering an inclusive environment, we can help build a more just and equitable society for future generations.

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CHAPTER- 19

INCORPORATING DIVERSITY, EQUITY, AND INCLUSION IN SHAPING INCLUSIVE EDUCATIONAL PRACTICES

Deepa, C

*Assistant Professor of Physical Science
St. Ignatius College of Education (Autonomous)
Palayamkottai, Tirunelveli*

ABSTRACT

Inclusive education is a powerful strategy to promote equity in education. Inclusive education goes beyond just putting students with disabilities into regular classrooms. It's a comprehensive approach that values and respects the unique qualities of every learner, considering things like their race, ethnicity, gender, economic situation, language, and cultural background. Its goal is to foster an inclusive and embracing culture within education. Teachers are crucial in making inclusive education a reality. They are the key agents who facilitate the development of inclusive practices and create a supportive and inclusive classroom environment. As such, their perspectives on the challenges, benefits, and strategies related to inclusive education are essential for guiding policy and practice in this area.

Keywords: *Inclusive education, comprehensive approach, classroom environment.*

Introduction

In today's dynamic educational landscape, diversity, equity, and inclusion (DEI) stand as pillars that not only uphold the integrity

of learning environments but also shape them to be more inclusive and effective. As the world becomes increasingly interconnected, the role of education in fostering global citizens who are empathetic, critical thinkers, and aware of the diverse world around them becomes paramount. DEI (Diversity, Equity, and Inclusion) plays a pivotal role in this, ensuring that every student, regardless of their background, has an equal opportunity to thrive. Diversity, equity, and inclusion are increasingly important and have the potential to strengthen organizations for higher profitability and promote resilience and growth since employees strive to achieve and contribute to their full potential.

McKinsey (2022) shows that diverse and inclusive workplaces are likely to outperform their peers since they easily attract and retain skilled talents, promote innovation, and reflect the image of the community and customers (Hunt et al., 2020). Diversity, equity, and inclusion is a term used to describe policies and programs that promote the representation and participation of different groups of individuals. DEI encompasses people of different ages, races, ethnicities, abilities, disabilities, genders, religions, cultures, and sexual orientations. It also covers people with diverse backgrounds, experiences, skills, and expertise. Diversity, equity, and inclusion are three different but interconnected concepts. They work together to create an environment of respect and fairness. It involves initiatives promoting equal access, opportunity, employment, and a sense of belonging for underrepresented people in the workplace. DEI plays an important part in promoting an inclusive workplace culture and ensuring an effective recruiting and hiring process. It

aims to achieve these goals by overcoming unconscious biases, which are stereotypes about other people formed outside a person's awareness, and identifying and mitigating microaggressions, which are negative behaviors toward individuals based on those biases. Diversity, equity, and inclusion are three interconnected concepts that work together to promote healthy communities and places of work free of stereotyping and mistreatment. In essence, DEI in education is not just about creating inclusive environments; it's about shaping the next generation of thinkers, leaders, and global citizens.

Concept of Dei: Definitions & Implications

At the heart of an inclusive educational environment lie three foundational concepts: diversity, equity, and inclusion. While these terms are often used interchangeably, each carries its distinct meaning, especially within the realm of education.

Diversity refers to the representation of various identities and differences, be they racial, ethnic, gender, socio-economic, or even cognitive. In an educational context, it's about ensuring that classrooms, teaching staff, and administrative bodies reflect the multifaceted nature of the world we live in. It's not just about numbers; it's about creating an environment where a multitude of voices and perspectives are heard and valued.

Equity goes beyond mere equality. While equality ensures everyone gets the same resources, equity is about ensuring that each student gets the resources they need to succeed. In education, this might mean providing additional support to students from

marginalized backgrounds or ensuring that teaching methods cater to different learning styles.

Inclusion is the active effort to ensure that diverse individuals are fully engaged and integrated into all aspects of the educational experience. It's not just about having diverse students; it's about ensuring that these students feel a sense of belonging and are actively involved in classroom discussions, extracurricular activities, and decision-making processes. Diversity without inclusion is exclusion.

The journey of DEI in educational settings has been a transformative one. From the days of segregated schools to the current push for more inclusive curricula, the evolution of DEI reflects broader societal changes and the recognition of education as a fundamental right for all. Over the years, as the importance of DEI became more evident, educational institutions began to adopt policies and practices that not only acknowledged diverse student bodies but also actively worked towards creating environments where every student, regardless of their background, felt valued and empowered. Drawing from the insights of the Institute of Education Sciences (IES), it's evident that while significant strides have been made, the journey of DEI in education is ongoing, with new challenges and opportunities emerging as the global landscape continues to evolve.

Significance of DEI in Education

The significance of DEI in education extends far beyond mere representation. It plays a pivotal role in shaping the learning

environment, influencing student outcomes, and preparing young minds for a diverse world.

Benefits of Diverse Classrooms

Richer Learning Environments: Diverse classrooms bring together a tapestry of experiences, perspectives, and ideas. This richness fosters dynamic discussions, encourages students to challenge their preconceptions, and offers a more holistic view of topics.

Enhanced Student Development: Exposure to diverse peers and educators helps students develop interpersonal skills, cultural awareness, and adaptability – skills that are invaluable in today’s interconnected world.

Fostering Critical Thinking, Empathy, and Global Awareness

Challenging the Accepted state: DEI encourages students to question, analyze, and think critically about the world around them. By engaging with diverse perspectives, students learn to evaluate information from multiple angles, honing their critical thinking skills.

Building Empathy: Interacting with peers from different backgrounds fosters understanding and empathy. Students learn to appreciate the challenges faced by others, cultivating compassion and a sense of shared humanity.

Preparing for a Globalized World

In an era of globalization, students need to be equipped with a global mindset. DEI in education ensures that students are aware

of global issues, diverse cultures, and the interconnectedness of societies.

The Power of Representation

Seeing is Believing: Representation matters. When students see educators and leaders who reflect their backgrounds, it instils a sense of possibility. It sends a powerful message that they too can achieve greatness, irrespective of their identity.

Influencing Aspirations: Diverse role models in educational leadership not only inspire students but also influence their aspirations. They provide tangible proof that barriers can be overcome, dreams can be achieved, and that every voice has value.

In essence, DEI in education is not just about creating inclusive environments; it's about shaping the next generation of thinkers, leaders, and global citizens. It's about ensuring that every student, regardless of their background, has the tools, resources, and inspiration to reach their full potential.

Strategies for advancing DEI in education

Achieving true diversity, equity, and inclusion in education requires a multifaceted approach. From curriculum design to community engagement, every aspect of the educational experience must be examined and optimized for inclusivity. Here are some pivotal strategies that can drive DEI in educational institutions:

Curriculum Reforms

Inclusive Content: Advocate for curriculum to include

perspectives, histories, and contributions of folks from a variety of identities. This not only provides a richer learning experience but also ensures that students see a part of themselves reflected in what they learn.

Critical Examination: Encourage students to critically examine traditional narratives, fostering a culture of inquiry and open discussion.

Teacher Training and Development

Inclusive Pedagogy: Emphasize the importance of training programs that equip educators with inclusive teaching methods. This ensures that every student feels seen, heard, and valued in the classroom.

Continuous Learning: Promote ongoing professional development in DEI, ensuring that educators stay updated on best practices and emerging trends.

Inclusive School Policies

Admissions: Implement policies that prioritize diversity in student admissions, ensuring a rich tapestry of backgrounds and experiences.

Classroom Practices: Foster classroom environments that celebrate diversity, from group discussions that value every voice to teaching methods that cater to varied learning styles.

Community Engagement

Events and Workshops: Organize events that highlight diverse cultures, histories, and perspectives. Workshops can focus on

topics like unconscious bias, cultural sensitivity, and inclusive communication.

Fostering Understanding: Engage students in community projects that promote diversity, fostering understanding, empathy, and collaboration.

Feedback Mechanisms

Student and Parent Voices: Create channels for students and parents to provide feedback on DEI initiatives. Their insights can offer invaluable perspectives on what's working and areas that need improvement.

Regular Assessments: Conduct regular assessments to gauge the effectiveness of DEI initiatives, using the feedback to refine strategies and ensure continuous improvement. By adopting these strategies, educational institutions can not only champion DEI in theory but also in practice, ensuring that every student has an equal opportunity to thrive in an environment that values their unique identity and contributions.

Education Technology and its Impact on DEI

Education technology has the potential to be a powerful tool for fostering diversity, equity, and inclusion within educational settings. It can bridge gaps, provide equal opportunities, and amplify underrepresented voices. However, it is essential to critically evaluate the design, development, and implementation of these tools to ensure that they align with DEI principles.

Diversity: Education technology should reflect and celebrate the diversity of the student population it serves. It should encompass

diverse perspectives, cultures, languages, and learning styles. By incorporating diverse content and experiences, technology can broaden students' horizons and promote a deeper understanding and appreciation of different cultures and backgrounds.

Equity: One of the key goals of education technology is to provide equitable access to education for all students. This means addressing the digital divide, ensuring affordability and accessibility of devices and internet connectivity, and designing inclusive interfaces and platforms that cater to diverse learners. By removing barriers and providing equal opportunities, education technology can level the playing field and empower students from all backgrounds.

Inclusion: Inclusive education technology should create a safe and welcoming environment where every student feels valued and represented. It should prioritize accessibility features for students with disabilities, promote collaboration and participation, and mitigate biases in algorithms and data. By fostering an inclusive learning environment, technology can cultivate empathy, promote dialogue, and foster a sense of belonging among students.

Best Practices for DEI in Education Technology

To effectively incorporate DEI principles in education technology, the following best practices should be considered:

Engage diverse stakeholders: Involve diverse voices, including students, educators, parents, and community members, in the development and decision-making processes. Their perspectives

and experiences are crucial in designing technology that meets the needs of a diverse user base.

Conduct regular audits: Regularly evaluate education technology tools and platforms to identify and address potential biases, stereotypes, or exclusionary practices. Conduct thorough content reviews and ensure that the tools align with inclusive pedagogical approaches.

Provide professional development: Offer training and support for educators to effectively integrate DEI practices into their use of education technology. Empower educators to create inclusive learning environments that leverage technology to promote diversity and equity.

Continuously gather feedback: Encourage feedback from users and create channels for students, educators, and administrators to provide input on the design and implementation of education technology. Regularly assess the impact of technology on students' experiences to make necessary improvements.

