

**ANALYSIS OF INTERNAL AND EXTERNAL FACTORS AFFECTING THE LEARNING INDEPENDENCE OF STUDENTS WITH DEAF DISABILITIES IN HIGHER EDUCATION: A SYSTEMATIC REVIEW**

**Setia Budi<sup>1</sup>, Neviyarni. S<sup>2</sup>, Afdal<sup>3</sup>, Rara Ajeng Pratiwi<sup>4</sup>**

<sup>1234</sup>Program Studi Doktor Ilmu Pendidikan, Universitas Negeri Padang, Padang, Indonesia

Correspondence Email: [setiabudi@fip.unp.ac.id](mailto:setiabudi@fip.unp.ac.id)

**ABSTRACT**

*This study aims to analyze internal and external factors that influence the learning independence of deaf students in higher education through a systematic review approach. Data were obtained from 15 national and international journal articles indexed by Google Scholar, published between 2015 and 2025, which discuss the academic, socio-emotional, communication, cognitive, and learning independence aspects of deaf students. The analysis results show that learning independence is influenced by internal factors, such as motivation, self-confidence, effective learning strategies, and adaptability. External factors that play a role include family support, learning facilities, inclusive campus policies, and social support from friends and the community. Communication barriers, social stigma, and limited facilities remain significant challenges that can interfere with learning independence. This study confirms that the success of inclusive education requires an integration of personal and environmental factors. Implications: Higher education institutions need to strengthen accessibility services, families are expected to provide consistent emotional support, and further research is needed to evaluate the effectiveness of more targeted interventions.*

*Keywords: Learning Independence; Deafness; Inclusive Higher Education; Systematic Review.*

## INTRODUCTION

Learning independence is a student's ability to actively manage their learning process, from planning, implementing, and evaluating the learning strategies they use. Students who demonstrate learning independence are able to manage their time, set priorities, motivate themselves, and use appropriate learning strategies to achieve academic success. In the context of deaf students, learning independence is a crucial aspect in determining their success in higher education because they face communication barriers, limited access to information, and challenges in social interactions that differ from those of non-disabled students.

Inclusive higher education requires universities to not only provide physical access but also support the development of learning independence in students with disabilities through disability-friendly policies, services, and facilities (Kemendikbudristek, 2022). Numerous studies have shown that internal factors, such as motivation, positive self-concept, self-confidence, and effective learning strategies, play a significant role in learning independence (Trihastuti, 2022). Meanwhile, external factors, such as family support, learning facilities, inclusive campus policies, and peer and community support, also play a role in strengthening the ability of deaf students to learn independently (R. P. Lestari, 2021).

However, previous studies tended to discuss internal and external factors separately, thus failing to provide a comprehensive picture of the integration of these two factors in influencing learning independence (Organization, 2020). Furthermore, most research in Indonesia still focuses on the academic or socio-emotional development of deaf students in general, rather than specifically on learning independence, which is central to success in higher education. This creates a research gap regarding how internal and external factors can work synergistically to support learning independence in deaf students.

Based on these conditions, this study was conducted using a systematic review approach to comprehensively examine various scientific findings regarding internal and external factors that influence learning independence in deaf students in higher education. This study is expected to not only strengthen the theoretical foundation but also provide practical recommendations for higher education institutions, families, and policymakers in improving the quality of inclusive education services in Indonesia.

## RESEARCH METHODS

### Research Design

This study used a systematic review design with the aim of identifying, evaluating, and synthesizing the results of previous research on internal and external factors influencing the learning independence of deaf students in higher education.

The data sources were national and international journal articles obtained from Google Scholar, Sinta, and ProQuest databases. The search was conducted using a combination of keywords: "learning independence of deaf students," "self-regulated learning of deaf students," "inclusive higher education," and "support factors for deaf students."

### Inclusion and Exclusion Criteria

Inclusion criteria:

1. Articles published between 2015 and 2025.
2. Articles must be research findings (qualitative, quantitative, or mixed methods).
3. The focus of the study was on deaf students in higher education.
4. Articles must discuss internal factors (motivation, self-concept, learning strategies) and/or external factors (family support, facilities, campus policies, peers) related to learning independence.
5. Articles are available in full text.

Exclusion criteria:

1. Articles in the form of opinion pieces, short reports, or non-research papers.
2. Research focused on primary and secondary education.
3. Articles not available in Indonesian or English.

The article selection process was conducted following the PRISMA flowchart. In the initial identification stage, 105 articles were found through a search of three databases. Next, a screening stage was conducted by selecting titles and abstracts, leaving 45 articles. After that, in the eligibility

stage, the article content was reviewed based on the inclusion-exclusion criteria, and 20 articles met the requirements. In the final stage, 4 relevant articles were selected for further analysis.

