

Is Universal Design for Learning (UDL) The Best Learning Approach for Students with Disabilities

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Abstract. Based on the data released on the Information System for Management of Persons with Disabilities (SIMPDP) page, the number of people with disabilities in the productive age of 6-18 years is 23.4% and the age of 19-30 years is 20.1%. This data represents that the number of people with disabilities in the category of elementary to university students is quite large. This should then become a common concern of how all elements in the world of education are able to adapt to students with disabilities, especially in inclusive schools and colleges. Based on a critical analysis of various existing studies, it can be concluded that the universal design for learning approach is appropriate for students with disabilities who are taking lectures on inclusive campuses. The choice of the word universal in universal design for learning does not mean that one size fits all. Universal actually means that even though each individual has various differences, they can still have the opportunity to learn the same thing even though in different ways according to the needs of each individual. It can also be concluded that the universal design for learning approach can not only be used for students with disabilities, but is also effective for non-disabled students/students. Therefore, it is recommended for teachers and lecturers with student backgrounds/students who have diverse backgrounds to use this approach.

Keywords: universal design for learning, students with disabilities, blended learning

1 Introduction

Based on data compiled by the Ministry of Social Affairs through the *Sistem Informasi Manajemen Penyandang Disabilitas* (SIMPDP), the number of people with disabilities was recorded at 209,604 individuals by January 13 of 2021 [3]. As the number of people with disabilities in Indonesia increases, the government has issued Law Number 8 of 2016 which states that people with disabilities are entitled to quality education in educational institutions of all types, pathways, and levels, both inclusive and specific, and the Government is also required to cover educational fees for people with disabilities. Therefore, since 2016 the Government has worked to intensify inclusive and accessible education for students with disabilities. Inclusive

education refers to the combination if implementing special and regular education in one education system under an inclusive education, in which all students receive the same support.

Based on the data retrieved from SIMPD page, the number of people with disabilities in the productive age of 6-18 years was recorded at 23.4%, while further 20.1% was recorded in the age of 19-30 years. These figures indicate that the number of people with disabilities in the category of elementary to university students is actually quite high. This fact should become a common concern of all components in the world of education in order to adapt to students with disabilities, especially in inclusive schools and universities, which are not specifically designed for people with disabilities. Facts show that there are various problems experienced by students with disabilities, such as discrimination and exclusion. In addition, the academic community in higher education is not fully ready to accept students with disabilities, both from the provision of infrastructure, strategies and learning materials, as well as the provision of technology in assisting students with disabilities [14][15][8].

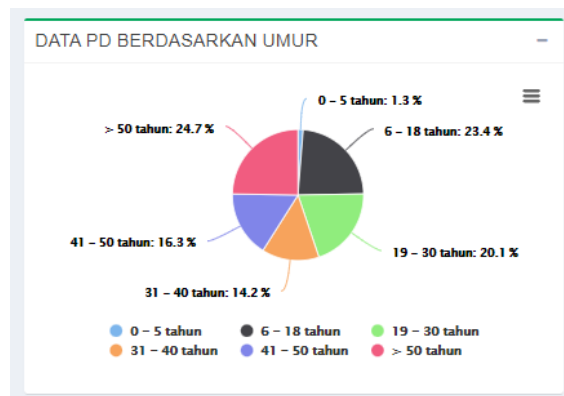


Fig 1. Data for Persons with Disabilities by Age
(Source: <https://simpd.kemensos.go.id/>)

In the initial observations carried out at Tidar University and UIN Sunan Kalijaga, the number of disabled students continues to increase every year. The increase in the number of students with disabilities is in line with the inclusive school and college program launched by the government. In 2021, the number of students with disabilities at Tidar University will be 11 students. As for the number of students with disabilities at UIN Sunan Kalijaga who until 2011 were actively studying as many as 87 students, with the highest distribution, namely students with blind and deaf disabilities.