Conclusion

The journey of education is not just about imparting knowledge; it's about shaping minds, nurturing values, and building a foundation for the future. In this journey, the role of DEI is paramount. Diversity brings richness to learning experiences; equity ensures that every student has the tools to succeed; and inclusion fosters a sense of belonging and community. The immense value of DEI in education is undeniable. From fostering critical thinking and empathy in students to ensuring that every

voice is heard and valued, DEI is the cornerstone of a holistic educational experience. It's not just about creating diverse classrooms; it's about ensuring that these classrooms are spaces where every student, regardless of their background, feels empowered to learn, grow, and thrive.

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CHAPTER- 20

INCLUSIVE SECOND LANGUAGE LEARNING: ADDRESSING BARRIERS AND EMBRACING DIVERSITY

Bhuvaneswari, R

*Assistant Professor of English
St. Ignatius College of Education (Autonomous)
Palayamkottai, Tirunelveli*

ABSTRACT

Inclusive second language learning aims to provide equitable opportunities for all students to acquire a second language, regardless of their diverse backgrounds. Inclusive second language educational approach acknowledges the unique needs of learners and seeks to create a supportive environment that promotes success. The paper discusses the importance of inclusive second language learning in bridging educational gaps and fostering social cohesion. It examines the development of second language acquisition theories, focusing on cognitive and sociocultural perspectives. The chapter identifies key barriers to inclusive language learning, including linguistic, cultural, socioeconomic, and educational challenges. It proposes strategies to overcome these obstacles, emphasizing culturally responsive teaching, differentiated instruction, collaborative learning, inclusive curricula and professional development for educators. The importance of multicultural education is highlighted, showcasing its role in enhancing cognitive skills,

cultural competence, and social development. By addressing these barriers and embracing diversity, educators can create an inclusive classroom culture that benefits all students. The paper concludes by advocating policies and institutional support to prioritize inclusive practices and recommending for further research to explore innovative approaches and best practices in inclusive second language learning.

Keywords: *second language learning, cognitive skills, cultural competence, and social development.*

Introduction

Inclusive second language learning is an educational approach that seeks to provide equitable language learning opportunities to all students, regardless of their linguistic, cultural, socioeconomic, or educational backgrounds. This approach acknowledges the diverse needs of learners and aims to create a supportive environment where every student can succeed in acquiring a second language. Addressing barriers to second language learning and embracing diversity are crucial components of this approach (García & Wei, 2014).

The significance of inclusive second language learning lies in its potential to bridge educational gaps and promote social cohesion. By addressing the unique challenges faced by diverse learners and educators can foster a more equitable and just educational landscape. This paper aims to explore the various barriers to inclusive second language learning and propose strategies to overcome its obstacles. Also this paper highlights the importance of embracing diversity in the language learning

process and offer recommendations for educators, policymakers and institutions to support inclusive practices.

Second Language Acquisition

The concept of second language acquisition has evolved significantly over the past century. Early theories such as behaviorism viewed language learning as a process of habit formation by repetition and reinforcement (Skinner, 1957). However, this view was challenged by cognitive theories that emphasized the role of mental processes in language learning. Chomsky's (1965) theory of universal grammar, for instance argued that humans possess an innate ability to acquire language which led to a shift in understanding language learning as a natural and cognitive process.

Inclusive Education

In the context of inclusive education, Vygotsky's (1978) sociocultural theory has been particularly influential. Vygotsky emphasized the importance of social interaction and cultural context in learning suggesting that language development is deeply embedded in social activities and mediated by cultural tools. This perspective aligns with the principles of inclusive education which prioritize the cultural and social contexts of learners.

Theories of inclusive education proposed by Ainscow (1999), advocates for an educational system that accommodates the diverse needs of all students. Ainscow argues that inclusivity

is not merely about integrating students with disabilities but about transforming the educational system to be responsive to the diversity of all learners. This theoretical framework underpins the approach to inclusive second language learning discussed in this paper.

Barriers to Inclusive Second Language Learning

Linguistic Barriers: Linguistic barriers are among the most significant challenges faced by learners in inclusive second language learning environments. One major issue is the interference of the native language with the second language learning process. According to Cook (2001), learners often transfer linguistic structures from their first language (L1) to the second language (L2), which can result in errors and affect language acquisition. This phenomenon known as language transfer can impede the learning process especially if the languages in question have significant structural differences.

The lack of language proficiency can hinder learners' ability to participate fully in classroom activities. Learners who are not proficient in the language of instruction may struggle to understand lessons, complete their assignments and engage in discussions. This can lead to frustration, decreased motivation and lower academic achievement (Cummins, 2000).

Cultural Barriers

Cultural barriers also play a critical role in inclusive second language learning. Cultural differences and misunderstandings can create a disconnect between learners and the educational

content. For instance, textbooks and materials that do not reflect the cultural backgrounds of students can make it difficult for them to relate to and engage with the content (Banks, 2015). Furthermore, cultural biases and stereotypes can affect teacher-student interactions and peer relationships, leading to a less inclusive learning environment. Another significant cultural barrier is the lack of cultural representation in the curriculum. When the cultural experiences and histories of diverse learners are not included in the curriculum, it can result in a sense of alienation and marginalization for those students (Gay, 2010). This lack of representation can undermine learners' confidence and hinder their academic performance.

Socioeconomic Barriers

Socioeconomic factors are also critical barriers to inclusive second language learning. Economic disparities can limit access to educational resources such as textbooks, technology, and extracurricular activities which are essential for language learning (OECD, 2018). Students from low-income families may not have access to private tutoring or language programs outside of school, putting them at a disadvantage compared to their more affluent peers. Also, socioeconomic status can affect learners' overall educational experience. Financial instability can lead to higher stress levels and less parental involvement in education which are both detrimental to academic success (Reardon, 2011). Schools in low-income areas may also face challenges such as larger class sizes and fewer qualified teachers further exacerbating the difficulties faced by students.

Educational Barriers

Educational barriers including teaching methods and materials also impact inclusive second language learning. Traditional teaching methods that do not cater to the diverse needs of learners can hinder language acquisition. For example, a one-size-fits-all approach to teaching may not address the varying proficiency levels and learning styles of students (Tomlinson, 2001). The lack of awareness and training among teachers regarding inclusive practices can result in an unresponsive and rigid educational environment.

Importance of Multicultural Education

Multicultural education is essential in second language learning as it promotes inclusivity and equity in the classroom. This educational approach respects and values the cultural backgrounds of all students creating a learning environment where diversity is seen as an asset rather than a barrier (Banks, 2015). Incorporating multicultural education in second language learning helps students from various cultural backgrounds feel recognized and appreciated, fostering a sense of belonging and motivation to learn.

Benefits of Diversity in Language Learning Environments

Diverse language learning environments offer numerous benefits for students, teachers, and the broader educational community. Research has shown that students exposed to diverse cultures and languages develop better cognitive skills, including problem-solving and critical thinking (Adesope, Lavin, Thompson, &

Ungerleider, 2010). Additionally, students learn to appreciate different perspectives, which enhances their social and emotional development (García & Wei, 2014).

In a diverse classroom, students have the opportunity to practice language skills with peers from different linguistic backgrounds, leading to more authentic and meaningful language use. This interaction promotes greater language proficiency and cultural competence (Cummins, 2000). Moreover, teachers who embrace diversity can draw on a wide range of cultural resources and teaching strategies, enriching the learning experience for all students.

Creating an Inclusive Classroom Culture

Creating an inclusive classroom culture involves implementing practices that recognize and celebrate diversity while addressing the individual needs of each student. Here are some strategies to foster an inclusive environment:

Culturally Responsive Teaching: This approach involves recognizing the cultural references of students in all aspects of learning. Teachers can incorporate students' cultural backgrounds into the curriculum and use culturally relevant examples to make learning more relatable (Gay, 2010).

Differentiated Instruction: Differentiated instruction allows teachers to tailor their teaching methods and materials to meet the diverse needs of students. This can include providing various types of content using different teaching techniques and offering multiple ways for students to demonstrate their understanding (Tomlinson, 2001).

Collaborative Learning: Encouraging collaborative learning activities where students work together in diverse groups can promote inclusivity. This approach allows students to learn from each other's experiences and perspectives, fostering mutual respect and understanding (Johnson & Johnson, 1994).

Inclusive Curriculum: An inclusive curriculum reflects the diverse cultural backgrounds of students. It includes literature, historical accounts and examples from various cultures, ensuring that all students see themselves represented in their learning materials (Banks, 2015).

Professional Development for Teachers: Ongoing professional development is crucial for teachers to stay informed about inclusive practices and multicultural education. Training programs can help teachers develop the skills and knowledge needed to create an inclusive classroom environment (García & Wei, 2014).

Conclusion

Inclusive second language learning is a critical approach in today's diverse educational landscape as it is a powerful tool for promoting equity and diversity in education. By addressing the unique needs of all learners and creating supportive and inclusive environments educators can ensure that every student has the opportunity to succeed in acquiring a second language. Embracing diversity in language learning is not only beneficial for individual learners but also for the broader society as it promotes understanding, tolerance and social harmony.

This paper explored the various barriers to inclusive second language learning, including linguistic, cultural, socioeconomic, and educational challenges. We have also discussed strategies to overcome these barriers. It is essential for educators, policymakers and institutions to prioritize inclusive practices in second language learning. It involves not only implementing effective teaching strategies but also advocating for policies and institutional support that promote inclusivity. Additionally, further research is needed to explore innovative approaches to inclusive second language learning and to identify best practices that can be implemented across different educational contexts.

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CHAPTER- 21

ASSISTIVE DEVICE AND TOOLS FOR DIVERSE NEEDS

Arockia Reena, S

*Assistant Professor of Mathematics
St. Ignatius College of Education (Autonomous)
Palayamkottai*

ABSTRACT

Many people have a disability that affects their ability to perform daily living tasks. Low vision and mobility issues, as well as speech and hearing problems, can seriously affect a person's ability to navigate daily life. The increased demand spurred the development of specialized assistive equipment for people with disabilities. Assistive equipment and adaptive equipment are generally considered to be equipment and technology that has been modified from its original use so that a person with a disability can use it to improve access to daily life. Assistive equipment includes devices and technology that allow people with disabilities to participate in daily life with greater ease. Assistive equipment is specifically designed to meet the needs of a disabled person. Adaptive equipment and technology is a subcategory of assistive equipment and technology. Adaptive equipment is more specialized. Both assistive and adaptive equipment refer to devices and technology that help people live more independently. It help improve people's mobility, communication, and sensory abilities. Some equipment is

relatively low-tech, such as crutches, canes, and basic wheelchairs. Other equipment is very sophisticated, specialized, and technologically advanced.