Data from the selected articles were analyzed manually using thematic analysis techniques, grouping factors influencing learning independence into internal and external categories. Data validity was maintained through several strategies, including source triangulation by comparing findings between articles, peer review between authors to ensure consistency of interpretation, and an audit trail, which systematically documented all stages of selection and analysis.

## RESULTS AND DISCUSSION

### Results

An analysis of 4 selected articles indicates that the learning independence of deaf students in higher education is influenced by complementary internal and external factors. The dominant internal factors are learning motivation, self-confidence, positive self-concept, effective learning strategies, and adaptability (D. S. Lestari, 2016). Meanwhile, external factors include family support, learning facilities, inclusive campus policies, financial support, and social support from peers and the community (Qur’ani et al., 2023, Rahajeng et al., 2024).

On the other hand, communication barriers, language limitations, social stigma, and lack of facilities remain significant challenges and have the potential to hinder the development of deaf students' learning independence (Yuwono et al., 2022).

This article was compiled with reference to the recommendations of (van Wesel et al., 2015). Research data was obtained through a search of articles in Google Scholar on the topic of the growth and development of deaf students in inclusive higher education during the period 2015–2025. Articles that met the criteria were selected and the results of the review are shown in Table 1.

**Table 1. Journal Literacy Analysis**

No	Researcher Name	Title and Year of Publication	Findings	Contributing Factors
1	Maria Claudia Wahyu Trihastuti	Supporting Factors for Fulfilling the Educational Rights of Students with Disabilities (2022)	Internal supporting factors include self-confidence and a positive self-concept, discipline, interest, cognitive abilities, motivation, and effective learning strategies. External supporting factors include family harmony, financial support and learning facilities, university support, inclusive student programs, and financial support from the university in the form of scholarships. Support from friends and volunteers includes instrumental support, emotional support, and appreciation support.	- Internal Factors: Self-confidence, Positive self-concept, Discipline, Interest, Cognitive ability, Motivation, Effective learning strategies. - External Factors: Family harmony, Financial support & learning facilities, College support, Scholarships, Peer support.
2	Dienul Aina AB, Ketut Lativa Chairunnisa, Raudatul Jannati Ir, Sabrina Nur Fauziyah HD	Psychosocial and Emotional Problems in Deaf Children: A Systematic Review of the Literature (Ab et al., 2025)	Deaf adolescents face complex psychosocial and mental health challenges. Communication barriers, delayed diagnosis, and social stigma are key factors contributing to this condition, impacting their quality of life, emotional well-being, and social development.	- Communication factors - Delayed diagnosis - Social stigma - Impact on quality of life and emotional well-being - Impact on social development

3	Dwi Sri Lestari	Social Adjustment of Deaf Students (D. S. Lestari, 2016)	<p>Students demonstrate communication and adjustment skills. They also exhibit positive social attitudes, such as a strong sense of caring, empathy, and a sense of helping others, as well as satisfaction with their current lives. Psychological conditions, including experiences, learning processes, frustration, and conflict, also influence their social adjustment. Family acceptance and support are the most significant factors. Belief in God and religiosity are used to address challenges in their lives.</p>	<ul style="list-style-type: none"> <li>- Communication factors</li> <li>- Social attitudes,</li> <li>- Psychological conditions,</li> <li>- Family support, and</li> <li>- Religiosity.</li> </ul>
4	Marshya Camillia Turnomo Rahardjo	Adaptation of Deaf Students' Communication in Higher Education (Marshya Camillia Ariej, Dr. Turnomo Rahardjo, 2019)	<p>Deaf students communicate verbally (speaking) and in writing (on paper or mobile phone notes). Deaf students never use sign language when interacting on campus. Deaf students experience language and verbal communication barriers. These barriers impact their interactions with lecturers, peers, and educational staff, leading to prejudice and misunderstandings. The diversity of languages (foreign languages) used in everyday conversation, such as English and Javanese, presents a barrier for deaf students in managing information in conversations.</p>	<ul style="list-style-type: none"> <li>- Communication barriers,</li> <li>- Language limitations,</li> <li>- Challenges to social and academic interactions due to language diversity.</li> </ul>

