

A SYSTEMATIC REVIEW OF UNIVERSAL DESIGN FOR LEARNING IN INCLUSIVE EDUCATION

Kyaw Min Latt¹

Abstract

The Universal Design for Learning (UDL) framework is instrumental in supporting principles of student diversity within inclusive educational settings. This study carried out a systematic review of the literature, guided by specific research questions, with the aim of analyzing the content of seven international studies that adopted the UDL framework. The articles were selected from various databases and journals based on four key criteria: peer-reviewed publications, the provision of empirical results, a focus on the UDL as a primary framework, and publication dates between 2017 and 2023. Thematic analysis was employed to examine the data. The analysis revealed three central themes: UDL as an effective instructional strategy that addresses the diverse needs of all students, UDL's impact on promoting student achievement in learning, and challenges related to UDL implementation which hindered the effective implementation of the UDL. Implications for future research and recommendations for overcoming these barriers are also discussed. Findings indicated that UDL not only fosters academic success but also enhances student motivation and participation, particularly among those with special educational needs. However, teachers encounter key challenges, including rigid curricula, limited time, insufficient training, and inadequate access to technology. In the context of Myanmar, the adoption of UDL presents significant potential to create more inclusive classrooms.

Keywords: systematic review, universal design for learning, multiple means of representation, multiple means of action and expression, multiple means of engagement, inclusive education

Introduction

In recent years, inclusive education has become a central focus in modern schooling systems across the globe to provide equitable learning opportunities for all students, regardless of gender, ethnic and linguistic minority or family background, disability or learning difficulties, or any other feature in mainstream education (UNESCO, 2009). The focus on inclusivity has grown due to global education goals like the Sustainable Development Goals (SDGs), especially SDG 4, “*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*” (United Nations, 2018).

One instructional approach that has emerged as particularly promising in meeting the needs of diverse learners for inclusivity is the Universal Design for Learning (UDL) framework. The UDL is the deliberate design of instruction to meet the needs of a diverse mix of learners, providing all students with an equal opportunity to learn through flexible approaches, and distinguishing between the desired learning outcome and the means of achieving them (International Disability Alliance, 2021). The UDL framework operates on three core principles, as outlined by Meyer et al. (2014): multiple means of representation, which ensures that information is accessible to students through various formats and modalities; multiple means of action and expression, which allows students to demonstrate their learning in different ways; and multiple means of engagement, which recognizes the need to provide students with various ways to stay motivated and connected to the student's learning.

*Special Award(2024)

¹ Department of Basic Education (Headquarters), Nay Pyi Taw.

The UDL framework marks an important step toward inclusive education, providing educators and policymakers with strategies to create classrooms that meet the diverse needs of all learners. Despite the growing interest in the UDL, there remains a lack of comprehensive research examining both the effectiveness and the barriers to the application in inclusive classrooms as a systematic review. This study thus addresses this gap by conducting a systematic review of the literature, analyzing how UDL supports diverse learners, and identifying the challenges associated with its implementation.

Purpose

The main purpose of this paper is to study the systematic review of universal design for learning in inclusive education. The specific objectives of the study are as follows:

- (1) to examine how the UDL addresses the diverse learning needs of all students
- (2) to explore the key challenges faced in implementing the UDL in educational settings
- (3) to provide suggestions and recommendations for the effective integration of the UDL into Myanmar's inclusive education system

Research Questions

- (1) How does the UDL support the diverse learning needs of all the students in inclusive classrooms?
- (2) What are the key challenges in implementing the UDL in inclusive educational settings?
- (3) What specific recommendations can be made for integrating the UDL into Myanmar's inclusive education system based on empirical studies, policies, and current initiatives?

Definition of Key Terms

Systematic Review

A systematic review is a type of evidence synthesis which formulates research questions that are broad or narrow in scope, and identifies and synthesizes data that directly relate to the systematic review question (Nunn & Chan, 2020).

Universal Design for Learning

Universal Design for Learning (UDL) is an educational framework and approach that aims to provide all students with equal opportunities to learn by designing curriculum and instruction that are flexible and accessible to a wide range of learners, including those with diverse abilities, backgrounds, and learning styles (Priyadharsini & Mary, 2024).

Multiple Means of Representation

This principle involves offering learners various avenues for acquiring information and knowledge. By providing multiple ways of presenting content, such as visual aids, auditory explanations, and tactile experiences, educators can accommodate diverse learning styles and preferences (Kapil, Sujathamalini & Halder, 2024).

Multiple Means of Action and Expression

This principle focuses on providing learners with alternatives for demonstrating understanding and knowledge. By offering various means of expression, such as written assignments, oral presentations, artistic projects, or multimedia creations, educators can empower

students to showcase the learning in ways that best suit the strengths and abilities (Kapil, Sujathamalini & Halder, 2024).