Keywords: *Assistive equipment, Adaptive equipment, Technology and Disabilities.*

Introduction

In today's diverse and inclusive educational landscape, assistive technology has emerged as a powerful tool in fostering an inclusive classroom environment. By breaking down barriers and providing tailored support, assistive technology ensures that students with varying abilities can actively participate and thrive alongside their peers. This chapter investigates the benefits of incorporating assistive technology into educational settings, focusing on its impact on individuals with unique needs. A review of some existing literature on the advantages of using assistive technology in education will be conducted to accomplish this aim. The focus will be on analyzing studies that highlight the positive outcomes associated with its implementation. Overall, this chapter will contribute to the existing body of knowledge by shedding light on the benefits of integrating assistive technology in education while emphasizing the importance of considering the perspectives of those who rely on such technology. By promoting understanding and awareness, this chapter aims to support the development of inclusive educational practices that leverage assistive technology to empower individuals with unique needs.

Assistive Devices: Assistive devices and technologies are those whose primary purpose is to maintain or improve an individual's functioning and independence to facilitate participation and enhance overall well-being. Examples of assistive devices and technologies include wheelchairs, prostheses, hearing aids, visual aids, and specialized computer software and hardware that increase mobility, hearing, vision, or communication capacities.

The International Classification of Functioning, Disability, and Health (ICF) defines assistive products and technology as any product, instrument, equipment or technology adapted or specially designed for improving the functioning of a person with a disability. The International Organization for Standardization (ISO) defines assistive products more broadly as any product, especially produced or generally available, that is used by or for persons with disability: for participation; to protect, support, train, measure or substitute for body functions/structures and activities; or to prevent impairments, activity limitations or participation restrictions.

Diverse Needs: The government of Alberta defines children with "diverse needs" as children who require special education programming because of their behavioral, communicational, intellectual, learning, or physical characteristics or a combination of those characteristics. Postmodern thinking views diversity as an approach to building a learning community that is inclusive of varying identities and abilities so that difference "becomes part of the social structures and practices within the environment" and

that children and families “do not feel stripped of their ‘being and belonging’ or put into marginalized situations.”

Empowering Diverse Learners with Assistive Technology

This comprehensive guide on assistive technology tools aims to make it simpler for teachers to unlock the potential of assistive devices to empower students. Assistive technology (AT) encompasses a wide range of devices, software, and tools that help students with disabilities fully engage in the classroom. From text-to-speech software to alternative keyboards, AT removes barriers and provides customized support to meet each student's unique needs.

Exploring Assistive Technology in Education

There is a diverse spectrum of AT solutions available for the modern classroom. Some examples include:

- ❖ Text-to-speech and speech-to-text *tools* (such as Natural Reader) make content accessible for struggling readers and writers.
- ❖ Tools like Immersive Reader in Microsoft OneNote provide customizable visual support including dyslexia-friendly fonts and text spacing options.
- ❖ Alternative keyboards and mice (such as trackballs or joysticks) facilitate access for mobility-impaired students.
- ❖ Apps like Claro ScanPen, which integrates scanning, OCR and text-to-speech, give independence to learners.

- ❖ This versatility allows tailored AT solutions for students facing difficulties with reading, writing, communication, mobility, and organization.

What is Assistive and Adaptive Technology for Diverse Learners?

Assistive and adaptive technologies refer to tools and devices that help students with disabilities and diverse learning needs fully participate in educational activities. Some examples include:

Screen Readers and Magnification Software assist students with visual impairments by reading text aloud or enlarging content on digital devices. These tools empower students to access online learning materials independently.

Alternative Keyboards like braille keyboards or eye-tracking devices enable students with limited mobility to type and communicate during lessons. Specialized mice, joysticks, and switch devices also facilitate computer access.

Text-to-Speech Software reads text aloud for students struggling with reading. This allows students to focus on comprehension rather than decoding.

Speech Recognition Systems transcribe speech into text to assist students facing writing challenges. Voice commands facilitate drafting assignments or note taking.

Closed Captioning displays audio information visually on videos, helping students with hearing loss fully participate.

With the rise of digital learning tools, assistive and adaptive technologies enable greater personalization and accessibility for diverse learners. When thoughtfully embedded into instruction, these technologies empower every student to engage actively with content.

Mathboard offers an interactive online whiteboard to demonstrate concepts like fractions visually using virtual manipulatives. Built-in specialized math virtual keyboards facilitate typing complex equations.

Lucidchart and Canva allow creating graphic organizers, flow charts and visual presentations. Templates boost organization when planning essays, structure projects logically, take notes effectively and outline steps for multi-step math problems.

Computer Access Aids: These allow students to use computers independently through alternate input methods like headsticks, eye trackers, modified keyboards, switch access, and speech recognition software. They empower students with limited mobility to complete digital work.

Text Readers: Text-to-Speech software reads text aloud for visually impaired students or those with reading disabilities like dyslexia. Options like Balabolka and Natural Reader help students listen to assignment instructions, textbooks, articles, and more.

Hearing Amplifiers: Devices like hearing aids, FM systems, induction loop systems, and personal amplifiers assist students dealing with hearing loss or auditory issues. These tools boost the

volume of the teacher's voice directly to the student's ears. With assistive devices, educators can remove barriers for students with special needs and enable active participation for improved learning outcomes.

Benefits of Assistive Technology for Students with Disabilities

Customized AT set-ups level the playing field for students with special needs. Key advantages include:

Enhanced focus and retention: Tools like digital highlighters and screen masking allow learners to eliminate distractions.

Greater independence: Features such as switch access and eye gaze technology enable students with physical disabilities to actively participate.

Improved communication and collaboration: Whether through speech support technology or facilitating computer access, AT enables diverse learners to fully express skills and knowledge.

Increased accessibility: Solutions as simple as dyslexic fonts to advanced options like braille displays make learning accessible to all.

Bolstered confidence and self-esteem: By allowing learners to overcome challenges, AT gives them the boost to realize their potential.

Conclusion

Assistive devices and technology have come a long way in promoting inclusivity and accessibility in education. From text-to-speech software to alternative computer mice, today's assistive

tech removes barriers and provides equal opportunities for all students to access curriculum and demonstrate their knowledge and skills. We have much to celebrate in terms of the progress made, but also more work ahead as technology continues advancing. The future of assistive tech looks bright, but relies on continued investment and commitment from all stakeholders. Teachers must dedicate time to gain proficiency with new tools. Students need encouragement using tech to advocate for themselves. Administrators should fund assistive tech initiatives and training. With shared investment in inclusive classrooms, assistive technology will continue empowering special needs students.

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CHAPTER- 22

TEACHERS SELF-EFFICACY FOR INCLUSIVENESS

Sofia Selvarani, C

Research Scholar

St. Ignatius College of Education (Autonomous), Palayamkottai-2

Maria Saroja, M

Research Director, IQAC Coordinator &

Associate Professor of Biological Science

St. Ignatius College of Education (Autonomous)

Palayamkottai-2

ABSTRACT

Teaching in an inclusive classroom is complex. One construct that relates closely to the teaching practices is teachers' self-efficacy. Teachers with a high sense of inclusive teaching efficacy tend to create classroom environments where students with various abilities and learning styles succeed. Research on the inclusive teacher efficacy construct is relatively new and gaining significant attention from researchers worldwide. This chapter provides an overview of self-efficacy in general. The success of inclusive education is dependent on the self-efficacy of classroom teachers. For teachers to successfully implement inclusive practices within the classroom, they must first believe in the right to education for all students and understand the legislation surrounding inclusive education. Teachers must also continue to grow their knowledge through participation in Professional Development that collaborates with Community support within the school. For teachers to Professional Learning continue to adapt their practice to suit the needs of their students, school

leaders are responsible for developing a culture of inclusion and providing opportunities for collective growth among all educators within the system.

Keywords: *self-efficacy, inclusive, Professional Learning*

Introduction

Bandura introduced the concept of self-efficacy over 30 years ago as an important factor in human motivation. The definition of self-fficacy as people's beliefs about their abilities to produce designated levels of performance that has significant influence over their lives (Bandura, 1994) reflects the important role of self-efficacy in human agency. According to Bandura's social cognitive theory (1986, 1989), self-referent thought of individual acts as a mediator between her/his knowledge and actions. A remarkable growth in teacher self-efficacy research has been noted since Bandura published his influential work, "Self-efficacy: Toward a unifying theory of behavioural change", in 1977. Extensive research supports the claim that self-efficacy has an important influence on human achievement in a variety of settings, including educational achievement (e.g., Pajares, 1997; Ross, 1992; Skaalvik & Skaalvik, 2007; Tschannen-Moran & Woolfolk Hoy, 2001). Many well-crafted studies have been conducted in the area of teacher self-efficacy and researchers are interested in the practical application of their work. Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) proposed an integrated model of teacher self-efficacy in the late 1990s. They particularly emphasized the context-specific nature of teacher self-efficacy (an idea originally proposed by Bandura). They proposed that

teachers do not feel equally efficacious for all teaching situations. For example, one may feel efficacious to teach a particular subject, or to teach a particular group of students, and she/he may feel more or less efficacious under different circumstances such as using a new method for teaching instead of the traditional method. In most countries around the world, schools are a place where students, regardless of culture, gender, language, and ability, are entitled to the opportunity of equal education (Chao et al., 2017). The end goal of inclusive education is to provide every child with the chance to flourish in a safe learning environment, as well as within society (Nishan, 2018).

Teachers play a central role in the implementation of inclusive education (Chao et al., 2016); seeing themselves as capable educators will guide inclusive philosophy (Specht et al., 2015). In order to strengthen teacher self-efficacy, teachers must believe in the culture of inclusion (Nishan, 2018), and learn about local legislation and policies of inclusion (Chao et al., 2016). While the attitudes and belief so inclusion are an important starting point for educators, pre-teacher training provides teachers with the knowledge of differentiating instruction and experience working with alongside students with exceptional needs (Friesen & Cuning, 2018). School leaders are essential in establishing a culture of inclusion while supporting educator's needs for inclusive practices (Jung et al., 2019) by providing sustainable professional development and building collaborative professional learning communities (PLCs).

Teacher Beliefs and Attitudes Towards Inclusiveness

The beliefs and attitudes that teachers hold toward inclusive education are foremost in understanding the importance of providing equal opportunity for all students. Positive attitudes toward inclusion are important in the successful implementation of inclusive practices and in creating a positive learning environment for all students (Sannen et al., 2020). Individual attitudes and beliefs vary from teacher to teacher and are influenced by factors such as personal experiences, culture, exposure, and local policy and legislation (Pecek&Macura-Milovanovic, 2019). Since culture can play a role in one's belief of inclusion (Steen & Wilson,2020), increased knowledge and understanding of local law and legislation is found to increase self-efficacy (Chao,2017). When pre-service teachers are given chance to evaluate their skills with regards to inclusive education that is consistent with local law and legislation, the effect is greater than learning teacher skills alone.

