

ACCESSIBILITY OF OPEN AND DISTANCE LEARNING FOR STUDENTS WITH DISABILITIES: A STUDY AT UNIVERSITAS TERBUKA

**Subekti Nurmawati^{1*}, Heny Kurniawati², Inggit Winarni³, Fawzi Rahmadiyan
Zuhairi⁴, Bachriah Fatwa Dhini⁵**

^{1, 2, 3, 4, 5}Universitas Terbuka (INDONESIA)

*nurma@ecampus.ut.ac.id

Abstract

Education is a fundamental human right for all citizens, including minority groups such as persons with disabilities. However, the Net Enrollment Rate (NER) for individuals with disabilities remains significantly lower than that of their non-disabled peers across all levels of education. This study examines the accessibility of Open and Distance Learning (ODL) for students with disabilities at Universitas Terbuka (UT). A mixed-methods approach was used, gathering data through questionnaires and structured interviews with active students with disabilities enrolled in various academic programs. The data was analyzed using both qualitative and quantitative methods to gain a comprehensive understanding. The findings show that most respondents have a favorable view of UT's services, particularly the flexibility of study hours, the availability of learning materials in Braille and audio formats, and the provision of online tutorials. Respondents with physical disabilities (60%) were the most common group, suggesting that the ODL model is suitable for students with mobility challenges. However, significant challenges remain, especially regarding the limited accessibility of the learning management system (LMS), the lack of responsiveness from lecturers or tutors, and the limited availability of social support services such as exam readers or peer support. This study concludes that while the flexibility of ODL at UT provides valuable opportunities for students with disabilities, it needs to be supported by enhanced digital accessibility, inclusive teaching methods, and clear institutional policies.

Keywords: inclusive education, open and distance learning, accessibility, students with disabilities

1 INTRODUCTION

Education becomes a fundamental right for every citizen, including persons with disabilities. The Indonesian Constitution, as outlined in Article 31 of the 1945 Constitution, affirms that every citizen has the right to education. This requirement is reinforced by Law No. 8 of 2016 on Persons with Disabilities, which explicitly guarantees their right to access quality education at all levels. Higher education, as the highest level of formal education, is responsible not only for producing competent graduates but also for ensuring equal access to education for all groups without discrimination.

According to a report by BPS and UNICEF (2020), the Net Enrolment Rate (APM) and School Participation Rate (APS) for individuals with disabilities remain lower than those of their non-disabled peers, particularly at the secondary and tertiary levels. In higher education, students with disabilities continue to encounter a range of barriers—physical, academic, and social—that hinder their full participation. First, many campus facilities are physically inaccessible, including stairs without ramps, buildings lacking elevators, and classrooms unequipped with adaptive devices. Second, students struggle academically with learning materials, teaching methods, and assessments not tailored to diverse needs. For instance, blind students may lack access to screen-reader-compatible resources, while deaf students frequently face limited availability of sign language interpreters. In addition, insufficient awareness among lecturers regarding reasonable accommodations further restricts equitable learning experiences. Third, social barriers persist, notably in the form of stigma and discrimination. Students with disabilities are often perceived as less capable, undermining their self-confidence and contributing to isolation and reduced motivation. As Collins, Azmat, and Rentschler (2020) highlight, social stigma remains a significant obstacle for students with disabilities in higher education, both in Indonesia and globally.

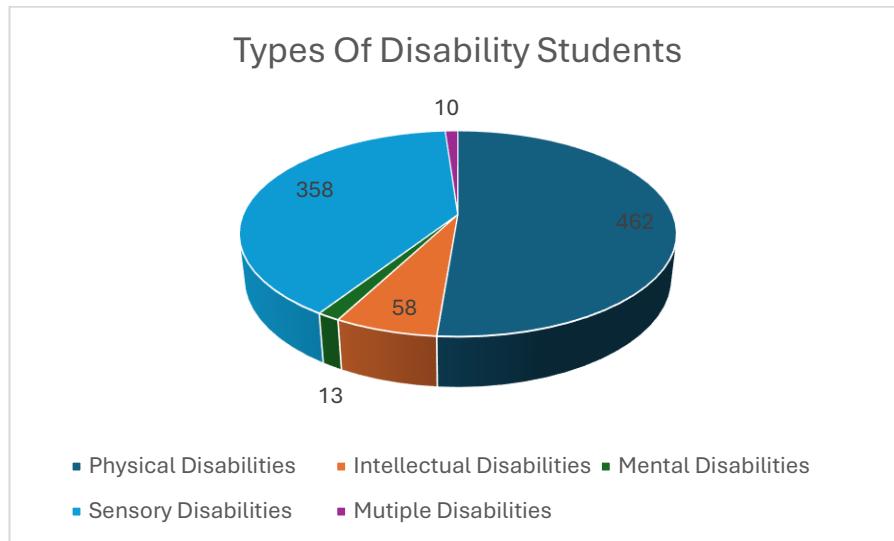
As the pioneer of open and distance learning (ODL) in Indonesia, Universitas Terbuka (UT) holds a strategic role in broadening educational access for marginalized groups, including students with disabilities. The ODL model offers flexibility in terms of time, location, and learning pace. However, flexibility alone does not ensure accessibility. Students with sensory, mobility, cognitive, or psychosocial disabilities still require well-designed, standardized, and sustainable support services to fully engage in the learning process.