Multiple Means of Engagement

This principle aims to tap into learners' interests, provide appropriate challenges, and foster motivation to learn. By offering diverse and stimulating learning experiences, educators can engage students emotionally and cognitively, fostering a positive and inclusive learning environment (Kapil, Sujathamalini & Halder, 2024).

Inclusive Education

Inclusive education is essential for providing high-quality education to all learners with and without disabilities in mainstream schools. Inclusive education offers flexible curricula, teaching, and learning methods adapted to different strengths, requirements, and learning styles. (United Nations Committee on the Rights of Persons with Disabilities [UNCRPD], 2016).

Review of Related Literature

Empirical Studies on the UDL Implementation in International Studies

The UDL is an educational approach that embraces areas related to the functioning of the biological education process, curriculum, methods, and educational aids (Meyer, Rose & Gordon, 2014, p. 3). The UDL is a framework that provides both theoretical and practical guidance for teachers to effectively address the diverse needs and interests of students in the classroom. The main purpose of this approach is to support the delivery of a curriculum that is completely accessible, meaningful, and a naturally challenging learning experience that meets the needs of every student (Centre for Applied Special Technology [CAST], 2018).

The UDL theory framework encompasses three core principles: multiple means of engagement to support affective learning (i.e., why we learn), multiple means of representation to support the ways in which we assign meaning to what we see and recognize (i.e., what we learn), multiple means of action and expression to support strategic ways of learning (i.e., how we learn) (Meyer, Rose & Gordon, 2014). Basically, the UDL encourages educators to create curricula and learning environments that are accessible to the broadest range of students by proactively eliminating barriers to learning from the beginning. Therefore, the emphasis is placed on adapting the learning environment, rather than focusing on individual students (Rose & Meyer, 2002).

A review of the literature revealed five recent key reviews focused on the UDL framework. Han and Lei (2024) conducted a scoping review of teachers' and students' beliefs regarding the UDL framework. The findings identified three key themes: UDL implementation, the prerequisites and benefits of adopting the UDL framework, and the challenges and barriers to the implementation. The study suggested that future research should explore students' perceptions of the UDL framework and examine how the UDL can enhance classroom participation and improve learning outcomes.

Almeqdad et al. (2023) conducted a systematic view of the literature and meta-analysis into the effectiveness of the UDL. The findings indicated that the research primarily focused on teachers and students participating in professional development programs or school interventions, often employing a one-group quantitative research design. The meta-analysis results also

highlighted specific trends and suggested that future research should explore how the UDL as a framework can influence aspects of school infrastructure and facilities, as well as how these factors impact the quality of life and social experiences within inclusive educational settings.

Oliveira et al. (2019) conducted a systematic review of the international literature on the UDL and inclusive education. The findings showed that most published studies emphasized theoretical concepts rather than practical applications. The limited empirical research available typically relied on questionnaires and interviews, often centered on training teachers to implement the UDL. The study also suggested that future studies should concentrate on the practical implementation of the UDL to evaluate the effectiveness in fostering inclusive classrooms.

Al-Azawei, Serenelli, and Lundqvist (2016) conducted a content analysis of peer-reviewed journal papers on the UDL published between 2012 and 2015. The findings suggested that the UDL is an effective approach for creating flexible learning environments and accessible content. However, the study suggested that further research is needed to confirm the positive impacts of the UDL across various educational settings and cultural contexts.

Roberts et al. (2011) conducted a systematic review of empirically based articles on the UDL in postsecondary education. The findings proved that there was insufficient concrete research on the application of the UDL in colleges and universities. The study also suggested that future research should focus on operationalizing the UDL principles and examining the impact on the educational outcomes of both students with and without disabilities.

Inclusive Education Policies in Myanmar

The Ministry of Education in Myanmar has recognized the need for inclusive education in the country and has developed policies and guidelines to promote it. Under the current government, the Ministry of Education has been working to create a more inclusive education system. The government has passed laws and policies to support the rights of children with disabilities and to ensure that they have equal access to education. The National Education Law (2014) supports an inclusive education agenda, by stating “special education program and services shall be established so that every school-aged child and youth, including those citizens who are disabled or who for whatever reason have not had a chance to study, can access their right to education in line with ‘Education for All’”.

In 2015, Myanmar ratified the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), which promotes the right to education for all children (The Rights of the Persons with Disabilities Law, 2015). Since then, the government has taken a few steps towards inclusive education, such as allowing children with disabilities to enroll in mainstream schools. Ministry of Education (2016) launched the National Education Strategic Plan (NESP) (2016-2021) that aims to transform Myanmar's education system to be more inclusive, equitable, and relevant to the country's needs.