Teacher beliefs and attitudes toward inclusive education are significant factors that relate to the success of inclusive education, and these attitudes and understanding of local legislation are generally formed during teacher training courses (Chao et al., 2016). It is important that educational institutions, such as universities and teacher colleges, continue to inspire positive beliefs and attitudes toward inclusivity, but also provide teacher candidates with ample exposure to diverse classroom settings.

Effect of Self-Efficacy on Inclusive Education

Self-efficacy beliefs influence the motivational and self-regulatory process in several ways. They influence the choices people make and the actions they pursue. Self-efficacy also helps to determine how much effort people will expend on an activity, how long they will persevere when confronting obstacles, and how resilient they will prove in the face of adverse situations, the higher the sense of efficacy, the greater the effort, persistence, and resilience. Efficacy beliefs also influence the amount of stress and anxiety individuals experience as they engage in a task and the levels of accomplishment they realize.

Strong self-efficacy beliefs enhance achievements and personal well-being in many ways. People with a strong sense of self-efficacy, approach difficult tasks as challenges to be mastered rather than dangers to be avoided, have an intrinsic interest in activities, set challenging goals and maintain a strong commitment to them, higher their efforts in the face of failure, more easily recover their confidence after failures or setbacks and attribute to insufficient efforts on different knowledge and skills which they believe they are capable of acquiring. As a result of these influences, self-efficacy beliefs are strong determinants and predictors of the level of accomplishments that individuals finally attain for these reasons. Bandura (1986, 1997) has made the strong claim that beliefs constitute key factors of human agency. Low and high-efficacy teachers held similar philosophical understandings about inclusive education.

Characteristics of Low Self-Efficacy

Low-efficacy teachers' practices focus on behaviour management, regularly viewing the differences among students.

Fear of Risks: Individuals with low self-efficacy see themselves as unable to be successful. As a result, they are often unwilling to take risks or try new things because they are convinced that the result will be failure. This is particularly unfortunate because the main way to increase self-efficacy is through practice and experience.

Fear of Uncertainty: Low self-efficacy often is related to self-doubt and uncertainty. The individual doesn't want to try without a guarantee of success. As a result, they may never discover things at which they could be successful.

Feelings of Failure: Those with low self-efficacy frequently have feelings of failure. As indicated above they might avoid or not try new things due to the risk involved. Or, they might only try something half-heartedly. As a result, they are less likely to experience success and more likely to see themselves as a failure.

Impression Management: Impression management is the attempt to control how others might perceive you to be seen more positively. People with low self-efficacy feel they are not capable but may try to present a successful and competent image to others. They may put a great deal of energy into behaving in a way to obtain approval from others and experience a great deal of worry about being found out to be a fraud. For instance, they may try to

hide mistakes from others rather than from them which prevents them from increasing their sense of self-efficacy.

Characteristics of high Self-Efficacy

High-efficacy teachers' practices focus on student success, accessibility, and building confidence.

Self-Confidence: One of the most obvious characteristics of high self-efficacy is self-confidence. They approach tasks or situations with a sense of their ability to be successful. This self-confidence tends to lead to more experience which increases their ability which leads to greater self-confidence. This positive cycle lends itself to increasing self-efficacy even further.

Accurate Self-Evaluation: Individuals with high self-efficacy tend to be able to accurately evaluate their performance. They are neither overly-critical nor overly positive but are able to examine themselves realistically in order to pursue self-improvement.

Willingness to take risks with high self-efficacy are willing to take risks because they understand that taking calculated risks increases the chances of success. As they are not fearful of failure or mistakes, reasonable risks can only increase self-efficacy.

Sense of Accomplishment: Generally those with high self-efficacy feel a sense of accomplishment because they are often more successful due to the willingness to take risk and to pursue interests. Even if they fail or make mistakes they feel a sense of accomplishment because they view mistakes as opportunities to improve themselves.

How can Self-Efficacy be Improved?

Develop Skill The most important way to improve self-efficacy is to develop the skill set you need to be effective. If you are having trouble being successful in your work, identify your areas of deficit and determine what you need to do to improve. Ask others to honestly evaluate your skills and to give specific advice regarding improvement. Once you know what you need to do, then you need to do it again and again until you feel competent. That's how competence develops. People aren't born with competence, they have to learn and practice to become competent.

Modelling: One way to learn the necessary skills is to observe others. You can observe the successful completion of tasks to learn how to achieve success. When you observe others being rewarded for their performance or successful completion of a task, you are more likely to be able to model yourself after their behaviour.

Focus on Species: To improve self-efficacy, it is best to focus on specifics. If someone gives you general feedback especially if it is negative you are less able to make changes than if someone can provide specific feedback. For instance, if you want a child to learn how to do dishes you don't say "These dishes aren't clean," instead you say "Let me show you how to load the dishwasher to get the best results."

Reinforcement: The more behaviour is reinforced, the more likely it will continue. If you want to improve your self-efficacy

focus on what you do well and reinforce it by giving yourself specific praise.

Pre-Service training in Inclusive Education

Pre-service training has a positive influence on teachers' attitudes of inclusive education and improves teacher self-efficacy for inclusive practices (Chao et al., 2017). In order for pre-service teachers to be confident entering diverse classroom settings, it is imperative that educational institutions, such as universities and teacher colleges, offer specific training that provides teachers with the skills and experiences they require to feel successful in implementing inclusive teaching practices (Specht et al., 2015). Pre-service teachers who are offered more extensive programming to understand behavior management and other inclusive practices enter mainstream schools with more inclusive beliefs and positive self-efficacy. Pre-service teachers engaged in courses that are specific to inclusive education report a higher level of confidence than other pre-service teachers who do not engage in such specialized courses (Chao et al., 2017).

Teachers will, therefore, advocate for the importance of educating all students when entering mainstream classrooms. My current role as resource teacher provides me with the opportunity to collaborate with first-year teachers. An issue that is continuously mentioned by teachers is the lack of preparedness experienced when first exposed to a diverse classroom, particularly students with exceptional needs. It is, therefore, crucial that educational institutions, such as

universities and teacher colleges, offer pre-service teachers sufficient opportunity to engage in practical experiences working with students with exceptional needs (Kieletal.,2019).Along with teachers requiring the opportunity to expose themselves to a range of student profiles, they will also require training and feedback in adapting curriculum and instruction to meet the learning needs of students.

For teachers to be successful within the classroom, educators must understand and engage in differentiated instruction that will enable them to support the needs fall students(Friesen & Cunning, 2018). Teacher self-efficacy includes the belief in one's ability to adopt innovative teaching strategies that are required to handle the range of learning profiles within the classroom (Keil et al., 2019). Beginning teachers typically experience low self-efficacy when it comes to adapting curriculum for all students in their classroom (DeNeve&Devos,2015).

Educational institutions must provide pre-service teachers explicit instruction for the implementation of differentiated teaching approaches, and opportunity for these teachers to implement these strategies in a practical environment (Wan, 2015). It is important to realize that, since self-efficacy is based on personal and cultural beliefs, teachers require guidance when adapting curricula for marginalized and minority groups, such as LGBTQIA+ groups (Taylor et al., 2015). With classrooms more diverse than ever, educational institutions must provide pre-service teachers with the knowledge and skills that they need to

differentiate instruction for their diverse classrooms (Specht et al., 2015), to develop self-efficacy. As educational institutions shape the self-efficacy of new teachers, it is the beliefs and attitudes of the leaders within schools that continue to shape and support the successful implementation of inclusive practices within schools.

Inclusive Practice and Teacher Self-Efficacy

Teachers' belief in their teaching capabilities may be associated with their attitudes toward inclusion and their employment of inclusive practices. For example, some studies (e.g., Savolainen et al., 2020; Woodcock & Jones, 2020; Ozokcu, 2017) have found that teachers with higher teacher self-efficacy may hold more positive attitudes towards inclusive education and student diversity and have a lower likelihood of excluding students from their classroom. Furthermore, although there are some mixed findings, teachers with a higher teacher self-efficacy may have a lower likelihood of referring students to special educational placements (see Zee & Koomen, 2016). Teachers with higher teacher self-efficacy may also be more willing for students with disability to be included in mainstream schools, and more willing to teach these students within their own classroom (Savolainen et al., 2020). In regard to inclusive instructional approaches, some studies have found that more experienced teachers with high self-efficacy may more frequently use differentiated instruction, adjust goals to cater for students' needs, and may be more positive towards implementing these strategies (see Zee & Koomen, 2016). In an Australian study, Sharma and Sokal (2016) examined the relationship between in-service teachers' use of inclusive

practices and their teaching efficacy. They found that teachers with a high sense of teaching efficacy employed more inclusive practices (Sharma &Sokal, 2016). In a recent study, Sharma et al. (2021) examined relationships between 390 pre-service educators selected from Australia, India, Canada, and Hong Kong with their attitudes, self-efficacy beliefs, and the use of inclusive practices using a newly developed Inclusive Practices Scale. They found teaching efficacy beliefs were the strongest predictors of participants' use of inclusive practices.

Teachers' self-efficacy has also predicted their reported inclusive behaviours towards students with intellectual disabilities, which included modifying curricular content, resources, and the pace of instruction (Wilson et al., 2016). Wilson and colleagues suggest that without these self-efficacy beliefs, the requisite effort to perform inclusive behaviours may not be exerted, as self-efficacy beliefs draw on both teachers' motivation and ability for inclusive practice. Overall, Savolainen et al. (2020) argue that there is a current scarcity of empirical evidence that explores the relationship between teacher self-efficacy and teachers' inclusive practices within their classrooms. However, studies such as those above convey that self-efficacy beliefs may have an important role to play in the practice of an inclusive educational approach. Whether all students are receiving a high-quality education when they are within 'inclusive' classrooms requires further investigation (Sharma &Sokal, 2016), and examining teachers' self-efficacy and the way in which it relates to their reported inclusive classroom practices may provide insight into this. Furthermore, as increases in

teachers' self-efficacy are suggested to aid the development of positive teacher attitudes toward inclusion (Savolainen et al., 2020) and their willingness to employ inclusive practice (Wilson et al., 2016), understanding how teacher self-efficacy may relate to inclusive practices would be valuable and timely. This study therefore examined teachers' level of teacher self-efficacy and how their classroom practices are inclusive.