This study investigates the extent to which UT's ODL system accommodates the needs of students with disabilities, focusing on the accessibility of its learning system, digital and physical infrastructure, institutional policies, and academic and social support mechanisms.

2 METHODOLOGY

This study employed a descriptive quantitative design (Nasehudin & Gozali, 2012) with purposive sampling, targeting all active students registered with disabilities across various study programs at Universitas Terbuka (UT). The majority of participants had physical disabilities (462), followed by those with sensory disabilities (358). Smaller numbers were identified with intellectual disabilities (58), mental disabilities (13), and multiple disabilities (10). Data were collected through online questionnaires and interviews to explore students'

perceptions of disability-related services at UT. The research instruments assessed key areas of accessibility, including learning materials, adaptive tutorials, evaluation methods, lecturer and tutor support, social support, and institutional affirmative policies.



3 FINDINGS AND DISCUSSION

3.1 Profile of Respondents

The study included a total of 376 respondents with disabilities. Their profiles are as follows:

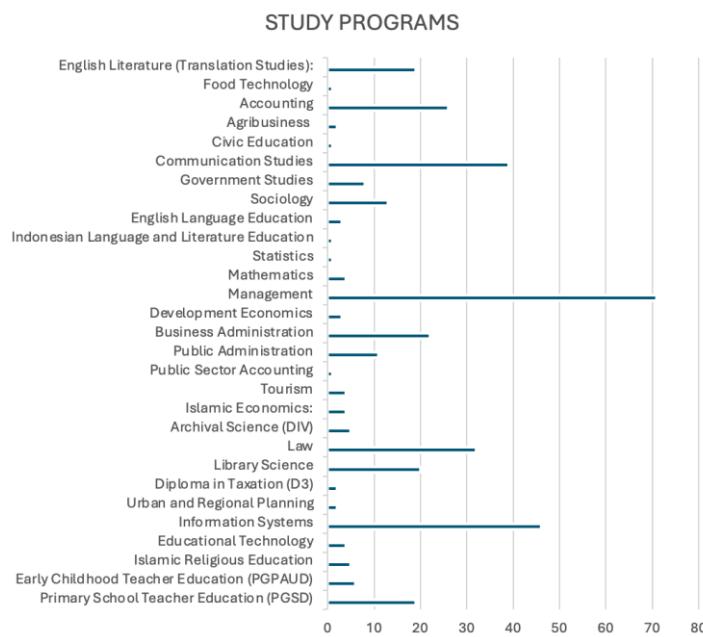
Table 1. Profile of Respondents

Gender		
Male	198	53%
Female	178	47%
Employment Status		
Employed	200	53%
Unemployed	176	47%
Marital Status		
Single	317	84%
Married	52	14%
Divorced	7	2%
Types of Disabilities		
Physical Disabilities:	224	60%
Intellectual Disabilities	14	4%
Mental Disabilities:	11	3%
Sensory Disabilities	127	34%

The gender distribution of respondents consisted of 198 male students (53%) and 178 female students (47%). This suggests that male students with disabilities were slightly more likely to access open higher education than their female peers, although the gap remains relatively small. Previous research indicates that gender continues to influence participation rates in higher education among students with disabilities, often influenced by societal perceptions of women's domestic roles and constraints on social mobility (Seale, 2014).

Regarding employment status, 200 respondents (53%) reported being employed. This indicates that the open education system effectively reaches economically active individuals, consistent with UT's principle of flexible study schedules. However, these findings also underscore the importance of supportive learning environments for working students with disabilities, including flexible learning management systems (LMS) and academic services that accommodate work-related demands. Additionally, 317 respondents (84%) reported being unmarried, which may reflect the social and affective challenges individuals with disabilities continue to face in their personal lives.

