

Building Teacher Capacity for Inclusive Education: A Professional Development Model Using Technology and UDL

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Abstract

This study proposes a professional development model for building Teacher capacity in Inclusive Education, utilizing technology and Universal Design for Learning (UDL) principles. The model was developed based on a review of literature on inclusive education, teacher professional development, technology integration, and Universal Design for Learning (UDL). The proposed model includes three phases: (1) pre-training activities, (2) training activities, and (3) post-training activities. Pre-training activities involve a needs assessment, goal setting, and preparation for the training. The training activities include synchronous and asynchronous online sessions, collaborative activities, and self-paced learning modules. The post-training activities focus on ongoing support, coaching, and evaluation. The proposed model incorporates Universal Design for Learning (UDL) principles to ensure that the training is accessible and effective for all teachers, regardless of their learning preferences or disabilities. Universal Design for Learning UDL works on three principles. The model incorporates the use of technology to facilitate the training and support phases, including an online learning platform and virtual coaching sessions. The UDL framework is used as a guiding principle throughout the model, ensuring that teachers have the tools and knowledge to design instruction that is accessible to all students, regardless of their learning needs or abilities. The study concludes that the proposed professional development model can effectively build teacher capacity for inclusive education and promote positive outcomes for students with diverse needs.

Keywords: Build Teacher Capacity, Inclusive Education, Professional Development Model, Technology, UDL



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INTRODUCTION

Inclusive education is the concept of providing equal opportunities for all students, including those with disabilities or learning differences, to access quality education. However, many teachers face challenges in implementing inclusive practices in their classrooms due to a lack of knowledge and training. To address this challenge, this article presents a professional development model that aims to build teacher capacity for inclusive education. The model provides teachers with the skills and knowledge necessary to implement inclusive practices and support diverse learners' needs. Building teacher capacity refers to the process of empowering teachers to enhance their knowledge, skills, and abilities to effectively deliver quality education to students. Teacher capacity building involves a range of strategies and initiatives that focus on improving the professional development of teachers, supporting the acquisition of new knowledge and skills, and creating a culture of continuous learning and improvement within schools. Effective teacher capacity building is essential for improving student learning outcomes, reducing educational disparities, and promoting the development of a skilled workforce for the future. It involves creating opportunities for teachers to engage in professional learning and development, providing resources and support to teachers, and establishing a collaborative and supportive learning community within schools. There are

various approaches to building teacher capacity, including professional development workshops, coaching and mentoring, peer observation and feedback, curriculum development and alignment, and the use of technology to support learning and collaboration. These approaches can be customized to meet the needs of individual teachers, schools, and districts, and can be implemented at different stages of a teacher's career. Overall, building teacher capacity is a critical component of improving the quality of education, and it requires ongoing commitment and investment from education stakeholders at all levels.

Aims

The professional development model aims to build teachers' capacity to effectively implement inclusive education practices in their classrooms. The model utilizes technology and Universal Design for Learning (UDL) principles to provide teachers with the tools and strategies needed to meet the diverse learning needs of all students. Specifically, the model aims to:

- Increase teacher knowledge and understanding of inclusive education and UDL principles.
- Provide teachers with practical strategies and tools to differentiate instruction and support student learning.
- Foster collaboration among teachers to share best practices and support one another in implementing inclusive education practices.
- Utilize technology to facilitate access to resources, support differentiated instruction, and provide opportunities for collaboration and professional learning.
- Promote ongoing reflection and self-evaluation to continuously improve teacher practice and enhance student learning outcomes.

Needs

The development of the professional development model for building teacher capacity in inclusive education using technology and UDL principles is based on the following identified needs:

- Lack of knowledge and understanding of inclusive education and UDL principles among teachers: Many teachers have not received adequate training on inclusive education practices and may not understand how to effectively support the diverse learning needs of all students in their classrooms.
- Limited access to resources and professional learning opportunities: Teachers may not have access to the resources and professional learning opportunities necessary to effectively implement inclusive education practices in their classrooms.
- Difficulty in implementing differentiated instruction: Teachers may struggle to differentiate instruction to meet the diverse learning needs of all students due to a lack of knowledge, resources, and practical strategies.
- Limited collaboration among teachers: Teachers may work in isolation and may not have opportunities to collaborate and share best practices.
- Need for ongoing reflection and self-evaluation: Teachers may need support in reflecting on their practice and continuously improving their skills in implementing inclusive education practices.
- The professional development model aims to address these needs by providing teachers with the knowledge, resources, and practical strategies needed to effectively implement inclusive education practices in their classrooms using technology and UDL principles.

