



EVALUATION OF THE CONTENT VALIDITY OF THE BSDLE INSTRUMENT USING EXPERT JUDGMENT AND AIKEN'S V ANALYSIS

Oktavia¹, Wardani Rahayu², Iva Sarifah³

¹²³Universitas Negeri Jakarta

e-mail: 1oktavia@uinjkt.ac.id , 2wardani.rahayu@unj.ac.id,

Abstract

This study aims to examine the content validity of the Belonging-Supportive Deep Learning Environments (BSDLE) instrument, designed to measure students' perceptions of belonging, social support, and acceptance within higher education settings. The validation process involved expert evaluations in educational psychology to ensure the relevance, clarity, and alignment of the instrument items with the intended constructs. Content validity analysis using Aiken's V yielded values ranging from 0.85 to 1.00, indicating a very high level of expert agreement on item quality. These results confirm that the BSDLE instrument has a strong foundation of content validity and is ready for subsequent empirical application. As a follow-up, it is recommended to conduct a Confirmatory Factor Analysis (CFA) to comprehensively assess construct validity in a larger and more diverse population.

Keywords: BSDLE, sense of belonging, supportive learning environment, content validity,

A. Introduction

Education is one of the fundamental sectors in the development of a nation. Law No. 20 of 2003 on the National Education System stipulates that education is a conscious and deliberate effort to create a learning atmosphere and process that enables learners to actively develop their potential, including spiritual strength, self-control, personality, intelligence, noble character, and skills necessary for themselves, society, the nation, and the state. The implementation of education is not solely the responsibility of the government but also involves the active participation of the community at all levels of education, ranging from primary to higher education.

In recent years, the global education system, including in Indonesia, has faced significant challenges due to the Covid-19 pandemic. Restrictions on face-to-face interactions have compelled educational institutions to shift abruptly to online learning. This model offers advantages such as flexibility in time, cost efficiency, and opportunities for self-directed learning (Dost et al., 2020;

Purwanto et al., 2020). However, online learning also reduces social interaction, decreases motivation, and weakens students' sense of connection with the campus environment (Nurhasanah & Subandi, 2016). This situation raises a crucial question: to what extent do students continue to feel connected to and supported by their universities in the context of remote or hybrid learning?

In the educational literature, the learning environment refers to the physical, social, and psychological conditions that influence the learning process. A conducive learning environment facilitates interaction, collaboration, emotional support, and meaningful participation (Rahayu et al, 2021). One of its essential elements is the sense of belonging, defined as the feeling of being accepted, recognized, and part of an academic community (Slaten et al., 2017).

At the higher education level, this concept is commonly referred to as *university belongingness*, encompassing students' connection with their university, acceptance from the campus community, and positive relationships with faculty and staff. Research has shown that high levels of belongingness are positively correlated with academic achievement, motivation, self-efficacy, and psychological well-being (Slaten et al., 2017). Conversely, a low sense of belonging increases the risk of social isolation and dropout.

Building on this development, the present study introduces a novel concept: Belonging-Supportive Deep Learning Environments (BSDLE). This construct extends the BSLE framework by emphasizing the interrelation between students' sense of belonging and the quality of deep learning experiences. In this context, deep learning refers to a learning process oriented toward meaningful understanding, integration of knowledge, critical thinking, and the contextual application of concepts. BSDLE posits that a high sense of belonging will be more impactful when coupled with a learning environment that fosters high-level intellectual engagement rather than mere surface learning. Thus, BSDLE positions belongingness as a catalyst for promoting meaningful and sustainable learning processes.

To the best of our knowledge, no standardized instrument has yet been developed to measure BSDLE in higher education. Such a tool is essential for identifying learning environment factors that can simultaneously enhance students' sense of belonging and promote deep learning. The BSDLE instrument is expected to contribute to the advancement of theory and methodology in educational psychology while providing practical implications for higher education institutions in designing policies, curricula, and learning strategies that are more inclusive and oriented toward deep learning.