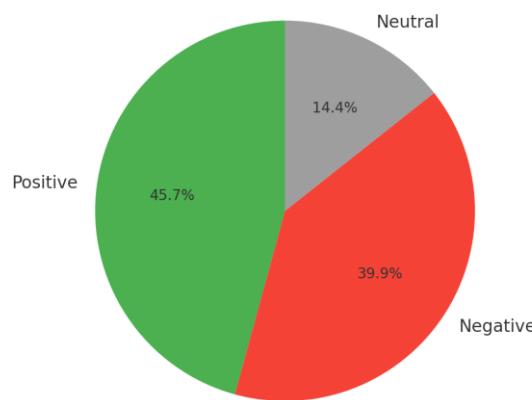
The majority of students with physical disabilities (224 students, 60%) can be attributed to the high flexibility offered by distance learning, which allows students to study from home at times that suit their physical needs, eliminating the requirement for in-person attendance. Lazar et al. (2015) support this by emphasizing that internet-based technologies help lessen physical strain and improve opportunities for social participation among people with disabilities. Likewise, Al-Azawei et al. (2016) found that students with disabilities often view distance learning positively because it fosters a sense of control and reduces anxiety about potential negative treatment in traditional classrooms.



The five study programs with the highest enrollment of students with disabilities were Information Systems (46 students, 12%), Law (32 students, 9%), Management (25 students, 7%), Primary School Teacher Education (PGSD) (19 students, 5%), and Agribusiness (18 students, 5%). This distribution suggests a preference for fields of study that offer flexible learning methods and minimal laboratory requirements. These findings are consistent with Al-Azawei et al. (2016), who noted that students with disabilities often avoid STEM programs due to limited technical support and a lack of adaptive media.

3.2 Perceptions of UT's Services

Sentiment Distribution of Disability Services at UT



Overall, the respondents demonstrated a positive perception of UT's disability services. Most reported feeling supported through online tutorials (tuton), although some experienced technical issues or difficulties in comprehending the materials. Despite the flexibility offered

by distance learning in terms of time and location, many online learning platforms remain insufficiently inclusive. Dias (2020) reported that LMS continues to fall short of accessibility standards. Essential features such as keyboard navigation, screen reader compatibility, alternative text for images, and captioned videos are often missing. Similarly, Al-Azawei et al. (2016) observed that many online platforms in developing countries fail to uphold the principles of Universal Design for Learning (UDL), thereby further marginalizing students with sensory or motor impairments.

UT has developed the ABAKHUS application as an alternative learning tool that allows students to access essential instructional materials in interactive digital formats through auditory methods. This effort supports Aminah's (2023) claim that UT consistently strives to develop inclusive learning systems by offering materials in Braille, audio formats, and the ABAKHUS app to meet the needs of students with disabilities.

Moreover, the respondents suggested improving UT's services, especially regarding e-learning accessibility. These suggestions included developing LMS interfaces compatible with screen readers, enabling keyboard-only navigation, adding captions to videos, and using font and contrast settings that meet accessibility standards. They also highlighted the need for reader assistants and academic companions, particularly during examinations. Seale (2014) claimed that inclusive online learning systems improve access and encourage the independence of students with disabilities. Similarly, Aminah (2023) observed that although UT has progressed in offering various learning formats, its LMS still needs further improvement, especially for students with visual impairments. This aligns with Kent (2015), who noted that e-learning has great potential as an inclusive educational tool for students with disabilities, if systems, content, and teaching methods are designed following the principles of Universal Design for Learning (UDL).

Furthermore, the respondents highlighted the importance of more responsive lecturers and tutors. In distance education, communication gaps can be especially challenging for students with sensory or emotional impairments. Collins (2018) argued that inclusion goes beyond technological accessibility to include supportive and empowering interaction cultures. Students with disabilities in online learning environments face psychosocial risks associated with limited social interaction; without mentoring services or peer support, they become more vulnerable to isolation. Recent evidence supports this view: Kaur and Singh (2024), in a systematic literature review, found that emotional support in online learning environments is a crucial factor for

students' motivation, sense of belonging, and persistence, yet it is often overlooked in institutional policies. Their study emphasizes that timely feedback, empathetic communication from lecturers, and structured peer support mechanisms are vital for reducing the emotional burden of distance learning and preventing disengagement.