Professional Development to Strengthen Teacher Self-Efficacy

Teacher professional development, both at the pre-service and experienced teaching level, is critical in promoting the most appropriate inclusive practice and continuing to strengthen teacher self-efficacy (Sharp et al., 2018). Teachers of all levels, especially beginning teachers, experience barriers when it comes to not having enough time and support to adapt curriculum for the diverse needs within the classroom (De Neve&Devos,2015). It is important that school leaders provide effective professional development that is content-specific, delivered by experts, and offered over an extended period so that teachers can engage, apply, and reflect on learned inclusive practices (Sharpetal.,2018). It is also important that school leaders identify the type of support needed among the differing level of teacher experience within the school, and provide professional development that is specific to the needs of each teacher (Kieletal.,2019). Understanding which teachers have low self-efficacy in certain areas will assist school leaders in tailoring professional development that is intentional and specific to school needs.

Professional development should also be made available to all staff who work within the classroom, including educational assistants (Villafuerte, 2020). Since educational assistants do not require official qualification to work within classrooms, these individuals require ongoing professional development in areas such as basic information about disabilities, instructional strategies, and different methods to support students with academic, behavioural, and emotional needs. Educational assistants who are qualified and have the knowledge needed to work in a variety of school settings increase the self-efficacy of both themselves and the classroom teacher and can promote successful collaboration needed for effective classroom environments. Professional development is perceived to be a key factor in building self-efficacy among all teachers, including educational assistants, and ultimately contributes to supporting the needs of all students within the classroom (Chaoetal.,2017). Professional development not only provides teachers and educational assistants with knowledge and understanding, but also promotes a collaborative environment that is needed to establish networks in which all educators can reflect on educational practices, and construct successful learning opportunities for all students.

Providing teachers with professional development and the awareness of inclusive practices is an important first step to creating a culture of inclusion. However, if teachers are not provided the support network that is created through PLCs, new knowledge does not result in lasting changes (Meyeretal.,2019). Although teachers play a central role in the

implementation of inclusive practices, we cannot expect that teachers can independently meet the needs of all students (Sannenetal.,2020). PLC's enable teachers to develop new skills and provide necessary feedback to each other that, in turn, enhances student learning (Voelkel & Chrispeels, 2017). Collective efficacy refers to the beliefs that school members hold about the specific work groups to which they are assigned and their capability to follow through with the action plan that is necessary to reach a desired goal. Working with a range of students in different classrooms from year to year, it is essential to hold case management meetings with multiple teachers to provide consistent and up-to-date programming. I rely on our school's collective efficacy to make the best decisions for student-specific programming. When engaged in connected PLCs, teachers develop the confidence required to provide all students with intentional learning opportunities.

Conclusion

One of the most challenging tasks teachers face is providing all students with equal opportunity to succeed within the classroom. Teachers need to feel confident in providing all students with appropriate teaching and feel that they can support behavioural needs when implementing inclusive practices. To build teacher self-efficacy, individuals must first hold positive beliefs toward inclusion. Understanding local laws and legislation of inclusion makes teachers more confident in advocating for their students. To build self-efficacy, educational institutions must develop suitable teacher programs that provide pre-service teachers with practical experience working alongside students with exceptional

needs and the ability to differentiate instruction. When teachers enter mainstream classrooms, school leaders must create an inclusive school climate that provides support and encourages inclusive dialogue among teachers. Encouraging teachers to engage in regular professional learning impacts both teacher self-efficacy in inclusive practices and student achievement. To make professional development effective, school leaders need to build PLCs that enable teachers to learn together, provide feedback, and reflect on successful inclusive practices.

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CHAPTER- 23

STEM APPROACH: A PERSONALIZED LEARNING PLAN

Viji, M

Research Scholar

Department of Education

Manonmaniam Sundaranar University, Tirunelveli

Deepa, H

Associate Professor of Education

Department of Education (DD&CE)

Manonmaniam Sundaranar University, Tirunelveli

ABSTRACT

Science, technology, engineering, and mathematics (STEM) education is essential for preparing students for the 21st-century workforce. However, traditional STEM curricula often do not meet the needs of all learners. A personalized learning plan (PLP) can help to address this challenge by tailoring instruction to the individual student's interests, learning styles, and goals. This paper proposes a STEM approach to personalized learning plans (PLPs). The STEM approach emphasizes the interconnectedness of science, technology, engineering, and mathematics, and it encourages students to apply their knowledge to real-world problems. PLPs are individualized plans that help students achieve their academic and career goals. The STEM approach to PLPs can help students develop the skills and knowledge they need to succeed in the 21st-century workforce.

Keywords: *STEM approach, Sciences, Technology, Engineering, and Mathematics, Personalized learning plan.*

Introduction

“Personalized learning, by whatever name, is a central design principle for a transformed education system.”

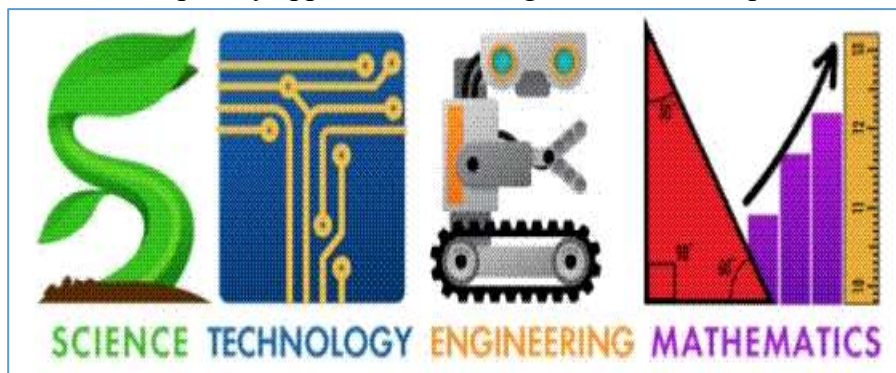
- John Bordeaux

STEM education is a cross-disciplinary approach to learning that integrates science, technology, engineering, and mathematics. It is designed to prepare students for the challenges and opportunities of the 21st-century workforce. A STEM approach to personalized learning plans (PLPs) takes this integration even further by tailoring the learning experience to each student's interests, needs, and career goals. This means that students have more choice in what they learn and how they learn it. They are also encouraged to be active learners and problem-solvers. According to the U.S. Department of Education, “In a world that’s becoming increasingly complex, where success is driven not only by what you know, but by what you can do with what you know, it’s more important than ever for our youth to be equipped with the knowledge and skills to solve tough problems, gather and evaluate evidence, and make sense of information. All young people should be prepared to think deeply and think well so that they have the chance to become the innovators, educators, researchers, and leaders who can solve the most pressing

challenges facing our nation and our world, both today and tomorrow.”

STEM Approach

STEM, which stands for science, technology, engineering, and mathematics, is an educational approach that emphasizes the integration of these four disciplines in both theoretical and practical learning. The STEM approach was initially proposed by the National Science Foundation (NSF) of the USA in 2001 and has since gained prominence in education. Over the years, it has evolved from a set of distinct disciplines into a more integrated and interdisciplinary approach to learning and skill development.



Define STEM fields

STEM stands for Science, Technology, Engineering, and Mathematics, and have been essential components of all student's educational journeys; mainly science and mathematics. They are definite as:

Science: a methodical investigation into the makeup and dynamics of the physical and natural world through experimenting, observing, and comparing theories with grouped data.

Technology: using scientific knowledge to achieve practical goals in daily life.

Engineering: the inventive use of science, math, and empirical evidence in organizational and machine design, system design, process development, and structure maintenance.

Mathematics: the science and study of quality, structure, space, and change.

Feature of STEM approach

Interdisciplinary Approach: STEM education encourages the integration of science, technology, engineering, and mathematics, breaking down the traditional silos that separate these subjects. It promotes a holistic understanding of how these disciplines are interconnected.

Real-World Context: STEM education often emphasizes learning in a real-world context. This means that students are encouraged to apply their knowledge and skills to solve practical problems and engage with issues that have real-world relevance.

Formal and Informal Learning: STEM education can take place in both formal settings like classrooms and informal settings like science museums, maker spaces, and online platforms. This

flexibility allows for a broader and more accessible approach to learning.

Integration of Technology: Technology plays a significant role in STEM education. It is used not only as a tool for learning but also as a subject of study, particularly in the field of technology and engineering.

Connecting Disciplines: STEM emphasizes the importance of connecting various disciplines and relating them to each other. This approach promotes a holistic understanding of how science, technology, engineering, and mathematics work together in the real world.

Problem-Solving Skills: STEM education fosters critical thinking, problem-solving, and creativity, as students are often required to tackle complex, open-ended problems that require the application of knowledge from multiple disciplines.

Preparation for the Future: STEM education is seen as crucial in preparing students for the demands of the modern workforce, where technology and interdisciplinary thinking are highly valued.

Personalized learning

Personalized learning is an educational framework that supports all students as they gain the knowledge, skills, and characteristics of a twenty-first-century learner and citizen of the world. The basic underpinning of this framework is that the most effective instruction adjusts to meet each student's strengths, needs, and goals. The elements of personalized learning are student

ownership of learning, formal and informal assessment data, developing learner profiles and learning pathways, and utilizing flexible learning environments.

Implement a STEM approach to personalized learning: Using technology: Technology can be a powerful tool for personalized learning. Educators can use online learning platforms, educational apps, and other technology tools to provide students with access to a variety of learning resources and activities that are tailored to their individual needs and interests.

Differentiated instruction: Differentiated instruction is a teaching approach that takes into account the different learning styles, readiness levels, and interests of students. Educators can differentiate STEM instruction by providing students with different choices of learning activities, assessments, and products.

Project-based learning: Project-based learning is a teaching approach that allows students to learn by working on real-world projects. Educators can personalize project-based learning by allowing students to choose projects that are relevant to their interests and that align with their learning goals.

Student-led learning: Student-led learning is a teaching approach that gives students ownership of their learning. Educators can personalize student-led learning by allowing students to choose their own learning goals, develop their learning plans, and assess their progress.

Challenges to implementing a STEM approach to personalized learning

Teacher training: Teachers need to be trained in personalized learning strategies and in how to integrate STEM disciplines.

Curriculum development: Schools need to develop personalized learning curricula that are aligned with state and national standards.

Technology access: Students need to have access to technology in order to participate in personalized learning activities.

Assessment: Schools need to develop assessments that measure student learning in a personalized learning environment.

The STEM approach to PLPs is based on the following principles

Student-Centered: The student is at the center of the learning process.

The PLP is developed in collaboration with the student and their family, and it is regularly reviewed and updated to reflect the student's changing needs and interests.

Integrated: The STEM approach to PLPs integrates the four STEM disciplines (science, technology, engineering, and mathematics) into a cohesive learning experience. This helps students to see the interconnectedness of STEM and to develop the skills and knowledge they need to solve real-world problems.

Project-based: The STEM approach to PLPs emphasizes project-based learning. Students work on projects that are relevant to their

interests and that allow them to apply STEM concepts and skills to solve real-world problems.