Moreover, the Ministry of Education (2021) launched NESP (2021-2030) and has identified the transformational shift as the high-level vision statement to describe the desired future state of Access and Inclusion in Myanmar in 2030. This transformational shift states that all school-going-age children will access, progress through and complete quality education, at least KG+9 in terms of the policies: no discrimination, no child left behind, and no dropouts.

Inclusive Education Initiatives in Myanmar

The government has established partnerships with international organizations and Non-governmental organizations (NGOs) to provide technical assistance and resources to enhance the delivery of inclusive education. The development of inclusive education in Myanmar is a work in progress, but the commitment and effort by the government and other stakeholders offer hope for a future where all students have access to quality education.

International organizations and NGOs have also played a significant role in promoting inclusive education in Myanmar. There are some NGOs in Myanmar such as Myanmar Council for Persons with Disabilities, Myanmar Independent Living Initiative, Burnet Institute, Catholic Relieve Service, The International Committee of the Red Cross, Save the Children, Voluntary Service Oversea, World Vision, Handicap International, The Leprosy Mission in Myanmar, Eden Centre for Disabled Children, Mary Chapman School for the Deaf, Yangon Education Centre for the Blind, and UNICEF (Hauschild & Htet, 2015).

Koistinen and Uke (2013) introduced the Eden Centre for Disabled Children (ECDC), an NGO in Myanmar for children with physical and intellectual impairments. With funding from Welthungerhilfe, an international NGO from Germany, ECDC was able to start an inclusive education project in 2007, with the aim of promoting and advocating for inclusive education in Myanmar. The project has worked to increase access of disabled children to mainstream schools in 10 townships in the Yangon Division. The work has focused on providing facilities and a barrier-free environment, and on raising awareness of disability and inclusion. The World Bank (2020) also provided inclusive access and quality education in Myanmar.

Research Methodology

This study used a systematic review methodology to synthesize scientific evidence to answer a particular research question in a way that is transparent and reproducible, while seeking to include all published evidence on the topic and appraising the quality of this evidence (Lame, 2019). A systematic review is also different from a traditional literature review, in that it identifies, selects, synthesizes, and evaluates only high-quality evidence through an explicit, rigorous, and particular process (Van Rooyen, Stewart & De Wet, 2013). The systematic review process developed by Zawacki-Richter, et al., (2020) was applied to conduct the current review. Figure 1 shows the systematic review process of the study.