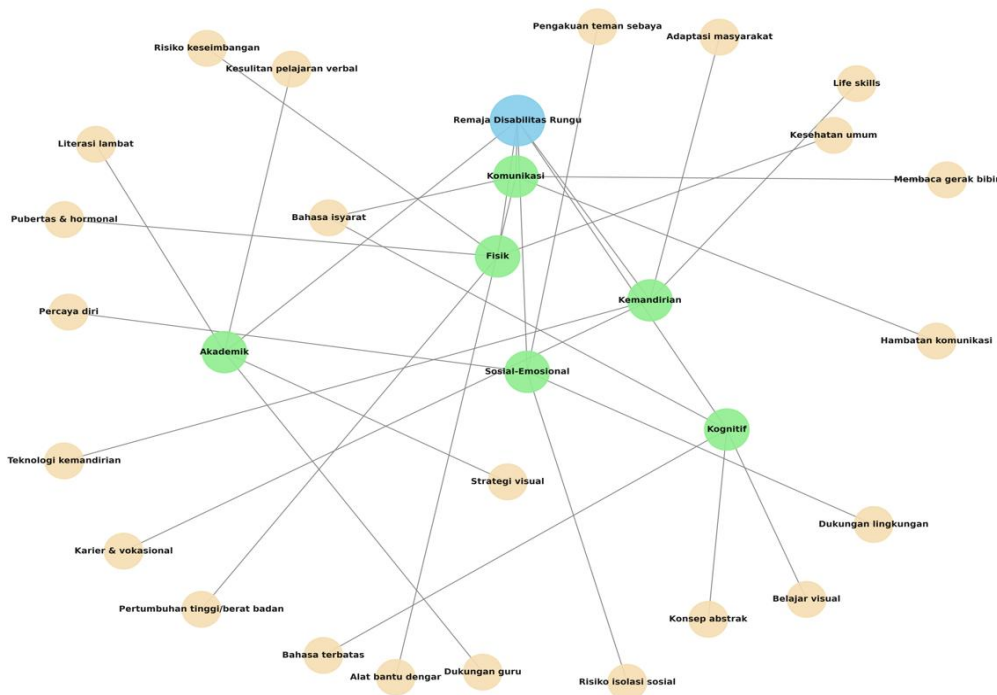
### Discussion

An analysis of four articles indicates that the growth and development of deaf students in higher education is influenced by various interrelated factors. This underscores the urgency of further research to further analyze and support their needs. Therefore, the following discussion section will outline key findings from the reviewed studies.

Research by Maria Claudia Wahyu Trihastuti (2022) confirms that the fulfillment of the educational rights of students with disabilities is influenced not only by internal factors but also by external factors. Internal factors such as self-confidence, positive self-concept, motivation, and effective learning strategies indicate that personal readiness is the primary foundation for academic success. Meanwhile, external factors such as family harmony, financial support, learning facilities, and the role of higher education institutions through inclusion policies and scholarships emphasize the importance of a supportive environment. Social support from friends and volunteers, whether in the form of instrumental assistance, emotional support, or rewards, further strengthens students'

accessibility and comfort during the educational process. These findings underscore that the success of inclusive education depends on the synergy between individual strengths and environmental support.

Research by Dienul Aina AB et al. (2025) showed that deaf adolescents are vulnerable to psychosocial and emotional problems due to communication barriers, delayed diagnosis, and social stigma. These factors not only disrupt social interactions but also affect their mental health and emotional well-being. This condition impacts their quality of life and hinders optimal social development. These findings emphasize the importance of early intervention, psychosocial support, and a stigma-free environment to help deaf adolescents adapt and develop healthily.



**Figure 1. Mind Mapping**

Research by Dwi Sri Lestari (2016) shows that deaf students are able to make good social adjustments through communication skills, empathy, caring, and a supportive attitude. Psychological factors such as experiences, learning processes, frustration, and conflict also shape their adjustment patterns. Family support is a key factor strengthening social adaptation, while religiosity and belief in God serve as sources of strength in facing various challenges. These findings emphasize that deaf students' social adjustment is the result of an interaction between personal factors, family support, and spirituality.

Research by Marshya Camillia Ariej and Turnomo Rahardjo (2020) highlights the communication challenges faced by deaf students in higher education. Students primarily use oral and written communication via paper or mobile phones, without utilizing sign language. This situation creates language and oral communication barriers that impact interactions with lecturers, friends, and educational staff, often leading to prejudice and misunderstandings. Furthermore, the diversity of languages used on campus, such as English and Javanese, exacerbates deaf students' difficulties in understanding and processing information. These findings emphasize the need for inclusive communication strategies for more effective academic and social interactions.