Benefits of STEM approach to PLP

- ❖ It helps students develop the skills and knowledge they need to succeed in the 21st century workforce.
- ❖ It encourages students to apply their knowledge to real-world problems.
- ❖ It helps students develop critical thinking, problem solving, and creativity, collaboration, and communication skills.
- ❖ It motivates students to learn and achieve their goals.

Recommendations

- ❖ Provide students with opportunities to explore their interests and set goals for their future.
- ❖ Help students develop the skills and knowledge they need to achieve their goals.
- ❖ Encourage students to apply their knowledge to real-world problems.
- ❖ Provide students with access to resources and support to help them succeed.
- ❖ Work with parents and other stakeholders to develop and implement PLPs

Conclusion

The STEM approach to PLPs is a promising way to help students develop the skills and knowledge they need to succeed in the 21st century workforce. It is important to note that the STEM approach is not just for students who are interested in pursuing STEM

careers. It can benefit all students by helping them develop the skills they need to succeed in any field.

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CHAPTER- 24

LEGAL FRAMEWORKS FOR DISABILITY RIGHTS

Priscilla Valan Assumptio, A

M.Ed Student

St. Ignatius College of Education (Autonomous)

Playamkottai, Tirunelveli

ABSTRACT

Legal frameworks for disability rights are essential for ensuring that individuals with disabilities can live with dignity, equality, and autonomy. These frameworks establish the obligations of governments, employers, service providers, and society to remove barriers and promote inclusion. Understanding and implementing these legal protections can create a more just and inclusive world for everyone. Understanding the legal frameworks for disability rights ensures that individuals with disabilities are protected and can fully participate in society. These frameworks provide the foundation for enforcing equality, accessibility, and non-discrimination. The legal frameworks for disability rights are constantly evolving to better protect and empower individuals with disabilities. Understanding these frameworks, enforcement mechanisms, landmark cases, and evolving trends is crucial for promoting inclusivity and ensuring that everyone can participate fully in society. Continuous advocacy, education, and innovation are key to advancing disability rights and achieving true equality.

Keywords: *disability rights, legal protections, inclusive education*

Introduction

Education plays a crucial role in shaping the personal, social, and economic development of individuals and nations. Education can be especially important for disabled individuals, as it can help to get employment, promote their independence, improve their quality of life, and live their lives with dignity. However, disabled persons in our society have been deprived of the mainstream education system for a long period, and disabled persons are the most vulnerable or excluded section among all other people. Therefore, India takes various initiatives like RTE, SSA, etc., which promote the full inclusion of disabled children into the mainstream education system. Despite all these policies, their enrolment rate is very low, and a large number of children with special needs are out of school till now. Therefore, in recent times it is the paramount concern in the global scenario. Hence, all government, national, and international agencies focus on inclusive and equitable quality education to resolve this issue. This education system gives equal opportunity to every citizen to participate in the education system, and as a result, they will get employment, increase their socio-economic condition, live life with dignity, and equally contribute to the nation's development. Therefore, inclusive and equitable education is a tool to achieve social justice and equality in society. Sustainable development goal, National Education Policy 2020 focuses on inclusive and equitable education quality education to all, including students with disabilities.

Policies and Legislation toward Inclusive Education for Students with Disabilities

Integrated Education of Disabled Children Scheme (IEDC):

The IEDC Scheme was launched in 1974 in India as a Centrally Sponsored scheme. The scheme aimed to offer educational opportunities to students with disabilities in regular schools and support their academic progress and retention. The scheme provides full financial assistance for establishing resource centres, conducting surveys and assessments of disabled students, producing instructional materials, and providing teacher training and orientation.

National Policy on Education (NPE), 1986

National Policy on Education 1986 proclaimed the integration of children with locomotor disabilities and other mild handicapped children into mainstream schools, and children with moderate or severe disabilities should be enrolled in special schools. Therefore, this policy focused on integrated education instead of inclusive education for children with disabilities.

The Salamanca Statement and Framework for Action, 1994

It was a significant move towards an inclusive education approach. Salamanca was the first to use the term ‘inclusion’ and promote inclusive education to achieve the objective of education for all, including students with disabilities. The Salamanca Statement affirms: “Those with special educational needs must have access to regular schools which should accommodate them within a child-centred pedagogy capable of meeting these needs.”

In addition, it proclaimed that regular schools should be inclusive-oriented, and it will be the most effective tool to combat discriminatory attitudes, provide effective education to all, build inclusive communities, build an inclusive society, and achieve education for all.

The Persons with Disabilities Act, 1995

This Act proclaimed equal opportunities, full participation, and protection of the human rights of children with disabilities. It proclaimed that ensuring access to free education for children with disabilities in appropriate environments till 6-18 years of age and promoting the integration of students with disabilities in regular schools. It also recommended some education provisions like removing the architectural barriers, providing transport facilities, free books and study materials, scholarships, and restructuring the existing curriculum for students with disabilities.

Sarva Shiksha Abhiyan (SSA)

SSA is a flagship program of the Indian government that aims to Universalization of Elementary Education for all, including children with disabilities, by adopting a zero-rejection policy. The program launched in 2001, and its objectives are to ensure access and retention, provide quality education, and enhance the learning level of all children, including students with disabilities.

Under SSA, the government has launched the Inclusive Education Programme, which ensures inclusive education for all children, including students with disabilities. This program covers various activities related to providing inclusive education

to students with disabilities in regular schools, such as including identifying such children, determining their educational placements, providing necessary aids and appliances, training teachers to address their specific needs, ensuring curricular access, providing support services, developing individualized education plans, removing architectural barriers, conducting research and peer sensitization, providing financial support, etc.

National Policy of Disabilities (2006)

In 2006, the Minister of Social Justice and Empowerment Government of India formulated a national policy for the welfare of persons with disabilities. This policy focused on prevention and rehabilitation, like physical, educational, and economic rehabilitation for persons with disabilities. In addition, this policy proclaimed that inclusive education for every child with disabilities in pre-primary, primary, and secondary levels by 2020, and those who are not able to enrol in an inclusive school, will enrol in a special school. It recommended various measures that should be taken by the government, local authorities, schools, etc. such as making barrier-free and accessible schools, modifying teaching methods, use of assistive technology, etc., for every child, including disabled students, can access education.

Right to Free and Compulsory Education (RTE) Act, 2009

The RTE Act 2009 emphasizes the free and compulsory elementary education of all children, including students with disabilities. It guarantees elementary education to all children between 6-14 years old. Section 3 (2) of the RTE Act also

mentions that children with disabilities have the right to receive elementary education in an inclusive classroom. Furthermore, this Act also talks about providing home-based education for children with multiple and severe disabilities who cannot attend regular school.

The Right of Persons with Disability Act, 2016

The RPwD Act 2016 is a comprehensive legislation that aims to promote and protect the rights of persons with disabilities and ensure their equal opportunities and full participation in various aspects of life, including education, employment, access to a barrier-free environment, and social security. In the aspect of education, it emphasizes providing free and compulsory education to every child with benchmark disabilities between 6 to 18 years in an inclusive school, special school, or their choice. In addition, it also proclaims to ensure the participation of students with disabilities in higher education in an inclusive setting. Furthermore, it mentions various measures that should be taken by the government, local authorities, such as making accessible buildings and other facilities, use of appropriate language and mode of communication (sign language, braille, etc.), providing books and other study materials, use of assistive devices, modification in curriculum and examination system, providing scholarships, etc. for children with disabilities.

National Education Policy 2020

The National Education Policy (NEP) 2020 is a comprehensive framework for education in India that seeks to transform the current education system. The NEP 2020 envisions providing

inclusive and equitable quality education to all, aligned with the SDGs 4 and RPWD Act 2016. Therefore, this policy accepts all the provisions of the RPWD Act 2016 and endorses all its recommendations for school education to higher education. It recommends various schemes to ensure inclusion and equal participation for SEDGs, including students with disabilities, i.e., Inclusion Fund, Gender Inclusion Fund, etc. In addition, it recommends various measures that shall be taken by government and institutions to ensure equity and inclusion in the education system, such as: Students with disabilities will enroll in regular schools, and those who cannot enroll in regular schools will enroll in special schools. It also talks about home-based education for those who have profound and severe disabilities. The educational institutions will ensure barrier-free accessible buildings and facilities, appropriate technological intervention, provide accessible teaching-learning material, provide financial support, etc., to facilitate their full participation and inclusion in the classroom. School complexes should be established to provide resources and support for children with disabilities.

The concept of inclusion and equity will be integrated into the pre-service and in-service teacher training program. So those teachers can access the needs of disabled students and modify their way of teaching according to their needs. It also mentions that there is a need for the continuous capacity development of in-service teachers to adapt new pedagogical approaches in their classrooms according to the needs of learners. Therefore, it will help cater to all diverse children's needs and ensure inclusive and equitable education for all, including students with disabilities. In

addition, the policy mentions that there is a need for change in the school culture toward inclusion and equity for all, including students with disabilities. This cultural shift will involve sensitizing all participants in the education system, including teachers, principals, administrators, counsellors, and students.

Discussion

India has a long history of providing inclusive education for students with disabilities. The first deaf school was established in Bombay in 1883, and the first blind school for the blind was established in 1887. However, it has some disadvantages, such as these schools have limited outreach, primarily to urban areas, and are not cost-effective. Additionally, these schools segregate students with disabilities from mainstream schools and create a specific disability culture.

Furthermore, the National Curriculum Framework for School Education (NCFSE, 2000) states that segregation or isolation is not beneficial for either students with disabilities or students without disabilities. After that, the government of India initiated several initiatives and plans to fulfill its obligations toward providing education for students with disabilities. One of the foremost initiatives was the Project Integrated Education of the Disabled Children (PIED), which was introduced in 1987 in partnership with UNICEF. It was implemented in 10 blocks across States and Union Territories in the country. After seeing the positive consequence of Project Integrated Education of Disabled Children (PIED), the government revised the Integrated for Disabled Children (IEDC) scheme in 1992, which was launched in 1974 (Singal, 2010). However, the program was little

successful due to several limitations and drawbacks, such as the non-availability of qualified and skilled teachers, lack of understanding regarding educational needs and problems of students with disabilities, inadequate availability of equipment and educational materials, etc. It was a very significant initiative in the education system for students with disabilities because it promoted the integration of children who have mild or moderate disabilities into regular schools instead of segregated education but did not talk about inclusive education for students with disabilities. The National Policy of Education 1986 states “Where feasible children with motor handicaps and other mild handicaps will be educated with others, while severely handicapped children will be provided for in special residential schools” (MHRD, 1986). The Persons with Disability Act 1995 also proclaims the same, which states “to promote the integration of students with disabilities in the normal schools” and “promote setting up of special schools in Government and private sector for those in need of special education.” Therefore, this policy and Act focused on integrated education and the medical model of disabilities. After that, the Salamanca Statement was held in 1994, and a new moment stated globally, that was “inclusive education” for students with disabilities. The Salamanca Statement in 1994 first introduced the term “inclusion”, making a shift from the previous use of “integration” to describe efforts to incorporate children and youth with special needs into mainstream education and communities.

