

# A Proposed Framework of Analysis of Factors Affecting Student with Learning Disabilities

Cao Chen<sup>1</sup>, Malini Kanjanapathy<sup>2</sup>, and Maisarah Mohamed Saat<sup>3</sup>

<sup>1,2</sup>SEGi University Kota Damansara, Graduate School of Business, <sup>3</sup>Faculty of Management, Universiti Teknologi Malaysia, 81310 Johor Bahru, Johor, Malaysia  
Corresponding Author Email: SUKD2102034@segi4u.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBS/v14-i1/20522>

DOI:10.6007/IJARBS/v14-i1/20522

**Published Date:** 12 January 2024

## Abstract

This study aims to explore the factors influencing learning disabilities among university students. Our primary sample comprises students with learning disabilities (SLD) from SEGI University, Malaysia. Data collection is conducted through the distribution of questionnaires. Based on an extensive review of previous literature and the theoretical frameworks of self-determination theory and social cognitive theory, we have identified independent variables, including Information and Communication Technology (ICT) skills, accommodations services, faculty attitude and knowledge, emotions, educational support, and an inclusive alumni network. The dependent variable is students' learning disabilities. Finally, we explore the relationship between the dependent and independent variables using the data we collected. Through this research, gaining insights into the situation of college students with learning disabilities (SLD) can provide essential information to governments and educational institutions. This, in turn, can facilitate the development of more inclusive education policies, ensuring that the needs of students with learning disabilities (SLD) are comprehensively addressed.

**Keywords:** Student with Learning Disabilities, University Students of Malaysia, Information and Communication Technology (ICT) Skills

## Introduction

Learning disabilities, also generally referred to as specific learning disabilities, pertain to a heterogeneous group of disorders characterized by severe difficulties in acquiring and using skills related to listening, speaking, reading, writing, reasoning, and mathematical and computational abilities (Zilvinskis et al., 2023). Learning disabilities pose a noteworthy worldwide issue. Recent studies and data concerning learning disabilities in the United Kingdom indicate that there are approximately 1.5 million individuals living with such disabilities in the UK (Mencap, 2022). In the United States, at least 1 in 59 children has one or more learning disabilities, according to the (National Center for Education Statistics, 2022). A

survey released by the Japanese Ministry of Education, Culture, Sports, Science, and Technology in 2022 indicates that over 180,000 Japanese school students attend remedial classes due to learning disabilities (MEXT, 2022). Chinese scholars report a 15.3% prevalence rate of learning disabilities among students (Hu Zhen, 2022). In Malaysia, as of January 31, 2020, based on special education data, a total of 88,352 students were classified as students with special needs. Among these, 72,683 students are classified as students with learning disabilities (SLD), representing 82% of the total students with special needs (Govindasamy, 2022).

As the proportion of university SLD steadily rises, it becomes increasingly necessary to examine their distinctive traits and behaviors in academic settings (Niazov et al., 2021). While there are numerous factors contributing to learning disabilities, a student's level of achievement largely depends on their ability to learn. Therefore, educational support is crucial. While SLD have been extensively studied, most research has been limited to students at the kindergarten through twelfth-grade level, with the aim of improving their study habits, methods, and other aspects in the hope of ameliorating their learning disabilities as they transition into adulthood. Consequently, factors influencing learning disabilities remain critical considerations for the education sector, both at the department of education and university levels. Nonetheless, extensive research on SLD, several gaps persist.

The purpose of this study is to gain comprehensive insights into the various factors influencing university SLD in Malaysia. Through an analysis of these factors, the study aims to elucidate the status and characteristics of learning disabilities among college students and their impact on individual learning and life experiences. Furthermore, the study seeks to provide valuable insights and recommendations to educational institutions, policymakers, and student support services. The current study intends to address the research question and research objectives in the following manner:

### **Research Question**

RQ1 : Investigate the relationship between self-efficacy dimensions, specifically ICT skills and emotions, and SLD in Malaysian universities.