Based on the discussion above, it can be concluded that the growth and development of deaf students in higher education is the result of a complementary integration of internal and external factors. Their success depends not only on motivation, self-confidence, and personal adaptability, but also heavily influenced by family support, the social environment, campus policies, and inclusive communication strategies. Communication barriers, stigma, and limited facilities remain real challenges, necessitating synergy between students, families, the community, and universities to create a welcoming, equitable, and empowering learning environment. Therefore, this reflection emphasizes the importance of a holistic approach in supporting deaf students to achieve optimal academic, social, and emotional development.

## CONCLUSIONS

This systematic review confirms that the learning independence of deaf students in higher education is influenced by an integration of internal and external factors. The dominant internal factors are motivation, self-confidence, positive self-concept, effective learning strategies, and adaptability. Important external factors include family support, learning facilities, inclusive campus policies, and social support from peers and the community. Communication barriers, social stigma, and limited facilities continue to be obstacles that disrupt the independent learning process of deaf students. The novelty of this research lies in its confirmation that learning independence is not solely dependent on personal factors but is also strongly influenced by the social environment and inclusive campus policies. Thus, the research gap addressed is the lack of comprehensive studies linking the integration of internal and external factors in supporting the learning independence of deaf students in Indonesian higher education. Based on the study's findings, several recommendations are available for various parties. Higher education institutions need to strengthen inclusion policies by providing adaptive communication services such as sign language interpreters, closed captioning, and learning support applications. Furthermore, disability-friendly learning facilities need to be improved, along with training programs for lecturers and educational staff to improve their competence in handling deaf students. For families and communities, emotional support plays a crucial role in fostering students' self-confidence and motivation to learn, enabling optimal development of independent learning. Facilitating access to technology and reducing social stigma through public education also require shared attention. Meanwhile, future researchers are advised to conduct empirical research that tests the effectiveness of learning interventions, develop adaptive technology-based models, and conduct longitudinal studies to continuously monitor the development of independent learning in deaf students within the context of inclusive higher education..

## BIBLIOGRAPHY

- Ab, D. A., Chairunnisa, K. L., Ir, R. J., Nur, S., Hd, F., Psikologi, D., & Padang, U. N. (2025). *Masalah Psikososial dan Emosional pada Anak Tunarungu : Tinjauan Sistematis Literatur*. 2, 159–171.
- Lestari, D. S. (2016). Penyesuaian Sosial pada Mahasiswa Tuli. *Inklusi*, 3(1), 101. <https://doi.org/10.14421/ijds.030106>
- Lestari, R. P. (2021). *HUBUNGAN ANTARA DUKUNGAN KELUARGA DAN MOTIVASI BELAJAR MAHASISWA DIFABEL PADA PEMBELAJARAN ONLINE SELAMA PANDEMI COVID-19*. UIN SUNAN KALIJAGA YOGYAKARTA.
- Marshya Camillia Ariej, Dr. Turnomo Rahardjo, M. S. (2019). Adaptasi Komunikasi Mahasiswa Tuli di Perguruan Tinggi Marshya. *Interaksi Online*, 1(8), 132–144. <https://ejournal3.undip.ac.id/index.php/interaksi-online/article/view/26340>
- Organization, W. H. (2020). *Innovating for early childhood development: what have we learned to strengthen programming for nurturing care? Meeting report, Geneva, Switzerland, 13-14 June 2019*. World Health Organization.
- Qur'ani, G. L., Indrianti, D. T., & Ariefianto, L. (2023). Indonesian Journal of Adult and Community Education. *Indonesian Journal of Adult and Community Education*, 5(2), 133–142. <https://doi.org/https://dx.doi.org/10.17509/xxxx.xxi>
- Rahajeng, U. W., Hendriani, W., & Paramita, P. P. (2024). Navigating Higher Education Challenges: A Review of Strategies among Students with Disabilities in Indonesia. *Disabilities*, 4(3), 678–695. <https://doi.org/10.3390/disabilities4030042>
- Trihastuti, M. C. W. (2022). Faktor Pendukung Pemenuhan Hak Pendidikan Mahasiswa Penyandang Disabilitas. *Psiko Edukasi*, 20(1), 32–44. <https://doi.org/https://doi.org/10.25170/psikoedukasi.v20i1.3421>
- van Wesel, F., Boeije, H. R., & Alisic, E. (2015). Towards a method for synthesizing diverse evidence using hypotheses as common language. *Quality & Quantity*, 49(6), 2237–2249.
- Yuwono, I., Mirnawati, M., Kusumastuti, D. E., & Ramli, T. J. (2022). Challenges of Deaf Students in Online Learning at Universities. *AL-ISHLAH: Jurnal Pendidikan*, 14(2), 2291–2298. <https://doi.org/10.35445/alishlah.v14i2.1328>