The statement emphasized that inclusive schools serving all children in a community are the best way to integrate those with special needs, as they provide the fullest educational

progress and social integration within the context of special educational needs. Since India was one of the signatory countries of the Salamanca Statement, India also incorporated the term “inclusive education” in various documents, reports, etc. The District Primary Education Programme (DPEP) adopted inclusive education. In the national workshop on inclusive education, the Director of Elementary Education and Literacy said that a ‘zero rejection policy’ had to be adopted to educate disabled children. In addition, he talked about multiple options like inclusive education, distance education, and home-based education to ensure education for disabled children. After that, Sarva Shiksha Abhiyan (SSA) launched in 2001, and it adopted a zero-rejection policy and promoted inclusive education for students with disabilities. Then, UNCRPD, 2006 is a significant international agreement because it is the first international agreement that focuses on the human rights model of disabilities instead of the charity, a medical model of disability. In addition, it promotes the inclusion and empowerment of persons with disabilities. India is one of the signatory countries of this agreement. Therefore, it ratified the Persons with Disability Act and replaced it with the Right to Persons with Disability Act of 2016. The Act is in line with the UNCRPD agreement that focuses on the human rights model of persons with disabilities.

In addition, this Act has covered 21 types of disabilities which was in the PwD Act, 1995. It proclaims to provide free and compulsory education to every child with benchmark disabilities between 6 to 18 years in an inclusive school. In addition, it also proclaims to ensure the participation of students with disabilities in higher education in an inclusive setup. Sustainable

Development Goal 4 also focuses on “ensuring inclusive and equitable quality education” to all, including students with disabilities.

The National Education Policy 2020 is aligned with the global agenda of SDG4 and the RPWD Act 2016 and endorses ensuring inclusive and equitable education to all, including students with disabilities. Therefore, this new national education policy is based on the social and right-based models of disabilities and works as a catalyst to achieve the goal. However, if we analyze the recent education policies, we can find that these policies do not give equal emphasis on inclusive education for all levels of education. Sarva Shisha Abhiyan (SSA), Inclusive Education of Children and Youth with Disabilities (IECYD), Rastriya Bal Swaasthya karyakaram (RBSK), Inclusive Education of the Disabled at Secondary Stage (IEDSS), etc. scheme are focusing on only primary, secondary, and higher secondary education to ensure inclusive and equitable education for students with disabilities. However, many of these policies and programs do not focus on higher education for students with disabilities. In the tenth-year plan, the University Grants Commission (UGC) introduces a new scheme called Higher Education for Persons with Special Needs (HPESN) in the field of higher education for students with disabilities whose objective is to provide equal opportunities and accessibility, a barrier-free environment at all higher education institutions for students with disabilities. However, these schemes are not successfully implemented on the ground level. Therefore, students with

disabilities encounter different challenges in higher education institutions.

Therefore, it is apparent from the analysis of the recent policies that policy makers are now focusing on inclusive and equitable education to all, including students with disabilities and moving out from segregated and integrated education. However, till now, students with disabilities have faced different problems in regular schools, such as a lack of physical infrastructure, inappropriate curriculum, lack of awareness, negative attitude of teaching and non-teaching staff, etc. Additionally, social stigma and discrimination toward students with disabilities remain one of the major barriers to their education. There is also a need for increased investment in infrastructure and resources, including assistive devices and accessible physical infrastructure, and the training of teachers in inclusive education practices.

Conclusion

In conclusion, the journey towards inclusive and equitable education for students with disabilities in India has been a long and arduous one, but significant progress has been made over the years. However, there is still a long way to go to ensure that all students with disabilities can access quality education and realize their full potential. It is only through sustained efforts and a collaborative approach that we can achieve this goal and create a truly inclusive and equitable education system in India.

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CHAPTER- 25

CREATING SAFE AND SUPPORTIVE ENVIRONMENTS FOR STUDENTS WITH DISABILITIES

Johnncy Rose, P

Librarian

St. Ignatius College of Education (Autonomous)

Palayamkottai-2

ABSTRACT

Creating safe and supportive environments for students with disabilities involves a multi-faceted approach that ensures both physical accessibility and emotional support. Teachers play an important role in creating safe environments for students with learning disabilities. Inclusive classrooms can provide opportunities for all students to succeed and feel supported. Here are six tips for teachers to create inclusive classrooms. This chapter explores the critical elements necessary for fostering such environments, including physical accessibility, emotional and social support, individualized educational plans (IEPs), professional development for educators, and family and community engagement. It delves into the strategies for implementing inclusive practices, such as Universal Design for Learning (UDL), Positive Behavioural Interventions and Supports (PBIS), collaborative teaching models, and environmental modifications. The chapter also addresses the challenges faced, including resource constraints, attitudinal barriers, and policy implementation gaps, while highlighting the positive impacts on academic achievement, social and emotional

well-being, and long-term outcomes for students with disabilities. Case studies and success stories are provided to illustrate effective inclusive practices in action. By committing to these inclusive strategies, schools can create environments where all students have the opportunity to thrive and reach their full potential.

Keywords: *Individualized educational plans, Universal Design for Learning, Positive Behavioural Interventions and Supports.*

Introduction

Creating safe and supportive environments for students with disabilities is crucial for their academic, social, and emotional development. Inclusive education ensures that students with disabilities receive a quality education while fostering a culture of acceptance and belonging. This chapter explores the essential components of creating such environments, highlighting best practices, challenges, and the impact on students.

Understanding Inclusive Education

Inclusive education is an educational approach that seeks to address the learning needs of all children, youth, and adults, with a specific focus on those vulnerable to marginalization and exclusion. It is based on the principle that all learners have the right to education and should learn together, regardless of any difficulties or differences they may have.

Key Components of a Safe and Supportive Environment

Physical Accessibility

Infrastructure: Ensuring that school buildings, classrooms, playgrounds, and other facilities are accessible to students with

physical disabilities. This includes ramps, elevators, accessible restrooms, and appropriate classroom layouts.

Assistive Devices: Providing necessary assistive devices such as wheelchairs, hearing aids, and braille materials to support students' learning and mobility.

Adaptive Equipment: Utilizing adaptive equipment like specialized desks, computer keyboards, and software that cater to students' specific physical and learning needs.

Emotional and Social Support

Inclusive Culture: Promoting a school culture that values diversity and encourages empathy, respect, and understanding among all students and staff. Schools can organize workshops and events that celebrate differences and educate the community about various disabilities.

Support Systems: Establishing peer support groups, counselling services, and mentorship programs to provide emotional and social support to students with disabilities. Training students to become peer buddies can enhance this support.

Bullying Prevention: Implementing anti-bullying policies and programs to protect students with disabilities from harassment and ensure they feel safe and valued. This can include educational campaigns and workshops on empathy and inclusion.

Individualized Educational Plans (IEPs)

Personalized Learning: Developing IEPs that cater to the specific needs of each student with disabilities, outlining their learning goals, required accommodations, and progress

monitoring. Regular reviews and updates to these plans ensure they remain relevant and effective.

Collaborative Approach: Involving teachers, parents, special educators, and students in the IEP process to ensure that the plans are comprehensive and effective. This collaborative effort ensures that all stakeholders are aligned and working towards common goals.

Professional Development for Educators

Training Programs: Offering regular training and professional development opportunities for teachers to equip them with the skills and knowledge needed to support students with disabilities. Topics can include differentiated instruction, behavioral management, and the use of assistive technology.

Inclusive Teaching Strategies: Encouraging the use of inclusive teaching strategies, such as differentiated instruction, universal design for learning (UDL), and collaborative learning, to meet the diverse needs of all students. Teachers should be trained to identify and address the unique needs of students with disabilities effectively.

Family and Community Engagement

Partnerships: Building strong partnerships with families and communities to support the educational and emotional well-being of students with disabilities. Schools can organize regular meetings and workshops to engage parents and caregivers.

Awareness Campaigns: Conducting awareness campaigns to educate parents and community members about the importance of inclusive education and the role they can play in supporting it.

These campaigns can help in building a more inclusive and supportive community environment.

Strategies for Creating Safe and Supportive Environments Universal Design for Learning (UDL)

Multiple Means of Representation: Presenting information in different ways to accommodate various learning styles and abilities.

This can include visual aids, audio materials, and hands-on activities.

Multiple Means of Expression: Allowing students to demonstrate their knowledge and skills in various ways, such as through written assignments, oral presentations, or creative projects.

Multiple Means of Engagement: Engaging students by providing choices in their learning activities, encouraging their interests, and motivating them through positive reinforcement.

Positive Behavioural Interventions and Supports (PBIS)

Proactive Strategies: Implementing proactive strategies to promote positive behavior and prevent disciplinary issues. This can include setting clear expectations, teaching appropriate behaviours, and recognizing and rewarding positive actions.

Tiered Support: Providing tiered levels of support to address the varying needs of students. This can range from school-wide interventions to individualized support plans for students with significant behavioural challenges.

Collaborative Teaching Models

Co-Teaching: Pairing general education teachers with special education teachers to collaboratively plan, instruct, and assess students. This model ensures that students with disabilities receive the support they need within the general education classroom.

Consultation and Collaboration: Encouraging regular consultation and collaboration between general education teachers, special educators, and other support staff to address students' needs effectively.

Environmental Modifications

Sensory-Friendly Spaces: Creating sensory-friendly spaces within the school where students with sensory processing issues can take breaks and regulate their sensory input. These spaces should be quiet, with calming colors and minimal distractions.

Flexible Seating: Offering flexible seating options to accommodate students' physical needs and preferences. This can include standing desks, bean bags, and wobble chairs.

Challenges in Creating Safe and Supportive Environments

Resource Constraints: Limited financial resources can hinder the implementation of necessary infrastructure modifications and the procurement of assistive devices. Insufficient funding for training programs and professional development for educators.

Attitudinal Barriers: Prejudices and misconceptions about disabilities can lead to negative attitudes and behaviors among

students, staff, and community members. Resistance to change from traditional teaching methods to more inclusive practices.

Policy and Implementation Gaps: Inconsistent policies and lack of enforcement can result in uneven implementation of inclusive education practices across different schools and regions. Bureaucratic hurdles that delay the provision of resources and support services to students with disabilities.