RQ2 : Examine the relationship between environment dimensions, including accommodations services and an inclusive alumni network, and SLD in Malaysian universities.

RQ3 : Explore the relationship between autonomy support strategy dimensions, which encompass educational support and faculty member attitudes and knowledge, and SLD in Malaysian universities.

### **Literature Review**

#### **1) Self-determination theory**

Self-determination theory holds a prominent place in research related to SLD, supported by substantial empirical evidence and effective interventions (Koenka, 2020). This theory emphasizes the significance of environmental influences on student achievement (Rebecca Louick & Katherine Muenks, 2021). Intrinsic motivation occurs when a person engages in an activity out of inherent interest in it (Code, 2020). Individuals with intrinsic motivation engage freely in interesting, novel, and optimally challenging actions (Hagger, M. S. et al., 2020). Conversely, actions performed to obtain rewards or avoid penalties are attributed to extrinsic motivation (Howard et al., 2021).

In line with the principles of Self-determination theory, there exist three core psychological needs: autonomy, proficiency, and social connection (Vansteenkiste et al.,

2020). Autonomy refers to the need for volition and a sense of ownership over one's behavior, while competence involves the need for effectiveness and mastery in performing activities. Lastly, relatedness pertains to the need for connection and positive relationships with others. It is essential for individuals to satisfy these needs for competence, autonomy, and relatedness to maintain high levels of intrinsic motivation (Freeman et al., 2023). Enhancing intrinsic motivation is crucial as it has been found to lead to improved performance, learning, and well-being (Butler & Paz, 2021).

One of the central tenets of Self-determination theory is the influence of the learning environment, particularly concerning the need for autonomy. Several researchers emphasize how controlling environments often diverge from teachers and their agendas and highlight the ways in which these agendas can be imposed on students through external or internal controls.

## **2) Social Cognitive Theory**

One important component of this is self-efficacy, which plays a crucial role in the social cognitive process. An individual's assessment of their abilities and performance in social interactions is often rooted in their cognitive understanding of the behaviors and attitudes of others (Rao, 2020). While social cognitive theory provides a cognitive framework for comprehending the behaviors and attitudes of others, self-efficacy theory focuses on an individual's assessment of their own competence in a given social interaction situation. Through the process of social cognition, individuals acquire information about others and compare it to their own level of competence, ultimately developing a sense of their self-efficacy in a given social interaction. Research findings support the association between social cognition and self-efficacy (Niazov et al., 2022). For example, the ability to identify emotions and make behavioral inferences during social cognition is linked to an individual's sense of self-efficacy. Accurately recognizing others' emotions and correctly interpreting their behaviors can enhance one's assessment of their competence and self-efficacy in social interactions (Bishara, 2021). Therefore, this study applies the self-efficacy theory within the framework of social cognitive theory.

Based on previous studies, many theories have been used to describe the factors influencing SLD. The majority of previous studies examining SLD have employed Cognitive Load Theory and Social Cognitive Theory as their underlying frameworks. Social Cognitive Theory, as demonstrated by Niazov et al (2021), as well as Bishara (2021), is widely applied in the examination of SLD in university settings. Additionally, Self-Determination Theory has been used in the study of SLD.

After a meticulous review of past research on SLD, this study integrates Social Cognitive Theory (SCT) and Self-Determination Theory (SDT) to establish its research framework. It also introduces new determinants to provide a more comprehensive explanation of the factors influencing SLD in university environments. This research particularly focuses on individual competence and emotions, drawing from SCT's self-efficacy theory. Environmental factors, such as dormitory services and inclusive alumni network environments, are derived from the principles of self-determination theory. Furthermore, educational support, including the knowledge of instructors' attitudes, aligns with autonomy support strategies within self-determination theory. Another factor explored is the effectiveness of autonomy support strategies, as they have been shown to enhance students' abilities to manage their learning disabilities (Wang and Chung, 2021).