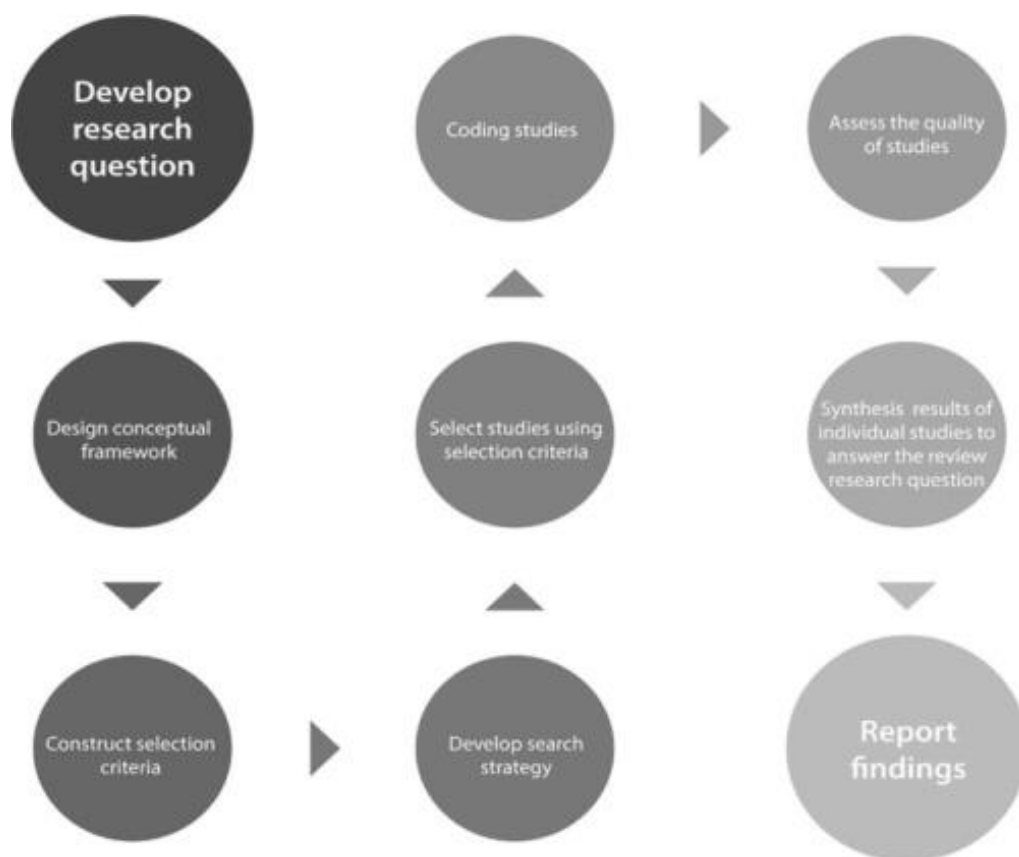


Figure 1 A Systematic Review Process

Source: From Zawacki-Richter, et al., (2020)

Procedure

For this study, a systematic review was conducted in order to evaluate and analyze all available evidence relevant to the objectives of the study objective. In order to locate high-quality publications, articles for review were identified by searching the Education Resources Information Center (ERIC) database, Google Scholar search engine, Semantic Scholar search engine, and researcher gate using key terms such as Universal Design for Learning or UDL, combined with either inclusive education or inclusive classrooms. Based on the publication of hundreds of articles, articles were selected in accordance with the inclusion and exclusion criteria.

Included and Excluded Studies

Before the process of searching, the inclusion and exclusion criteria should be considered. The articles were selected based on the following criteria: published in educational science and social science publications, employed both theoretical and empirical research (qualitative, quantitative, or mixed methods), and open access. The articles must be peer-reviewed papers and empirical studies. The publication date will be after 2017 written in English language. The decision was made to exclude universal design for learning articles that did not focus on the education field. Duplicate articles were removed after the articles. Figure 2 depicts the research strategy and the identified inclusion and exclusion criteria.