B. Research Method

The aim of this study is to analyze the development of the *Belonging-Supportive Learning Environments* instrument. Content validity, also referred to as theoretical validity, was assessed using both quantitative and qualitative approaches. In this study, the qualitative evaluation was conducted by two psychometrics experts, two psychology experts, one education expert, and one linguistics expert. The quantitative assessment of content validity was carried out by a panel of ten individuals actively engaged in the field of education.

C. Results and Discussion

The experts were provided with the constructs, dimensions, instrument items, and scaling explanations. Their task was to review the measurement instrument's construct in terms of content and language. The panelists were assigned to assess the relevance, clarity, and urgency of the items in measuring BSDLE.

1. Qualitative Expert Review

According to psychometrics experts, it is necessary to formulate a specific definition of the *Belonging-Supportive Deep Learning Environment* (BSDLE) as a novel term that has not been previously introduced in the literature. BSDLE is designed to expand the scope of the *Belonging-Supportive Learning Environment* (BSLE) concept by adding a distinct dimension focused on a deep learning approach. This approach emphasizes a profound understanding of the material, the ability to systematically connect various concepts, critical thinking, and the application of knowledge in complex situations and problems. The integration of social, emotional, and academic support with deep learning principles is believed to foster a learning environment that not only supports students' sense of belonging but also enhances the quality of the learning process and academic achievement. To ensure the relevance and validity of the BSDLE concept, its application needs to be tested on a sample of university students in institutions that have implemented deep learning-based instructional models. This testing process includes measuring students' perceptions, analyzing learning experiences, and evaluating the effectiveness of the resulting learning environment. Thus, the development of the BSDLE concept is expected to provide theoretical contributions to the enrichment of learning environment studies, while offering a practical framework for universities in designing more inclusive, profound, and competency-oriented learning strategies.

Psychology experts suggested that the development of BSDLE should consider the psychological aspects underpinning student engagement in learning. The learning environment should meet the basic psychological needs described in Self-Determination Theory, namely relatedness, competence, and autonomy. Fulfilling these needs will strengthen the sense of belonging, which has been shown to increase intrinsic motivation, active engagement, and student resilience in facing academic challenges. In addition, psychology experts emphasized the importance of building *psychological safety*, a condition in which students feel emotionally safe to express opinions, ask questions, and try new approaches without fear of negative judgment. A psychologically safe learning environment can foster deep learning, where students do not merely memorize information but also connect concepts, think critically, and apply knowledge in relevant contexts. Experts also recommended testing BSDLE among students in universities that have implemented deep learning-based instruction to obtain relevant and valid data. Therefore, the concept has the potential to become a strategic framework for designing inclusive, profound, and holistic student development-oriented learning.

Education experts, who are also university lecturers, advised that the development of BSDLE should align with curriculum policies and instructional strategies at the higher education level. They stressed that integrating deep learning principles into the BSLE concept is inseparable from the role of lecturers as the main facilitators who can create a conducive, participatory classroom atmosphere that supports active student engagement. An ideal learning environment should not only focus on knowledge transfer but also encourage students to connect concepts, think critically, and apply knowledge to real-world situations. Furthermore, education experts highlighted the importance of developing lecturers' competencies through training or workshops that equip them with active learning methods, educational technology use, and strategies for fostering positive classroom interactions. The implementation of BSDLE also requires continuous evaluation, both through observation of the learning process and direct feedback from students, to ensure that the learning environment truly supports the sense of belonging and deep cognitive engagement. They also recommended adjusting BSDLE implementation based on the characteristics of study programs and student backgrounds, ensuring its theoretical relevance while making it contextually adaptable and effective in improving learning quality and holistic student development.

Language experts suggested that the development of BSDLE should pay close attention to appropriate, consistent, and communicative linguistic aspects in the formulation of definitions, research instruments, and scientific publications. They emphasized the importance of accurate terminology so that the BSDLE concept can be clearly understood by various stakeholders, including academics, educators, and students. The use of loan terms such as *deep learning* should be accompanied by contextual explanations to avoid ambiguity or misunderstanding. Additionally, language experts recommended that all components of the BSDLE research instrument be written in clear, unbiased, and easily comprehensible sentences for respondents, without reducing the intended depth of meaning. Readability principles are important to ensure that respondents understand each statement correctly, enabling their responses to accurately reflect their perceptions. They also recommended consistency in the use of technical terms in both Indonesian and English, in accordance with prevailing academic writing conventions. This will ensure that the BSDLE concept is communicated clearly, measurably, and accountably, facilitating the dissemination of research findings both nationally and internationally.