Previous literature has consistently identified SLD as the most common group among students with special needs. Although defining SLD can be complex, this general term encompasses a heterogeneous group of challenges related to acquiring and using skills in speaking, listening, writing, reading, mathematical abilities, and reasoning. Regardless of the various definitions, it is acknowledged that SLD typically possess normal IQs but struggle with cognitive processes such as inductive and deductive thinking, which are essential for scientific reasoning and metacognitive thinking. These challenges lead to disparities between students' abilities and achievements (Yaman, 2023). Moreover, SLD often face limitations in achieving independence, particularly in acquiring digital skills. A study by Abdullah et al (2021), which employed interviews, revealed that SLD were introduced to basic Information and Communication Technology (ICT) skills to access more information in their field of education.

In reality, the last five years of research have shown that SLD differ from their peers, not only in how they learn but also in the instructional practices needed to support their learning (Miciak, & Fletcher, 2020). Despite ongoing confusion over how to operationally define and identify students as having learning disabilities (Siegel, 2019), they do possess characteristics that distinguish them from other struggling learners. These distinctions include having distinct neuronal architecture and functioning (Scanlon et al., 2021) and experiencing difficulties in processing information. These difficulties may be rooted in cognitive functions such as working memory, self-regulation, and motivation (Swanson et al., 2020). SLD who are eligible for special education services typically learn at a slower rate, achieve less, and retain knowledge and skills less successfully than nondisabled struggling peers, even when they receive the same interventions and supports, such as accommodations (Schwartz et al., 2021).

SLD consistently exhibit low academic achievement. Consequently, they often set low expectations for themselves and may experience low self-esteem and self-confidence (Flogie et al., 2020). Additionally, this situation may lead them to feel uncomfortable in the classroom and expose them to peer pressure or social rejection, resulting in isolation. All of these factors contribute to them having fewer friends than their peers, feeling lonely, or experiencing challenges in interpersonal communication and cooperative behavior (Flogie et al., 2020). It has been observed that there is a lack of research on the influencing factors for SLD, especially in comparison to research focused on instructional strategies and methods. This suggests a gap in the literature concerning the exploration of influencing factors for SLD in a university setting.

### **Research Methodology**

The aim of this planned study is to investigate the factors affecting university SLD, employing a quantitative approach. Among the universities in Malaysia, there are public universities and private universities. The academic performance prerequisites for admission in public universities generally surpass those in private universities (Ministry of Higher Education, 2023). Hence, this study focusing on SLD will be conducted within the context of private universities.

In universities, the GPA serves as a significant measure of a student's academic performance. Typically, a GPA greater than 3.0 is rated as good and above, whereas a GPA below 2.5 is considered moderate to low, putting the student at risk of dismissal (Bakar et al., 2022). Consequently, the SLD who will be involved in this survey will have a GPA between 2.5 and 3.0. Data collection will be undertaken through online and face-to-face surveys.

To ensure accuracy and comply with study obligations, participants will be selected through a rigorous screening process, meeting three specific criteria:

- Being a student,
- Having a GPA between 2.5 and 3.0,
- Being enrolled in SEGI University.

Power analysis will be employed to determine the minimum sample size, which in this case stands at 235 respondents. Data will be collected through the distribution of questionnaires. The obtained data will subsequently be analyzed using IBM SPSS software. Furthermore, Structural Equation Modeling - Partial Least Squares (SEM-PLS) will be used to offer a comprehensive analysis of the multiple variables and relationships within the framework.

### **A Proposed Framework**

Drawing upon a review of previous literature, the study variables have been established through the integration of two primary theories and the inclusion of additional variables suggested by prior research. This study is more novel than previous ones because it integrates and analyzes the environmental and autonomy support strategies mentioned in self-determination theory, which have been neglected in prior research (DARELL MICHAEL DIEDRICH, 2022). Additionally, it differs from previous studies on SLD, which primarily focused on college students.

The research model for this study was conceptualized based on two previously discussed theories: Self-Determination Theory (SDT) and Social Cognitive Theory (SCT). This study aims to integrate SDT and SCT into a single model to explain the factors influencing college students' learning disabilities. The new determinants in the model include Information and Communication Technology (ICT) skills, emotions, dormitory services, inclusive online environments, educational support, lecturer attitudes, and knowledge. Figure 1 illustrates the research model.