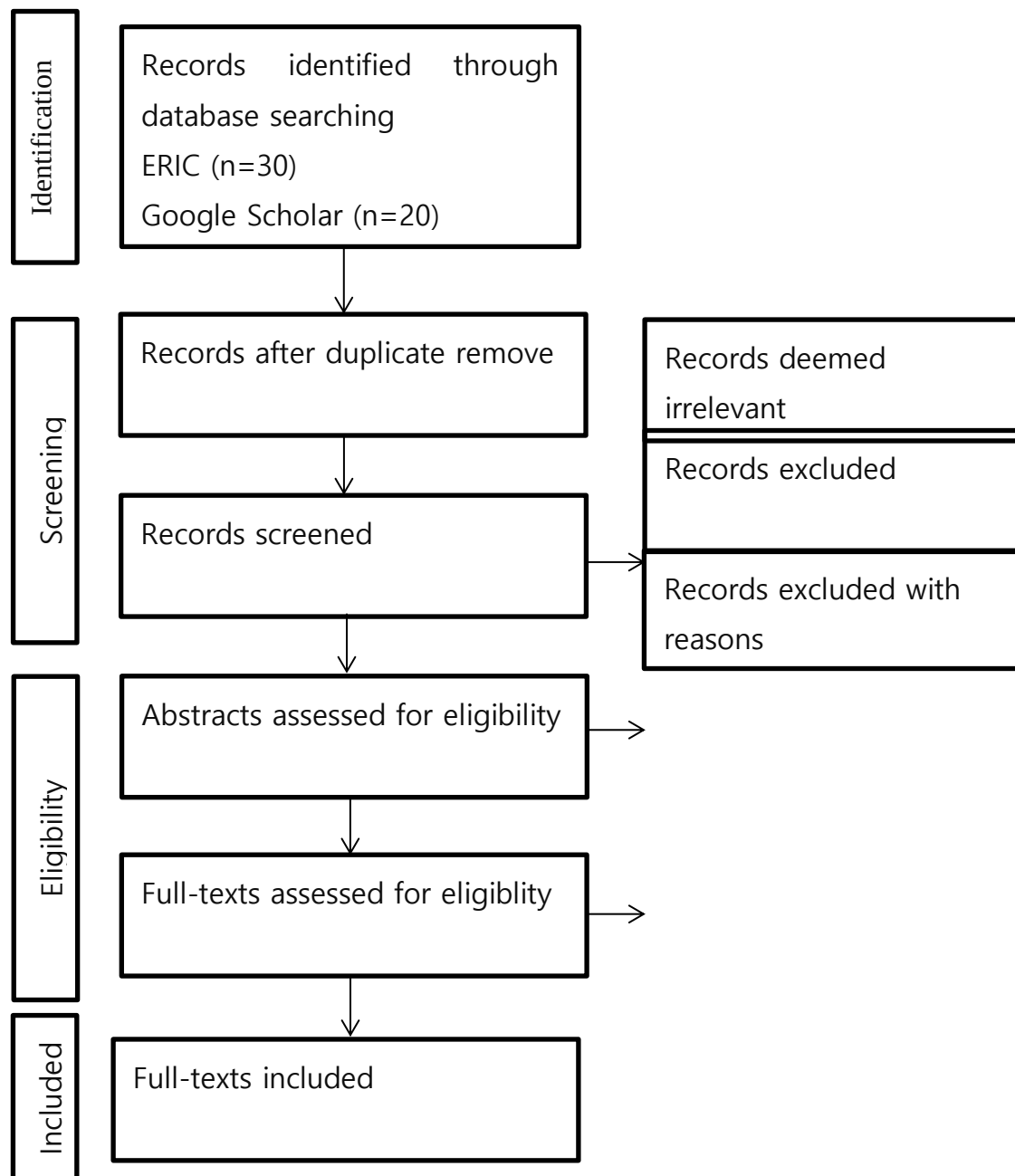


Figure 2 Flowchart of the inclusion criteria for selection of papers for analysis
Source: From Moher et al. (2010).

Data Analysis

Data from the selected articles was analyzed using a thematic analysis approach. Thematic analysis is proper to semantic review. A thematic analysis approach was used to “identify, analyze, and report patterns (or themes) within data” (Braun & Clarke, 2006, p. 79). In this study, six phases for doing thematic analysis recommended by Braun and Clarke (2006) were used. These are as follows.

Phase 1: Familiarizing yourself with your data

Phase 2: Generating initial codes

Phase 3: Searching for themes

Phase 4: Reviewing themes

Phase 5: Defining and naming themes

Phase 6: Producing the reports

Findings

Following the thematic analysis, codes, and categories were identified from the selected articles. These categories were then consolidated into three main overarching themes, which reflect the UDL framework in inclusive education: UDL as an effective strategy for addressing diverse student needs, UDL's impact on promoting student achievement in learning, and barriers to effective UDL implementation. Each theme is discussed separately in the following sections, ensuring alignment with the research questions.

UDL as an Effective Strategy for Addressing Diverse Student Needs

The UDL approach to teaching is based on three key principles: multiple means of representation, multiple means of action and expression, and multiple means of engagement. The UDL aims to meet the diverse needs of all learners by offering flexible and varied instruction. The results of Almumen's (2020) study illustrated how different teachers applied the principles of the UDL to enhance student representation, student action and expression, and student engagement in the classrooms.

For multiple means of representation, the teacher used multisensory techniques not only to support the students with dyslexia also to provide access for all students. By employing visual aids, audio recordings, tactile materials, and multimedia resources, the teachers provided various ways for the student to process and understand the material. This multisensory approach allowed the students, ultimately promoting inclusivity in the educational environment.

For multiple means of action and expression, the teacher implemented a hands-on approach by using laboratory tools. This was particularly beneficial for students with Attention-Deficit or Hyperactivity Disorder (ADHD), contributing at their own pace without the distractions of a traditional classroom environment. By incorporating technology, peer-mediated instruction strategy, and interactive activities allowed students, fostering an interactive learning environment. This approach not only promoted social interaction but also encourage active participation.

For multiple means of engagement, the teachers foster participation and collaboration among all students, including those with disabilities. Techniques such as role-playing, collaborative group tasks, and multisensory approaches were employed to address diverse learning needs. These methods promoted social interaction, peer support, and a deeper understanding of the material, leading to increased motivation and involvement in the learning process.

In the qualitative part of Yavuzarslan and Arslan's (2020) study, the students participating in the interview stated that UDL improved their attention, interest, cooperation, and self-regulation skills. The students also stated that the UDL supported the retention of knowledge, multiple representations of knowledge, and active participation lessons. Teachers expressed that the UDL practices would enhance support for individual differences in education, promote high efficiency, ensure equal opportunities, accommodate diverse learning styles, facilitate access to information, and improve the overall quality of education and self-expression skills (Bedir, 2022).

The UDL also revealed positive results across all educational levels. Teachers noted increased student interest, participation, and performance, particularly among those with both

special needs and adult learners. Adult Second Chance Schools (SCS) students with identified special educational needs also showed correspondingly greater interest, participation, and higher performance compared to previous courses in which conventional teaching was applied (Markou & Díaz-Noguera, 2022).

UDL's Impact on Promoting Student Achievement in Learning

Yuzlu and Arslan (2017) revealed that the UDL model significantly and positively enhanced high school students' academic achievements. The results showed that students in the experimental group, who received instruction based on UDL, outperformed the students in the control group in terms of English language academic achievement. Moreover, UDL had a substantial impact on students' success in the English course. The instructional approach utilized multiple means of representation, allowing information to be presented in various formats. Consequently, this diverse presentation likely contributed to the academic success of students in the experimental group, facilitating a deeper understanding and retention of the material.