Impact of Safe and Supportive Environments

Academic Achievement: Students with disabilities in safe and supportive environments tend to show improved academic performance and higher levels of engagement.

Individualized support and accommodations enable students to access the curriculum and demonstrate their abilities effectively.

Social and Emotional Well-being: Inclusive environments foster a sense of belonging and self-worth among students with disabilities, reducing feelings of isolation and depression. Positive peer interactions and supportive relationships contribute to the overall emotional health of students.

Long-term Outcomes: Students with disabilities who experience inclusive education are more likely to pursue higher education and secure meaningful employment. Inclusive education promotes social cohesion and prepares all students to live and work in diverse communities.

Conclusion

Creating safe and supportive environments for students with disabilities is an essential aspect of inclusive education. It requires

a multi-faceted approach that addresses physical accessibility, emotional and social support, individualized learning plans, professional development for educators, and family and community engagement. While challenges exist, the benefits of inclusive education are profound, leading to improved academic achievement, enhanced social and emotional well-being, and better long-term outcomes for students with disabilities. By committing to inclusive practices, schools can ensure that all students have the opportunity to thrive and reach their full potential.

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CHAPTER-26

REIMAGINING INCLUSIVE EDUCATION THROUGH SOCIAL AND EMOTIONAL LEARNING: CHALLENGES AND OPPORTUNITIES

Michael Jeya Priya, E

*Research Scholar & Assistant Professor of Biological Science
St. Ignatius College of Education(Autonomous)
Palayamkottai-2*

Maria Saroja, M

*Research Director, IQAC Coordinator &
Associate Professor of Biological Science
St. Ignatius College of Education(Autonomous)
Palayamkottai-2*

ABSTRACT

Inclusive education ensures that all students have equal opportunities to succeed regardless of their diverse backgrounds and abilities. Social and emotional learning (SEL) is a crucial component of this goal, fostering students' emotional intelligence, social skills, and overall well-being. Integrating SEL into inclusive education presents both challenges and opportunities. In an era marked by rapid technological advancements and complex societal challenges, the importance of social and emotional learning (SEL) in education cannot be overstated. Inclusive classrooms comprise students with varying abilities, including those with disabilities, language barriers, and different cultural backgrounds. Tailoring SEL programs to meet this diversity can be complex, as it requires differentiated approaches

to teaching and learning. Teachers are pivotal in implementing SEL effectively, but they may lack the necessary training to handle the social-emotional needs of a diverse student population. Providing professional development and continuous support is essential but can be challenging to organize and sustain. Implementing SEL programs often requires additional resources, such as specialized materials, staff, and training programs. Schools with limited funding may struggle to provide these resources, potentially hindering the effectiveness of SEL integration. SEL programs must be culturally sensitive and relevant to the students' backgrounds. This requires understanding the diverse cultural norms and values in the classroom, which can be challenging to achieve without careful planning and community involvement. This chapter deals with social and emotional learning, the importance of SEL in education, ways to implement SEL in school, the impact of SEL in school, and the role of social and emotional learning in inclusive education.

Keywords: *social and emotional learning, inclusive education*

Social and Emotional Learning

Social and emotional learning (SEL) encompasses a set of skills, attitudes, and behaviours that enable individuals to understand and manage their emotions, establish positive relationships, demonstrate empathy and compassion, make responsible decisions, and navigate social situations effectively. SEL fosters the development of essential life skills such as self-awareness, self-regulation, social awareness, relationship skills, and responsible decision-making, which are crucial for personal and interpersonal success. Social and emotional learning (SEL) is integral to the mission and vision of the school, shaping the

educational experiences and outcomes of its students. Through a comprehensive SEL curriculum, skill-building activities, professional development initiatives, and parental engagement efforts, Banyan Tree School fosters the social, emotional, and academic development of students, preparing them to thrive in a complex and interconnected world. By nurturing hearts and enriching minds, the school empowers students to become compassionate, responsible, and resilient individuals who make positive contributions to their communities and society at large (Jones, S. M., & Bouffard, S. M. 2012).

The Importance of SEL in Education

Academic Achievement: Research has consistently shown a positive correlation between SEL and academic achievement. Students with strong social and emotional skills demonstrate higher engagement, motivation, and perseverance levels in their educational pursuits. Moreover, SEL equips students with problem-solving, critical thinking, and practical communication skills, essential for success in school and beyond.

Positive School Climate: SEL creates a positive, inclusive school climate where students feel safe, supported, and valued. SEL fosters a sense of belonging and connectedness among students, teachers, and staff by promoting empathy, respect, and cooperation. A positive school climate enhances student well-being, reduces bullying and antisocial behavior, and creates an optimal learning environment conducive to academic and social-emotional growth.

Social and Emotional Well-being: SEL plays a crucial role in supporting students' social and emotional well-being. SEL enhances resilience, self-esteem, and mental health by teaching

students to identify and manage their emotions, cope with stress and adversity, and build healthy relationships. SEL also equips students with coping strategies and problem-solving skills to navigate challenges effectively and seek support when needed.

Citizenship and Civic Engagement: SEL fosters the development of responsible and engaged citizens who contribute positively to their communities and society. SEL instills a sense of social responsibility and ethical leadership in students by promoting empathy, perspective-taking, and civic-mindedness. SEL empowers students to advocate for social justice, diversity, and equity and to take action to address issues of concern in their communities.

Ways to Implementing SEL in School

SEL Curriculum Integration: The school can integrate SEL principles and practices into its academic curriculum and school culture. SEL competencies are embedded across various subject areas, extracurricular activities, and school-wide initiatives to ensure holistic development. Through explicit instruction, experiential learning activities, and reflective practices, students develop social and emotional skills essential for success in school and life.

SEL Skill-Building Activities: The School offers many SEL skill-building activities to support students' social and emotional development. These activities may include mindfulness exercises, role-playing scenarios, cooperative games, peer mediation programs, and community service projects. By providing opportunities for practice and application, School

cultivates SEL skills in authentic contexts and promotes positive behavioral change.

SEL Professional Development: The school invests in professional development opportunities for teachers and staff to enhance their knowledge and skills in SEL instruction and support. Training workshops, seminars, and ongoing coaching sessions provide educators with research-based strategies, best practices, and resources for integrating SEL into their teaching practices and classroom management techniques.

SEL Parental Engagement: The school recognizes the importance of parental involvement in supporting students' social and emotional development. The school provides resources, workshops, and parent education sessions to help parents understand the importance of SEL and strategies for promoting SEL skills at home. By fostering partnerships between home and school, Banyan Tree School reinforces SEL principles and extends the impact of SEL beyond the classroom.

Impact of SEL in School

Academic Excellence: SEL contributes to academic excellence at the school by enhancing students' motivation, engagement, and learning outcomes. Students with strong SEL skills demonstrate higher educational achievement, improved attendance, and better classroom behavior. Moreover, SEL fosters a growth mindset and resilience, enabling students to persevere through challenges and achieve their full potential academically.

Positive School Climate: SEL creates a positive school climate characterized by empathy, respect, and collaboration. Students feel safe, supported, and valued within the school community,

leading to greater well-being and a sense of belonging. A positive school climate enhances students' social and emotional development, promotes positive relationships, and fosters a culture of kindness and inclusivity.

Social-Emotional Well-being: SEL promotes students' social and emotional well-being of school by equipping them with essential skills for managing emotions, building relationships, and making responsible decisions. Students develop self-awareness, self-regulation, and empathy, foundational to mental health and resilience. SEL also provides students with coping strategies and problem-solving skills to navigate stressors and challenges effectively.

Citizenship and Leadership: SEL cultivates responsible citizenship and leadership qualities among students. Students develop a sense of social responsibility, empathy, and ethical decision-making, which is essential for active participation in their communities and society. SEL empowers students to advocate for social justice, promote diversity and inclusion, and take the initiative to address issues of concern in their schools and communities.

The Role of Social and Emotional Learning in Inclusive Education

Promoting Emotional Intelligence

Self-awareness: Encourages students to recognize and understand their own emotions.

Self-Management: Helps students regulate their emotions and behaviors effectively.

Enhancing Social Skills: Social Awareness: Cultivates empathy and respect for diverse perspectives.

Relationship Skills: Builds effective communication, cooperation, and conflict resolution abilities.

Supporting Positive Behavioural Outcomes

Responsible Decision-Making: Promotes thoughtful and ethical decision-making processes.

Positive School Climate: Fosters a safe and inclusive environment conducive to learning.

Challenges in Implementing SEL in Inclusive Education Resource Constraints

Limited Funding: Insufficient financial resources to support SEL programs.

Training and Professional Development: Need for continuous training for educators to effectively implement SEL strategies.

Diverse Student Needs Individualized Support: Tailoring SEL interventions to meet the unique needs of each student.

Cultural Sensitivity: Ensuring SEL practices are culturally responsive and inclusive.

Systemic Barriers: Curriculum Integration: Difficulty in embedding SEL into existing curricula without overwhelming teachers and students.

Assessment and Evaluation: Challenges in measuring SEL outcomes and integrating them into traditional academic

assessments (Domitrovich, C. E., Durlak, J. A., Staley, K. C., & Weissberg, R. P. (2017).

Opportunities for Overcoming Challenges

Policy and Advocacy: Government Support: Advocating for policies that prioritize SEL and allocate necessary resources.

Community Engagement: Involving families and communities in supporting SEL initiatives.

Innovative Practices: Technology Integration: Leveraging digital tools to support SEL learning and engagement.

Collaborative Approaches: Encouraging collaboration between teachers, parents, and mental health professionals.

Professional Development: Ongoing Training: Providing regular professional development opportunities for educators.

Peer Learning Communities: Establishing networks for educators to share best practices and resources.

Conclusion

Reimagining inclusive education through the lens of social and emotional learning is essential for fostering a supportive and equitable learning environment. While challenges exist, strategic approaches and collaborative efforts can overcome these obstacles, ultimately promoting the holistic development of all students. Reimagining inclusive education through Social and Emotional Learning (SEL) presents both significant challenges and valuable opportunities. SEL focuses on developing students' skills in managing emotions, setting goals, showing empathy, establishing relationships, and making responsible decisions.

Integrating SEL into inclusive education can enhance learning experiences and foster a supportive environment for all students, including those with disabilities. Integrating Social and Emotional Learning into inclusive education presents a promising pathway for fostering a more supportive and equitable learning environment. By addressing the associated challenges and leveraging the opportunities, educators and schools can enhance the educational experience for all students, including those with disabilities. This holistic approach not only improves academic outcomes but also builds a more inclusive, empathetic, and supportive school community.

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