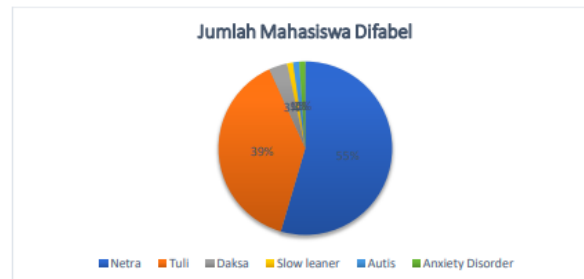


Figure 2. Distribution of Students with Disabilities at UIN Sunan Kalijaga
(Source: Roadmap for Pusat Layanan Difabel, LPPM UIN Sunan Kalijaga, 2021-2025)

Such problems in learning strategies for students with disabilities have sparked the emergence of an approach called the Universal Design for Learning (UDL). The UDL is an approach designed to equalize every student. This term is then defined “universal design for learning (UDL) is an approach to curriculum development at removing barriers in education to make it accessible to the largest number of learners [1]. The word universal in “Universal Design for Learning” does not mean that learning can only be done with a solution for all students, rather it must pay attention to the needs of each individual student according to the capability and the physical differences between those students. Through the nine principles of adaptation, this approach seeks to meet every student needs by adjusting learning outcomes with several feasible adaptations that can be done by lecturers and students.

Based on the previously mentioned background, this research aims to analyze the UDL approach for students with disabilities in relation with previous research. The problem formulation answers whether the UDL approach is appropriate for use in developing learning tools for writing courses for students with disabilities in Central Java Province and the Special Region of Yogyakarta.

2 Method

This research employed a qualitative approach based on literature review, namely a series of studies relating to the way of collecting library data [16]. The research method used was critical analysis. The collected data were analyzed qualitatively by using inductive thinking. The data were described using the communication principles of Lasswell [6], namely by answering the questions: Who, Says What, In Which Channel, To Whom, and With What Effect.

3 Discussion

The UDL is designed to equalize every student. It is defined by “A philosophy and practice that seeks to design for ‘the greatest diversity of people, Grounded in research of student differences,

the capacities of new media, and the most effective teaching practices and assessments, UDL provides a framework for creating more robust learning opportunities for everyone [12]". The word universal in "Universal Design for Learning" does not mean that learning can only be done with a solution for all students, but learning must pay attention to every need, or diversity of each individual in accordance with the capability and the physical differences between those students. Through the nine principles of adaptation, this approach seeks to meet every student's needs by adjusting learning outcomes with adaptations that can be carried out by lecturers and students. Nine adaptations in the UDL consist of: (1) quantity, (2) time, (3) level of support, (4) input, (5) difficulty level, (6) output, (7) participation, (8) alternative learning objectives, and (9) substitute curriculum.

The efforts by Rose & Gravel [9] to develop specific principles in the UDL approach are meant to provide guidance in designing and developing effective and inclusive curriculum for all students. Rose & Gravel stated that "Universal Design for Learning is a framework for instruction organized round tree principles based on the learning sciences. These principles guide the design and development of curriculum that is effective and inclusive for all learners [10]". Three principles in the UDL according to Rose and Meyer are: (1) to support learning recognition, (2) to support learning strategies, and (3) to support the first principle of learning [2].

The first principle of learning recognition is concerned with the various choices of approaches that will result in what we will teach and how we learn. The second, related to learning strategies, will answer how many choices of questions we will teach, how we will know their needs. The third principle yields some understanding of generalizing motivation with the question of why we should learn.

The UDL approach begins with the assumption that a curriculum must be adaptable to all individuals with different backgrounds and needs. This approach is motivated by previous analysis that the traditional curriculum has some drawbacks, namely that in general it only works by considering one kind of student or learner in general. The curriculum has not accommodated students with special needs. Therefore, the UDL approach is generally used to support learning strategies related to students with disabilities. This approach certainly supports the government's efforts to promote inclusive education in addition to asking universities to accept students with disabilities so that they can experience studying in higher education.

The word choice of universal in "Universal Design for Learning" does not mean that one size fits all. Universal actually means that even though each individual has various differences, they can still have the same opportunity to learn, even though they do it in different ways according to their needs. The facts show that students with special needs who are studying in higher education have not fully obtained the learning strategies according to what they need. Their current learning is still treated the same way with the students with no special need. So far, there is an assumption that when students with disabilities have been accepted into a university, they must be able to adapt to other students who are not disabled in the class.