The results of Alghamdy (2023) indicated a significant statistical difference between the post-test scores and the average scores of EFL students who were taught using the UDL compared to those taught using conventional methods for developing reading and vocabulary skills. This demonstrated that the UDL has a statistically significant effect on students' ability to acquire English reading and vocabulary skills. The study also highlighted that the UDL addresses diverse learner needs, enhances students' motivation to improve English skills, reduces barriers between students and teachers, fosters positive relationships among students, offers a range of teaching materials, and provides flexible assignment options.

Yavuzarslan and Arslan (2020) conducted a comprehensive study that highlighted the significant impact of the UDL on students' academic achievement and the attitudes towards mathematics courses. The findings indicated that the UDL served as a highly effective pedagogical approach in the context of mathematics courses. The study established that both the UDL and traditional curriculum-based teaching methods positively influence students' academic performance in mathematics. However, it was noteworthy that the UDL had a larger effect on increasing students' achievement in mathematics compared to conventional teaching strategies based on the curriculum.

Barriers to Effective UDL Implementation

Teachers in Greece face challenges when implementing the UDL in secondary schools. General education teachers struggled with rigid curricula, lack of time for lesson planning, lack of training, and limited access to technology. Special education teachers in secondary schools had fewer difficulties than general education teachers. The curriculum, the lack of modern technological equipment, and the teaching challenges served as obstacles to effective teaching. These issues hindered the smooth implementation of educational practices, including innovative methods like the UDL. Teachers in SCS have encountered fewer challenges in implementing the UDL due to the absence of a rigid curriculum. Instead, the curriculum is more flexible and serves as a guide, enabling the experiments with new teaching methods tailored to adult learners' needs. However, the educators still face some difficulties, including a lack of technological infrastructure and special educational conditions (Markou & Díaz-Noguera, 2022).

Even general secondary teachers who initially felt stressed about implementing the UDL reported personal satisfaction and fulfillment after the process. However, some noted that despite satisfaction, feelings of stress remained. This result was largely due to the insufficient knowledge of the subject and inexperience. In contrast, special and adult education teachers felt more satisfied during the lesson planning stage because these teachers were more familiar with similar situations (Markou & Díaz-Noguera, 2022). Teachers also expressed negative views about the UDL, teachers' lack of knowledge, inability to apply to all differences, additional financial burden, and the perception that it is effective in theory but challenging to implement in practice (Bedir, 2022). The results of Almumen (2020) also found that although teachers may have basic knowledge of the UDL, teachers need more training and practice to successfully address the needs of all students, including students with disabilities

Hills, Overend, and Hildebrandt (2022) also identified several barriers to implementing the UDL within educational institutions. Key challenges included an inconsistent with the faculty's understanding and implementation of the UDL, misconceptions regarding legally required accommodations for students with disabilities, and concerns about the time and effort needed to adapt teaching methods and materials. Participants also highlighted limited resources, such as inadequate opportunities for professional development on the UDL and insufficient institutional support. Additionally, some students expressed discomfort with accommodations that allowed the peers to demonstrate learning differently, further complicating UDL adoption efforts.

Discussion and Suggestion

The findings of this systematic review highlight the significant potential of the UDL to address the diverse learning needs of students in inclusive educational settings. By applying the three core principles of the UDL, multiple means of representation, action and expression, and engagement, teachers can create a more accessible and active learning environment. The evidence indicates that the UDL not only facilitates improved academic success but also enhances student motivation and participation, particularly among those with special educational needs. This aligns with the previous reviewed studies (Seok, DaCosta & Hodges, 2018; Almeqdad et al., 2023; Han & Lei, 2024).

However, teachers encounter many challenges in the implementation of the UDL. Key challenges are rigid curricula, lack of time, lack of knowledge, lack of training, and limited access to technology, insufficient knowledge of the subject, which hinder the ability to adopt the UDL effectively. The qualitative results reveal a tension of teachers between the UDL theoretical understanding and the practical realities of classroom implementation. While some teachers expressed satisfaction in the adoption of the UDL, teachers simultaneously highlighted feelings of stress and a need for further professional development. These results underscore the importance of addressing the infrastructural and institutional limitations that inhibit effective the UDL implementation in the classroom.