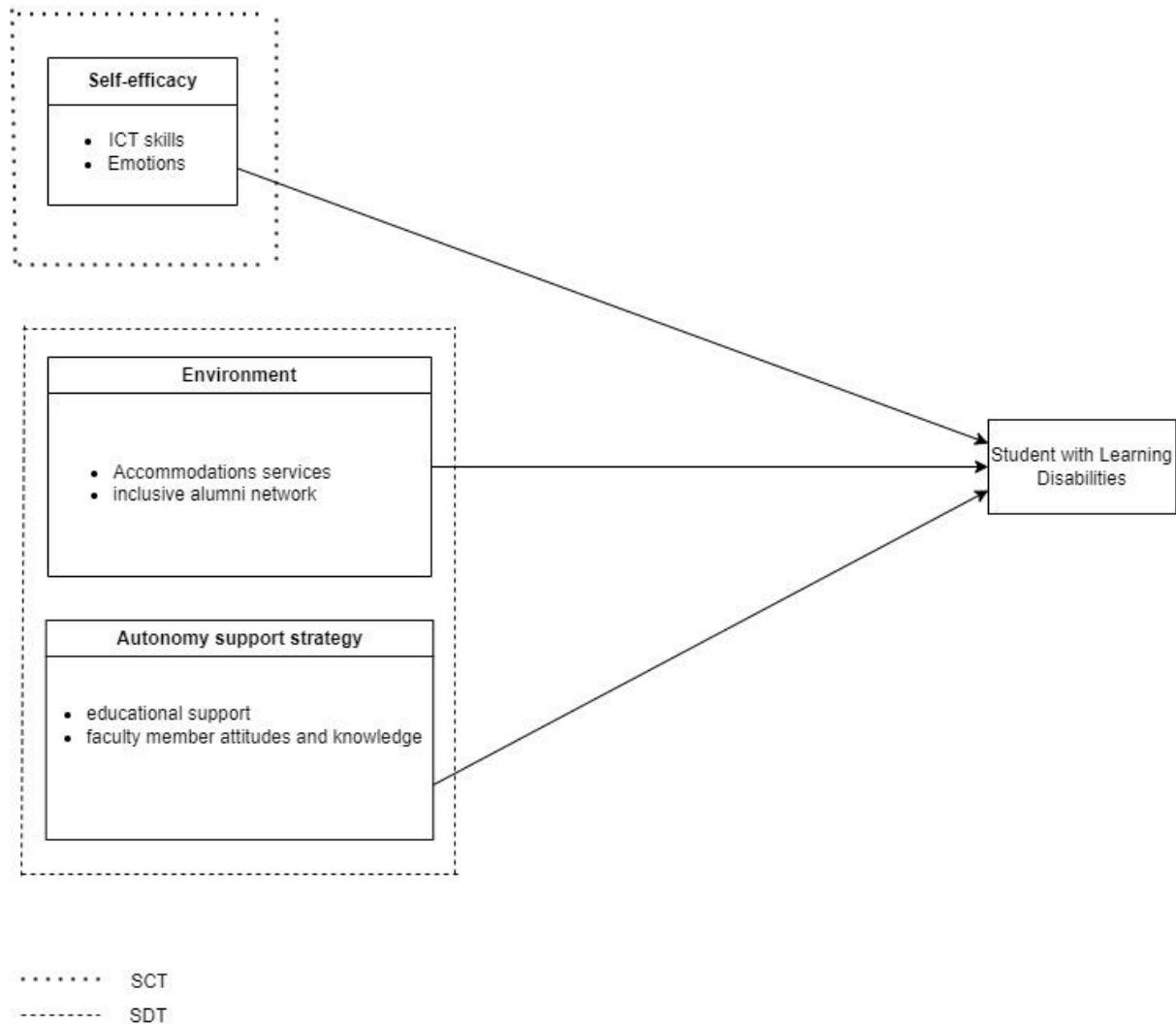


Figure 1. The Proposed Framework

## Conclusions

This study makes several significant contributions. Firstly, it integrates relevant underlying theories, namely Self-determination Theory and Social Cognitive Theory, to develop a comprehensive model that examines the key factors influencing SLD in higher education. This integration enhances our understanding of learning disabilities in higher education settings.