Disability services in distance higher education in Indonesia have not been standardized at the national level. Most universities lack specialized disability service centers or dedicated online support staff. UNESCO (2020) emphasized that inclusion in education not only promotes equity but also brings broader social and economic benefits, with positive effects spanning generations. Therefore, UT should enhance its collaboration with disability organizations to better identify and meet the learning needs of students with disabilities. This supports Moriña's (2016) view that inclusion goes beyond providing access; it also involves listening to the voices of target groups to ensure services stay responsive and relevant to their needs.

In the international context, inclusive universities are defined not only by physical accessibility but also by the development of inclusive academic cultures. Moriña (2016) highlighted that inclusivity in higher education is a key aspect of social justice. Likewise, Collins et al. (2020) argued that disability services at universities need to shift from reactive responses to transformative practices, encouraging institutions to revise their paradigms, curricula, and pedagogical methods to fully support student diversity. Importantly, students with disabilities typically do not seek preferential treatment but rather equitable access to learning opportunities. Therefore, Indonesian universities should adopt global best practices to develop inclusive systems that are thoroughly integrated into institutional governance.

The significance of disability services in higher education is also emphasized in global development frameworks. Sustainable Development Goal 4 (SDG 4) stresses the need for inclusive and equitable quality education for everyone. Universities that offer disability services not only meet national legal requirements but also help achieve the SDGs. Additionally, these services play a key role in socio-economic development by preparing competitive graduates with disabilities.

Disability services in higher education should therefore be viewed as a long-term social investment. Equal access to higher education enables students with disabilities to contribute meaningfully to the workforce, entrepreneurship, and civic life. Offering these services should not be seen as a financial burden but as an inclusive development strategy that boosts human capital, decreases social dependency, and promotes a more fair and equitable society.

Although the need for disability services is increasingly recognized, challenges in implementation still exist in Indonesia. Limited budgets prevent universities from providing accessible infrastructure. The lack of national service standards creates disparities among institutions. Additionally, limited awareness of inclusive pedagogy among lecturers and academic staff leads to only partial adaptations. Social stigma around disability remains a deeply rooted cultural barrier. As Moriña (2016) argued, building inclusive universities requires not only adding physical facilities but also transforming institutional culture.

From a policy standpoint, UT does not yet have formal regulations specifically addressing disability, although it has shown a commitment to inclusion by providing full scholarships to blind students since 2021. This case study emphasizes that disability services in universities involve not only physical infrastructure but also the adaptation of learning systems, curricula, technology, and institutional policies to accommodate students with disabilities.

UT's ODL system offers flexibility in terms of time, location, and learning pace. However, accessibility—covering design, technology, interaction, and policy—must be thoroughly developed to ensure that this flexibility results in equal opportunity. Global literature emphasizes that inclusive universities extend beyond physical access to include institutional paradigm shifts (Moriña, 2016) and digital transformation that embraces diversity (Collins et al., 2018). While UT has made progress with accessible materials, adaptive tutorials, and affirmative programs, the findings highlight the need to strengthen disability-friendly LMS, improve lecturer responsiveness, provide exam support, and implement systematic peer mentoring further. As Slater (2015) illustrates, institutional change is most effective when supported by dedicated accessibility specialists who bridge the gap between policy and practice in course design and delivery. Kent (2015) emphasizes that although eLearning offers exceptional opportunities for students with disabilities, ongoing challenges in digital accessibility and pedagogical awareness hinder equitable participation. This underscores the necessity for UT to move from reactive accommodations to systemic inclusive practices.

Providing disability services should be seen as an investment, not a cost. Students with disabilities who complete higher education become more empowered, independent, and able to contribute significantly to socio-economic growth. Inclusive universities not only meet legal requirements but also help build a fairer and more just society.

4 CONCLUSION

This study shows that Universitas Terbuka has strong potential to act as a model for inclusive higher education in Indonesia, thanks to its flexible Open and Distance Learning (ODL) system and wide reach. Data from 376 respondents confirms that UT's flexibility effectively helps students with disabilities, especially those who are employed and face mobility issues, while also influencing program choices that suit the current limitations of adaptive facilities.

However, it is important to understand that flexibility does not equal accessibility. The main challenges identified include digital accessibility (specifically, the compatibility of the Learning Management System (LMS) with screen readers, navigation, captions, and semantic design), responsiveness in academic interaction (gaps in lecturer-student communication within online environments), and the standardization of social support policies (including exam aid, peer support, and psychosocial services), which remain inconsistent. These findings match international literature, which indicates that inclusive universities require a complete transformation, not just adding facilities but a fundamental change in policy, pedagogy, and technology (Moriña, 2016; Collins et al., 2018).