In the context of Myanmar, inclusive education is still in its early stages of development. Adopting UDL could significantly enhance Myanmar's capacity to create more inclusive classrooms by offering a flexible framework that accommodates the diverse needs of learners. The UDL principles, which promote multiple means of representation, action and expression, and

engagement, strengthen the commitment that all school-aged children will have equal access to quality education. By effectively addressing diverse learning needs, this inclusive approach, UDL, fosters an inclusive educational environment and ensures that every student can complete at least KG+9 in terms of the policies: no discrimination, no child left behind and no dropouts lay down by NESP (2021-2030).

Although the National Education Strategic Plans for 2016-2021 and 2021-2030 highlight the significance of inclusive education, supported by a confirmation statement from UNESCO (2021), its implementation also faces challenges, such as inadequate infrastructure, limited teacher training, and a lack of appropriate resources for students with disabilities. Many teachers in Myanmar have little experience or knowledge about teaching children with disabilities. They have not received adequate training in special education how to effectively teach and manage diverse classrooms. Teacher training and capacity building for inclusive education is particularly important. In Myanmar, teacher training colleges and education universities provide teacher education at different levels. However, it has been reported that none of the programs include courses or modules on inclusive education (UNESCO, 2021).

Conclusion

In conclusion, the UDL relies heavily on supportive policies and ongoing training for educators although it presents a promising framework for fostering inclusive education. To implement the UDL in inclusive education, educational institutions must invest in resources that enable teachers to meet the diverse learners' needs. By fostering a flexible environment, inclusive classrooms can maximize the benefits of the UDL, supporting all diverse learners to promote a more equitable education system. Future research should explore strategies for addressing the identified barriers to the UDL implementation.

Acknowledgements

I would like to extend my deepest gratitude to U Kyaw Swar Thwin, Director General at Department of Basic Education, Dr. Soe Myint Tun, Deputy Director General at Department of Basic Education and Dr. Ohmar Than, Director at the Department of Basic Education, for providing me with the opportunity to conduct this research. I am also sincerely thankful to my teacher, Dr. Wai Wai Oo, Professor and Head at Department of Curriculum and Methodology at Sagaing University of Education for her continuous guidance and support.

References

(Note. References denoted with an asterisk indicate the studies included in the systematic review.)

- *Alghamdy, R. Z. (2023). The Effect of Universal Design for Learning on the Proficiency of English as a Foreign Language Students' Acquisition of Reading and Vocabulary Skills. *Arab World English Journal*, 14 (2).
- Al-Azawei, A., Serenelli, F., & Lundqvist, K. (2016). Universal Design for Learning (UDL): A content analysis of peer reviewed journals from 2012 to 2015. *Journal of the Scholarship of Teaching and Learning*, 16 (3), 39-56.
- *Almumen, H. A. (2020). Universal design for learning (UDL) across cultures: The application of UDL in Kuwaiti inclusive classrooms. *Sage Open*, 10 (4), 2158244020969674.
- Almeqdad, Q. I., Alodat, A. M., Alquraan, M. F., Mohaidat, M. A., & Al-Makhzoomy, A. K. (2023). The effectiveness of universal design for learning: A systematic review of the literature and meta-analysis. *Cogent Education*, 10 (1), 2218191
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101.
- *Bedir, G. (2022). Teachers' Views on the Practices of Universal Design for Learning. *International Journal of Curriculum and Instruction*, 14 (2), 1324-1342.