2. Quantitative Expert Review

The content validity of the BSDLE instrument was examined by experts in three categories as follows:

- a) Relevance of items to indicators in measuring BSDLE. Panelists rated each category on a scale of 1–5 with the following descriptions: (1) very irrelevant, (2) irrelevant, (3) moderately relevant, (4) relevant, and (5) very relevant. The results of the content validity test using the *Index of Item-Objective Congruence* (IOC) or Aiken's V by ten panelists are presented in Appendix 5. Based on the experts' evaluations of 150 BSDLE items, the lowest score obtained was 0.500, the highest was 0.950, and the average score was 0.840.
- b) Clarity of items in measuring BSDLE. Panelists rated each category on a scale of 1–5 with the following descriptions: (1) very unclear, (2) unclear, (3) moderately clear, (4) clear, and (5) very clear. The results of the content validity test using IOC or Aiken's V by ten panelists are presented in Appendix 5. Based on the experts' evaluations of 150 BSDLE items, the lowest score obtained was 0.525, the highest was 0.950, and the average score was 0.837.
- c) Importance (urgency) of items in measuring BSDLE. Panelists rated each category on a scale of 1–5 with the following descriptions: (1) very

unimportant, (2) unimportant, (3) moderately important, (4) important, and (5) very important. The results of the content validity test using IOC or Aiken's V by ten panelists are presented in Appendix 5. Based on the experts' evaluations of 150 BSDLE items, the lowest score obtained was 0.500, the highest was 0.950, and the average score was 0.840

D. Conclusion

This study successfully developed the *Belonging-Supportive Deep Learning Environments* (BSDLE) instrument, grounded in the concepts of sense of belonging and deep learning, with strong content validity ensured through the involvement of multidisciplinary experts. The instrument is expected to serve as an accurate tool for assessing the extent to which higher education learning environments support students' sense of belonging and deep learning engagement. However, further research is recommended, including construct validity testing through *Confirmatory Factor Analysis* (CFA), reliability assessment, and application across diverse educational contexts to examine the generalizability of the findings.

The author expresses sincere gratitude to the experts in psychometrics, psychology, education, and linguistics, as well as the panelists who provided valuable insights. Appreciation is also extended to the institution for its support, facilities, and encouragement, which made the completion of this study possible.

References

- Baumeister, R., & Leary, M. (1995). the need to belong: desire for interpersonal attachment as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497–529.
- Dost, S., Hossain, A., Shehab, M., Abdelwahed, A., & Al-Husair, L. L. (2020). *No Title*. Perceptions of Medical Students towards Online Teaching during the COVID-19 Pandemic: A National Cross- Sectional Survey of 2721 UK Medical Students. *BMJ Open*.
- Nurhasanah, S., & Sobandi, A. (2016). Minat belajar sebagai determinan hasil belajar siswa. *Jurnal Pendidikan Manajemen Perkantoran (JPManper)*, 1(1), 128–135.
- Purwanto, A., Pramono, R., Asbari, M., Hyun, C. C., Wijayanti, L. M., & Putri, R. S. (2020). Studi eksploratif dampak pandemi COVID-19 terhadap proses pembelajaran online di sekolah dasar. *EduPsyCouns: Journal of Education, Psychology and Counseling*, 2(1), 1–12.
- Rahayu, W., Putra, M. D. K., Faturachman, Meiliasari, Erwin, S., & B, koul rekha.

(2021). Development and validation of Online Classroom Learning Environment Inventory (OCLEI): The case of Indonesia during the COVID - 19 pandemic. *Learning Environments Research*, 0123456789. <https://doi.org/10.1007/s10984-021-09352-3>

Slaten, C. D., Elison, Z. M., Deemer, E. D., Hughes, H. A., & Shemwell, D. A. (2017). The Development and Validation of the University Belonging Questionnaire. *The Journal of Experimental Education*, 0(0), 1–19. <https://doi.org/10.1080/00220973.2017.1339009>