Secondly, the study delves deeper into the emotions, ICT skills, and culture of SLD, shedding light on how these factors impact their self-efficacy. Notably, self-efficacy in SLD is a unique area within self-efficacy research (Wang et al., 2021), and this study adds valuable insights by exploring the role of learning strategies as an intermediate variable.

Furthermore, this study contributes to the exploration of factors influencing university SLD in Malaysia, offering valuable insights that can enhance our knowledge in this area. The findings have practical implications for the Department of Education, universities, as well as student teachers and administrators. They can guide SLD in overcoming their challenges and emphasize the importance of personal behaviors for maintaining competitiveness. Additionally, this research can inform the development of more effective education policies by examining the impact of educational support on SLD.

Furthermore, it's worth noting that faculty and university administrators have the most direct contact with SLD (Shecter-Lerner et al., 2019). Therefore, this study holds practical



implications for university personnel as well. It can provide insights into the specific challenges faced by SLD within the university environment. This knowledge can inform necessary adjustments in teaching methods and administrative services, ultimately facilitating the adaptation of SLD to university life and learning.

In summary, considering Malaysia's current challenges with SLD in university education, and the predominant focus of existing research on K-12 education, the findings from this study are highly relevant. They offer valuable insights into the unique issues faced by SLD in the university context in Malaysia. This knowledge can serve as a foundation for addressing and solving these challenges through collaborative efforts among various stakeholders.

### **Theoretical and Substantive Contribution**

This research makes significant contributions both theoretically and substantively to the existing body of knowledge. The theoretical contribution stems from the synthesis of Self-determination theory and social cognitive theory, providing a comprehensive framework for analyzing the factors influencing learning disabilities in higher education. Furthermore, it advances our understanding of the unique dynamics of self-efficacy among SLD and the mediating role of learning strategies.

Substantively, this study addresses a notable research gap by focusing on Malaysian university SLD, thereby expanding our knowledge of the challenges they face and potential solutions. By informing educational policies and practices, this research holds practical implications for educational authorities, universities, and faculty members. Ultimately, it aims to create a more inclusive and supportive environment for SLD in higher education.

In summary, this research enhances our theoretical understanding while offering practical insights to improve educational experiences and outcomes for SLD in the Malaysian university context.

### **References**

- Abed, M. G., & Shackelford, T. K. (2020). Educational support for Saudi students with learning disabilities in higher education. *Learning Disabilities Research & Practice, 35*(1), 36-44.
- Abed, M. G., & Shackelford, T. K. (2020). Educational support for Saudi students with learning disabilities in higher education. *Learning Disabilities Research & Practice, 35*(1), 36-44.
- Ahmet Bildiren & Tahsin Firat (2020): Giftedness or disability? *Living with paradox, Education 3-13*.
- Basharpour, S., & Einy, S. (2023). Developing a causal model of academic adjustment of Students with learning disabilities based on academic self-efficacy and academic eagerness: The mediating role of the academic resilience. *Journal of Learning Disabilities, 12*(2), 18-33.
- Blake, H., Hanson, J., & Clark, L. (2021). The importance of an inclusive alumni network for ensuring effective transitions into employment and future destinations for people with learning disabilities. *British Journal of Learning Disabilities, 49*(4), 445-455.
- Brinckerhoff, L. C., Shaw, S. F., & McGuire, J. M. (1992). Promoting access, accommodations, and independence for college students with learning disabilities. *Journal of Learning Disabilities, 25*(7), 417-429.
- Carver, C. (2003). Pleasure as a sign you can attend to something else: Placing positive feelings within a general model of affect. *Cognition and Emotion, 17*(2), 241-261.