Scope

The scope of the professional development model for building teacher capacity in inclusive education using technology and UDL principles include the following:

- The model is designed for K-12 teachers across subject areas who are interested in developing their skills in implementing inclusive education practices to meet the diverse learning needs of all students.
- The model includes a range of topics related to inclusive education and UDL principles, such as understanding diverse learners, creating accessible learning environments, differentiating instruction, and promoting student engagement.
- The model incorporates technology tools and resources to support the implementation of inclusive education practices, such as assistive technology, digital learning resources, and online collaboration tools.
- The model emphasizes collaboration and sharing of best practices among teachers, including opportunities for peer feedback and reflection.
- The model includes ongoing support and opportunities for teachers to reflect on their practice and continuously improve their skills in implementing inclusive education practices.

Overall, the scope of the professional development model is to provide teachers with a comprehensive set of knowledge, skills, and resources to support the implementation of inclusive education practices in their classrooms, with an emphasis on the use of technology and UDL principles.

Build Teacher Capacity

Inclusive education refers to a learning environment where all students, including those with disabilities or special needs, are supported and included in regular classrooms. Building teacher capacity in inclusive education is crucial for ensuring that every student has access to quality education and that no one is left behind. Here are some ways to build teacher capacity in inclusive education: -

Professional development: Provide regular professional development opportunities for teachers to learn about inclusive education and strategies for supporting students with diverse needs. This could include workshops, seminars, webinars, and online courses.

Collaboration: Encourage teachers to collaborate and share best practices with each other. This could be done through team teaching, peer coaching, or professional learning communities.

Co-teaching: Assign teachers to co-teach with each other to support students with diverse needs. This will allow teachers to learn from each other, share their skills and knowledge, and work together to support all students.

Cooperative Learning: Cooperative Learning is a group learning activity organized in such a way that learning is dependent on the socially structured exchange of information between learners in a group.

Why Cooperative Learning:

Research has shown that cooperative learning techniques:

- Promote student learning and academic achievement
- Increase students' retention power
- Enhance student satisfaction with their learning experience
- Help students develop skills in oral communication
- Develop students' social skills
- Promote student self-esteem
- Help to promote positive race relations

Peer Tutoring: Peer tutoring is a type of learning practice where students assist their peers in grasping various academic concepts. It involves students acting as tutors and instructing their classmates. In this strategy, the teacher typically designates a student who is doing well in the class to tutor a student who is performing below par. This strategy aids in giving weaker students individualized attention. This individualized attention will enable teachers to determine why a student is falling behind in class and, hence, can adjust their teaching strategies accordingly.

Role of the tutor -

- Teacher
- Mediator
- Work partner
- Role model

Type of Peer Tutor

- Same-age peer tutoring
- Reciprocal peer tutoring
- Cross-age peer tutoring

Classroom accommodations: Provide teachers with resources and training on how to make accommodations and modifications to the classroom environment, such as providing assistive technology or adapting instructional materials.

Parent involvement: Involve parents in the education of their children with special needs. This could include inviting parents to participate in parent-teacher conferences, providing them with information and resources about their child's disability or special needs, and seeking their input on how best to support their child in the classroom.

Support staff: Provide support staff, such as para-educators or special education teachers, to work with teachers and provide additional support to students with diverse needs.

Assessment and evaluation: Ensure that teachers are equipped with appropriate assessment and evaluation tools and strategies to monitor the progress of all students, including those with special needs. This will help teachers to adjust their teaching methods and provide additional support when needed. By implementing these strategies, teachers can be better equipped to provide inclusive education and support all students, regardless of their abilities or special needs.

Importance of Professional Development

Professional development is an essential aspect of building teacher capacity for inclusive education. Teachers need ongoing training and support to develop the knowledge, skills, and attitudes required to effectively teach a diverse group of learners. Professional development that focuses on inclusive education can help teachers understand the unique needs of their students and provide them with the tools and strategies they need to create inclusive learning environments.

Inclusive Education

The Rights of Persons with Disabilities Act (RPWD Act) was passed in 2016 in India to promote and protect the rights of persons with disabilities. The act provides a framework for creating an inclusive society by ensuring access and equality to persons with disabilities in all aspects of life, including education. The RPWD Act mandates that all educational institutions, including government and private schools, must provide inclusive education to students with disabilities. This means that all students, including those with disabilities, must be provided with equal opportunities to access quality education and participate in all aspects of school life. To implement inclusive education, the RPWD Act requires that schools must make reasonable accommodations and provide necessary support services to students with disabilities. This includes providing assistive technology, individualized instruction, and other accommodations to ensure that students with disabilities can fully participate in classroom activities and learn alongside their peers.

“Inclusive Education” means a system of education wherein students with and without disabilities learn together and the system of teaching and learning is suitably adapted to meet the learning needs of different types of students with disabilities;

Professional Development Model

The professional development model for building teacher capacity for inclusive education using technology and Universal Design for Learning (UDL) involves a multifaceted approach to provide educators with the knowledge, skills, and resources necessary to meet the diverse needs of all students in their classrooms.