UT's initiatives, such as providing specialized materials, adaptive tutorials, and affirmative programs, serve as important foundations that need to be expanded, documented, and standardized across service units to ensure equal service quality nationwide. By modernizing its LMS following Universal Design for Learning (UDL) principles, establishing inclusive examination standard operating procedures (SOPs), improving lecturer capacity, and developing systematic mentoring networks, UT can turn ODL flexibility into true access equality.

On a broader scale, strengthening disability services in higher education should be seen as a long-term social investment that boosts independence and competitiveness among students with disabilities, decreases social dependency, and helps achieve Sustainable Development Goal 4 (Inclusive and Quality Education). In this way, UT and Indonesian higher education can play a strategic role in promoting educational justice and inclusive development.

ACKNOWLEDGEMENTS

We would like to express our deepest gratitude to the Research and Community Service Centre, known as LPPM Universitas Terbuka, for allocating research money. We extend our deepest appreciation to the respondents of our research, including students with disabilities and their

companions, for their cooperation, assistance, and support, which were instrumental in the successful completion of this study.

REFERENCES

Al-Azawei, A., Serenelli, F., & Lundqvist, K. (2016). Universal design for learning (UDL): A content analysis of peer-reviewed journal papers from 2012 to 2015. *Journal of the Scholarship of Teaching and Learning*, 16(3), 39–56. <https://doi.org/10.14434/josotl.v16i3.19295>

Aminah, S., Sari, D. R., & Wibowo, T. (2023). Digital learning accessibility for students with disabilities in open and distance learning. *Proceedings of the Innovation and Development (InnoDel) Conference*, 4925, 1–10. Universitas Terbuka. <https://conference.ut.ac.id/index.php/innodel-proceedings/article/view/4925/1838>

Badan Pusat Statistik (BPS), & UNFPA. (2020). *Potret Penyandang Disabilitas di Indonesia; Hasil Long Form Sensus Penduduk 2020*. <https://www.bps.go.id/id/publication/2024/12/20/43880dc0f8be5ab92199f8b9/potret-penyandang-disabilitas-di-indonesia-hasil-long-form-sp2020.html>

Collins, A., Azmat, F., & Rentschler, R. (2018). ‘Bringing everyone on the same journey’: revisiting inclusion in higher education. *Studies in Higher Education*, 44(8), 1475–1487. <https://doi.org/10.1080/03075079.2018.1450852>

Kaur, S., & Singh, A. (2024). Emotional support in online teaching and learning environment: A systematic literature review (2014–2023). *Education and Information Technologies*. Advance online publication. <https://doi.org/10.1007/s10639-024-12860-0>

Kent, M., (2015) “Disability and eLearning: Opportunities and Barriers”, *Disability Studies Quarterly* 35(1). doi: <https://doi.org/10.18061/dsq.v35i1.3815>

Lazar, J., Goldstein, D. F., & Taylor, A. (2015). Ensuring Digital Accessibility through Process and Policy (1st. ed.). Morgan Kaufmann Publishers Inc., San Francisco, CA, USA.

Moriña, A. (2016). Inclusive education in higher education: challenges and opportunities. *European Journal of Special Needs Education*, 32(1), 3–17. <https://doi.org/10.1080/08856257.2016.1254964>

Nasehudin, T., & Gozali, N. (2012). *Metodologi penelitian pendidikan*. Bandung: Pustaka Setia.

Seale, J. (2013). E-learning and Disability in Higher Education: Accessibility Research and Practice (2nd ed.). Routledge. <https://doi.org/10.4324/9780203095942>

Slater, R., Pearson, V. K., Warren, J. P., & Forbes, T. (2015). Institutional change for improving accessibility in the design and delivery of distance learning: The role of faculty accessibility specialists at The Open University. *Open Learning: The Journal of Open, Distance and e-Learning*, 30(1), 6–20.
<https://doi.org/10.1080/02680513.2015.1013528>

UNESCO. (2020). *Global education monitoring report 2020: Inclusion and education – All means all*. UNESCO.<https://gemreport2020.unesco.org/thematic/#:~:text=Inclusion%20brings%20benefits.,as%20they%20extend%20over%20generations>

Dias, G., Diniz, J. A., & Hadjileontiadou, S. J. (2020). LMS accessibility for students with disabilities: The experts' opinions. *Education and Information Technologies*, 25(5), 4477–4497. doi: 10.23919/CISTI49556.2020.9141046