- Diedrich, D. M. (2022). *The Experiences of Students with Learning Disabilities in a College Success Course: What is Working and What is Not* (Doctoral dissertation, City University of Seattle).
- Freeman-Green, S., Driver, M. K., Wang, P., Kamuru, J., & Jackson, D. (2021). Culturally sustaining practices in content area instruction for CLD students with learning disabilities. *Learning Disabilities Research & Practice*, 36(1), 12-25.
- Freeman, J. A., Gottfried, M. A., & Plasman, J. S. (2023). STEM-focused career courses and college pipeline for students with learning disabilities. *Educational Policy*, 37(2), 308-338.
- Georgan, W. C., Archibald, L. M., & Hogan, T. P. (2023). Speech/Language Impairment or Specific Learning Disability? Examining the Usage of Educational Categories. *Journal of Speech, Language, and Hearing Research*, 66(2), 656-667.
- Govindasamy, P., Abdullah, N., & Ibrahim, R. (2022). Entrepreneurship skills for students with learning disabilities: A review from Malaysian National Curriculum. *Journal of Contemporary Social Science and Education Studies (JOCSSSES)*, 2(1), 12–25.
- Hegazy, A. Z., & Elballah, K. A. (2023). The Relative Contribution of Self-regulation Skills in Motivational Styles According to the ARCS Model for Students with Learning Disabilities. *Educational Administration: Theory and Practice*, 29(1), 147-157.
- HU Zhen, YU Xiaoming, LI Liubai, YANG Xinghua, ZHU Guangrong. Prevalence of learning disabilities among middle school students in Beijing[J]. *CHINESE JOURNAL OF SCHOOL HEALTH*, 2022, 43(1): 92-95.
- Ibrahim, R., Abdullah, N., Handrianto, C., Muliana, I. L., & Nykonenko, N. (2021). Development of information and communication technology (ICT) skills among students with learning disabilities (SLD) in malaysia and ukraine. *International Journal of Educational Best Practices*, 5(2), 121-131.
- Lipka, O., Khouri, M., & Shecter-Lerner, M. (2020). University faculty attitudes and knowledge about learning disabilities. *Higher Education Research & Development*, 39(5), 982-996.
- Niazov, Z., Hen, M., & Ferrari, J. R. (2022). Online and academic procrastination in students with learning disabilities: the impact of academic stress and self-efficacy. *Psychological Reports*, 125(2), 890-912.
- Sarid, M., Meltzer, Y., & Raveh, M. (2020). Academic achievements of college graduates with learning disabilities vis-a-vis admission criteria and academic support. *Journal of Learning Disabilities*, 53(1), 60-74.
- Shecter-Lerner, M., Lipka, O., & Khouri, M. (2019). Attitudes and knowledge about learning disabilities: A comparison between Arabic-and Hebrew-speaking university students. *Journal of learning disabilities*, 52(3), 247-258.
- Southern, A., & Tilley, F. (2000). Small firms and information and communication technologies (ICTs): toward a typology of ICTs usage. *New technology, work and employment*, 15(2), 138-154.
- Solberg, V. S., O'Brien, K., Villareal, P., Kennel, R., & Davis, B. (1993). Self-efficacy and Hispanic college students: Validation of the college self-efficacy instrument. *Hispanic journal of behavioral sciences*, 15(1), 80-95.
- Wang, L. C., & Chung, K. K. H. (2022). Do Taiwanese Undergraduate Students with SLD Use Different Learning Strategies than Students without These Disabilities? *Learning Disabilities Research & Practice*, 37(1), 6-17.
- Woodcock, S. (2013). Trainee teachers' attitudes towards students with specific learning disabilities. *Australian Journal of Teacher Education (Online)*, 38(8), 16-29.



Zilvinskis, J., Barber, R. E., Brozinsky, J. L., Hochberg, S. R., & Weston, M. (2023) Mediation Effects of Academic Advising Behaviors for First-Year Students with Learning Disabilities and Mental Health Disorders. *Journal of Postsecondary Education & Disability*, 35(4).