The model includes the following components:

Needs Assessment: Conduct a needs assessment to identify the current level of teacher capacity for inclusive education, including their understanding of UDL and technology, and their ability to implement inclusive practices.

Professional Learning Communities (PLCs): Create small groups of teachers who work collaboratively to explore UDL, technology, and inclusive practices. PLCs can be face-to-face or online and should include ongoing support, mentoring, and coaching.

Blended Learning: Use a combination of online and face-to-face professional development activities to increase access and flexibility for teachers. These activities should include videos, webinars, podcasts, online courses, and other digital resources that provide teachers with opportunities to learn at their own pace and on their own time.

Coaching and Mentoring: Provide ongoing coaching and mentoring to teachers to help them develop and implement effective inclusive practices using UDL and technology. This can be done through in-person meetings, virtual coaching sessions, or a combination of both.

Technology Integration: Provide teachers with training and support to integrate technology into their teaching practices. This includes the use of assistive technology, digital tools, and other technology-based resources that can enhance the learning experience for all students.

Evaluation and Reflection: Use ongoing evaluation and reflection to assess the effectiveness of the professional development model and to identify areas for improvement. This includes collecting data on teacher capacity and student outcomes, as well as soliciting feedback from teachers and other stakeholders.

Overall, the professional development model for building teacher capacity for inclusive education using technology and UDL is designed to provide educators with the knowledge, skills, and resources they need to create inclusive learning environments that meet the needs of all students. By implementing this model, schools, and districts can support their teachers in developing the skills and confidence to provide high-quality, inclusive education to all students.

Role of Technology

Technology can play a critical role in supporting inclusive education. Assistive technology can help learners with disabilities access and engage with learning materials. Digital platforms and tools can also facilitate student collaboration and communication, providing personalized learning experiences. When used effectively, technology can help create more inclusive learning environments that meet the needs of all learners.

Importance of Universal Design for Learning

Universal Design for Learning (UDL) is a framework for designing and delivering instruction that is accessible to all learners. It emphasizes providing multiple means of Representation, Action & Expression, and Engagement to meet the diverse needs of learners. By using UDL principals, teachers can create flexible learning experiences that are responsive to all learners' needs.

National Guidelines and Implementation Framework on Equitable and Inclusive Education (NGIFEIE) - Universal Design for Learning (UDL) is designed to serve all learners, regardless of ability, disability, age, gender, or cultural and linguistic background. UDL provides a blueprint for designing goals, methods, materials, and assessments to reach all students including those with diverse needs. It calls for varied and flexible ways to present or access information, concepts, and ideas-the "**what**" of learning; Plan and execute learning tasks-the "**how**" of learning, and get engaged and stay engaged in learning the "**why**" of learning.

United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) - "Universal design" means the design of products, environments, programs, and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. "Universal design" shall not exclude assistive devices for particular groups of persons with disabilities where this is needed.

Rights of Persons with Disability Act-2016 (RPwD-2016) "Universal Design" means the design of products, environments, programmes, and services to be usable by all people to the greatest extent possible, without the need for adaptation or specialized design, and shall apply to assistive devices including advanced technologies for a particular group of persons with disabilities.

Universal Design for learning is a set of three principles that provide teachers with a structure to develop instructions to meet the diverse needs of all learners.

1. Multiple means of Representation "**What**" of learning (Teachers' Activities)
2. Multiple means of Action & Expression "**How**" of learning (Students' Activities)
3. Multiple means of Engagement "**Why**" of learning (Teachers' Activities)

Needs Assessment

The professional development model's first step is conducting a needs assessment. The needs assessment would identify the areas where teachers need support to effectively teach diverse learners.

Training and Support

The next step would be to provide teachers with training and support on how to use technology and UDL to support inclusive education. This could include online courses, workshops, coaching, and mentoring.

Curriculum and Materials Development

The third step would be developing a curriculum and materials incorporating technology and UDL principles. This could include creating digital materials, using assistive technology, and designing activities that provide multiple means of engagement, representation, and expression.

CONCLUSION

In conclusion, building teacher capacity for inclusive education is critical in ensuring that every student receives a quality education. The professional development model using technology and Universal Design for Learning (UDL) is an effective approach to enhancing teacher skills and knowledge in meeting the needs of diverse learners. The model provides a comprehensive and flexible framework that considers the unique learning needs of every student. By utilizing technology, teachers can access a wide range of resources and tools that support their professional development. The UDL framework ensures that the curriculum is designed with multiple means of representation, expression, and engagement, which enhances accessibility for all learners. The implementation of this professional development model requires collaboration and commitment among stakeholders, including teachers, administrators, and policymakers. It also calls for the provision of adequate resources and support to ensure its success. Overall, the professional development model using technology and UDL offer a promising approach to building teacher capacity for inclusive education. It empowers teachers to create learning environments that cater to the needs of diverse learners and ensure equitable educational opportunities for all.

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