The UDL approach has begun to be widely discussed through various research. In a research by Firmansyah, et al., [11], it was concluded that the UDL based on Social Learning Networks significantly affects the learning outcomes of STKIP PGRI Situbondo students who take Curriculum Review course. The research proves the effectiveness of the UDL for non-disabled

learners. The UDL principle which states that learning must be able to bridge diversity has been proven through this research.

On the other hand, the main component of implementing the UDL is related to technology support [13]. The research of Mujiono, et al., [4] was performed by fulfilling the principle of technology support, namely the development of a blended learning system based on the UDL by producing learning media in the form of websites aimed at inclusive classes. The selection of learning media in the form of a website was based on the nine principles of adaptation in the UDL.

The UDL approach that is supported by technological adaptation is a receiving some recognition by the world of education. In a research whose subjects were students at Durham College, Ontario, Canada, it was concluded that the UDL principles can be used as a guide when designing curriculum so that special consideration can be given to elements that students find very useful [5]. The research describes how the UDL must be supported by both parties, namely the institution and the learners themselves. Institutional support, namely schools and universities, will be one of the determinants of its success, such as providing learning materials or learning media based on websites and textbooks in the form of e-books. Another principle of the UDL is that teaching is useless when lessons and knowledge fail to reach students properly. A universally designed syllabus will show students the inherent flexibility of learning and learning objectives. Based on the UDL's considerations, a syllabus designed with UDL adaptation principles has the potential to invite student access, involvement, and participation from the start [9].

The nine principles of adaptation in the UDL are summarized as follows [17]. (1) Quantity, adjusting the quantity (amount) of materials and instructions, simplifying content or the most difficult materials or even reducing them to ensure optimum learning for each student. (2) Time, Adjusting the time allocated and allowed for study, completion of assignments, or exams. Students with disabilities get additional time. (3) Level of Support, Increasing the amount and form of assistance provided to students in learning. (4) Input, Delivering learning materials based on the needs of each student or based on the learning style of the students. (5) Difficulty Level, Adjusting the skill level, type of problem, or rules about how students follow the lesson or finish assignments. Students with disabilities are allowed to use the speech to text (Indonesian) application in doing and submitting assignments. (6) Output, Adjusting how students can respond to instructions; requiring flexibility in assessing and evaluating learning outcomes by providing various alternative written assignments/tests. (7) Participation Level, Adjusting the extent to which students are involved in assignments; Asking students with disabilities to be group leaders. This can increase activity and foster self-confidence for students with disabilities. (8) Alternative Goals, Adjusting the objectives or expected results when using the same material. Learning outcomes need to be changed even though the material being taught is the same. The difference in learning achievement is adjusted to the skills or abilities possessed by students. (9) Substitute Curriculum, Providing different instructions and materials to meet each student's objectives.

The nine principles of adaptation in the UDL have been described from the three main principles of UDL, namely providing multiple means of representation, providing multiple means of action and expression, and providing multiple means of engagement. Recommendations from various research have been focusing on taking small steps to develop content, and then designing

courses with aiming at students' success in mind: (a) start with little content, (b) recruit students to make decisions, (c) provide a variety of methods for accessing content, (d) provide options for students to demonstrate understanding, and (e) provide several methods to ensure content engagement [17].

4 Conclusion

Based on the critical analysis conducted on various existing research, it can be concluded that the UDL approach is appropriate for students with disabilities who are taking lectures on inclusive universities. In achieving the successful learning of students with disabilities, support from the entire academic community is needed, including lecturers. The nine principles of adaptation in the UDL approach need to be implemented starting from the preparation of the semester lesson plans, because this approach will determine the direction of the lecture as a whole. As an approach that seeks to cover all the diversity and needs of each individual, the UDL will be more effective if it is supported by the use of technology in every possible chance. Based on the results of the critical analysis, it is also concluded that the UDL approach is not exclusive to students with disabilities, but is also effective for non-disabled students. Therefore, it is recommended for teachers and lecturers with diverse student backgrounds to use this approach.

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