- Centre for Applied Special Technology (CAST). (2018). Universal design for learning guidelines version 2.2 CAST. National Centre on Universal Design for Learning. <https://udlguidelines.cast.org>
- Han, C., & Lei, J. (2024). Teachers' and Students' Beliefs Towards Universal Design for Learning Framework: A Scoping Review. *SAGE Open*, 14 (3), 21582440241272032.
- Hauschild, A. & Htet, Z. M. (2015). *Analysis of Inclusive Education in Myanmar*. Myanmar Education Consortium, Yangon.
- *Hills, M., Overend, A., & Hildebrandt, S. (2022). Faculty perspectives on UDL: Exploring bridges and barriers for broader adoption in higher education. *Canadian Journal for the Scholarship of Teaching and Learning*, 13 (1).
- International Disability Alliance [IDA] (2021). *Universal Design for Learning and its Role in Ensuring Access to Inclusive Education for All*. Retrieved from <https://www.internationaldisabilityalliance.org/>
- Kapil, Y., Sujathamalini, J., & Halder, T. (2024). Effectiveness of Universal Design of Learning for Students with Mild Intellectual Disabilities-A Review. *International Journal of Research and Review*. 11 (3): 271-280. <https://doi.org/10.52403/ijrr.20240335>
- Koistinen, M., & Uke, T. (2013). The journey towards inclusive education in Myanmar. EENET. Retrieved from <https://www.eenet.org.uk/enabling-education-review/enabling-education-review-2/eer-2/2-14/>
- Lame, G. (2019). Systematic literature review: An introduction. In *Proceedings of the design society: international conference on engineering design*. 1 (1), 1633-1642. Cambridge University Press
- *Markou, P., & Díaz-Noguera, M. D. (2022). Investigating the Implementation of Universal Design for Learning in Greek Secondary and Second Chance Schools through Teachers' Reflections Dayle Learning. *European Journal of Educational Research*, 11 (3), 1851-1863.
- Meyer, A., Rose, D. H., & Gordon, D. (2014). Universal design for learning: Theory and practice. CAST. <http://udltheorypractice.cast.org/>
- Ministry of Education. (2016). *National education strategic plan 2016-2021*: The Government of the Republic of the Union of Myanmar.
- Ministry of Education. (2021). *National education strategic plan 2021-2030*: The Government of the Republic of the Union of Myanmar.
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group. (2010). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *International journal of surgery*, 8 (5), 336-341.
- National Education Law (2014). Parliamentary Law No. 41/2014. Retrieved from <https://www.myanmar-law-library.org/law-library/laws-and-regulations/laws/myanmar-laws-1988-until-now/union-solidarity-and-development-party-laws-2012-2016/myanmar-laws-2014/pyidaungsu-hluttaw-law-no-41-2014-national-education-law-burmese-and-english.html>
- Nunn, J. S. & Chang, S. (2020). What are systematic reviews?. *WikiJournal of Medicine*, 7 (1):5 DOI: 10.15347/WJM/2020.005
- Oliveira, A. R., Munster, D. P. E., van, M. D. A., & Gonçalves, A. G. (2019). Universal design for learning and inclusive education: a systematic review in the international literature. *Revista Brasileira de Educação Especial*, 25 (4), 675–690. <https://doi.org/10.1590/s1413-65382519000400009>
- Priyadharsini, V., & Mary, R. S. (2024). Universal Design for Learning (UDL) in Inclusive Education: Accelerating Learning for All. *Shanlax International Journal of Arts, Science and Humanities*, 11 (4), 145-150. <https://doi.org/10.34293/sijash.v11i4.7489>
- Roberts, K., Park, H., Brown, S., & Cook, B. (2011). Universal design for instruction in postsecondary education: A systematic review of empirically based articles. *Journal of Postsecondary Education and Disability*. <https://files.eric.ed.gov/fulltext/EJ941728.pdf>
- Rose, D.H., and Meyer, A. (2002). *Teaching every student in the digital age: Universal Design for Learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Seok, S., DaCosta, B., & Hodges, R. (2018). A systematic review of empirically based universal design for learning: Implementation and effectiveness of universal design in education for students with and without disabilities at the postsecondary level. *Open Journal of Social Sciences*, 6 (5), 171.

- The Rights of the Persons with Disabilities Law (2015). Parliamentary Law No. 41/2015. Retrieved from <https://myanmar-law-library.org/topics/myanmar-labour-health-and-safety-law/rights-of-the-persons-with-disabilities-law-2015.html>
- UNESCO (2009). *Policy Guidelines on Inclusion in Education*. Paris.
- UNESCO (2017). A guide for ensuring inclusion and equity in education. <https://unesdoc.unesco.org/ark:/48223/pf0000248254>
- UNESCO (2021). Inclusion. Retrieved from <https://education-profiles.org/eastern-and-south-eastern-asia/myanmar/~inclusion>
- United Nations Committee on the Rights of Persons with Disabilities [UNCRPD]. (2016). Convention on the rights of persons with disabilities: General comment No. 4 (2016): Article 24: Right to inclusive education.
- United Nations. (2018). The 2030 agenda and the sustainable development goals: An opportunity for Latin America and the Caribbean. https://repositorio.cepal.org/bitstream/handle/11362/40156/25/S1801140_en.pdf
- Van Rooyen, C., Stewart, R., & De Wet, T. (2013). Systematic review methodology for development: An example from microfinance. *Africanus*, 43 (1), 65-77
- World Bank (2020). Inclusive access and quality education project. Retrieved from <https://projects.worldbank.org/en/projects-operations/project-detail/P163389>
- *Yavuzarslan, H., & Arslan, A. (2020). *Usage of Universal Design for Learning in Mathematic Course*. *Psycho-Educational Research Reviews*. 9 (3).
- *Yuzlu, M. Y., & Arslan, A. (2017). The effect of Universal Design for Learning on the academic achievement and self-regulation skills of high school students in English Course. *Journal of Education and Practice*, 8, 18.
- Zawacki-Richter, O., Kerres, M., Bedenlier, S., Bond, M., & Buntins, K. (2020). *Systematic reviews in educational research: Methodology, perspectives and application* (p. 161). Springer Nature.