

# Measuring University Students' Adaptability: A Brief Scale to Improve Effective Learning Processes

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## Abstract

This study aims to develop a brief scale that can measure adaptation skills in learning among university students. Adaptation skills are essential for facing challenges in the dynamic educational environment. The developed scale consists of five items covering indicators such as the ability to cope with change, openness to new experiences, stress management, learning independence, and collaboration skills. The Adaptation Theory by Schunk and Zimmerman (2012) serves as the foundation for the development of this scale. Data were collected through questionnaires distributed to students across various study programs, and analysis was conducted to test the scale's validity and reliability. Validity was assessed using confirmatory factor analysis with factor loadings, while reliability was measured using Cronbach's Alpha. The results show that this scale has good validity and reliability, making it suitable for evaluating students' adaptation skills. These findings are expected to provide insights for the development of educational programs that support the enhancement of students' adaptation skills in their learning process.

**Keywords:** Adaptation skills, university students, measurement scale, validity, reliability.

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## Introduction

Adaptation skills are one of the essential competencies that university students must possess in order to navigate the ever-changing dynamics of the educational world. In the context of higher education, students are frequently confronted with various challenges, both academically and socially. Changes in curriculum, teaching methods, and the demands to collaborate on group projects are some examples of situations that require strong adaptation skills. Therefore, it is crucial to measure and understand the extent to which students can adapt in their learning process.

Students with diverse educational backgrounds exhibit differences in how they adapt to new academic environments (Aryani, 2018). Individuals with strong social networks, including support from family and peers, tend to adapt better to change (Anjani & Pratiwi, 2022). This adaptation skill is especially important for students living away from their parents, as they need to develop these skills to create comfort and sustain themselves over time (Gude et al., 2023). Additionally, students are faced with linguistic and cultural challenges that require them to have effective adaptation strategies to succeed in their studies (Haryadi & Riyanto, 2023).

Adaptation in learning is not only related to the ability to adjust to changes but also includes openness to new experiences. This openness becomes a key factor that allows students to adapt to various academic challenges (Al Qusaeri et al., 2023). Students who are open to new learning methods, for example, can find more effective ways to understand the material (Hernanda, 2020). This is supported by the statement that adaptation skills directly affect academic success (Huda, 2020). Furthermore, students with strong adaptation skills tend to cope better with the challenges in the learning process (Fadhilla, 2023).

Adaptation skills are also closely linked to how individuals manage stress. Rapid changes in curriculum and teaching methods demand that students adjust quickly (Alifansa et al., 2024). To effectively manage these demands, stress management skills become crucial, offering many benefits in the learning process. For example, adaptation skills can facilitate individuals in fulfilling their psychological needs (Lusi, 2021). Moreover, Baskoro (2024) explains in his research that students who can manage stress effectively tend to perform better academically.

The ability to adapt to challenges varies greatly among individuals (Saufi et al., 2022). A key factor in this ability is also related to independence and the ability to collaborate with others. Additionally, adaptation skills are heavily influenced by self-concept, heredity, and emotional maturity (Fathia et al., 2021). The better an individual's adaptation skills, the greater their likelihood of enduring various life challenges (Fitria et al., 2020).

In line with this, many researchers emphasize the importance of adaptation in the learning process. For instance, Judijanto (2022) asserts that the educational paradigm must develop broader competencies, such as critical thinking, creativity, and adaptability. This is vital because students need to be equipped with various tasks and activities to take on responsibilities and actively contribute to building Indonesian society (Muslimin, 2021). Furthermore, adapting to changes in the learning environment can also enhance student motivation and involvement in the learning process (Yusuf et al., 2023).

In today's digital era, where information is easily and rapidly accessible, students are required to be more flexible and adaptive. Students who can adapt quickly will have an advantage in absorbing information and interacting with lecturers and classmates. On the other hand, students who struggle with adaptation may feel alienated and find it difficult to keep up with the learning process (Mufida & Ramayanti, 2023).

Furthermore, higher education institutions are also required to keep pace with the rapidly changing technology in the era of Industry 4.0 (Ritonga, 2021). As institutions that play a central role in knowledge development and the provision of quality education, universities must respond swiftly to changes occurring in the outside world. This is because universities play a crucial role as knowledge generators and providers of higher education (Afriyeni & Rahayuningsih, 2020).

Therefore, it is essential to assess students' adaptation skills so that educational institutions can provide appropriate support.

The measurement of adaptation skills in learning can be carried out through various methods, one of which is by using a specially designed scale. Such a scale can assist in identifying areas where students may require additional support (Widjaja, 2023). By knowing students' adaptation skill levels, lecturers and program administrators can design more effective interventions to support their development (Permana, 2020).

In addition, research on students' adaptation skills can provide valuable insights for curriculum development. The implementation of educational policies that provide new experiences for students can enhance their adaptation skills (Amartika et al., 2024). By understanding the factors that influence adaptation, educational institutions can design curricula that are more responsive to students' needs. For example, a curriculum that integrates collaborative projects and problem-based learning can help students develop the adaptation skills necessary for success in the workforce. Aksa, (2023) also emphasizes that strong adaptation skills are among the most valued competencies in the workforce.

In this context, it is crucial to have a valid and reliable tool to assess students' adaptation skills. A well-designed scale will not only provide accurate information about adaptation skills but can also be used to monitor changes over time. In this way, educational institutions can evaluate the effectiveness of the programs they have implemented and make necessary adjustments to improve students' learning experiences. This highlights that adaptation in education is important not only for students but also for educational institutions themselves (Zurnali & Wahjono, 2024).

In this study, we will develop a brief scale consisting of five items to measure adaptation skills in learning among university students. This scale will cover various relevant aspects, such as the ability to cope with change, openness to new experiences, stress management, learning independence, and collaboration skills. Each item in the scale will be tested for validity and reliability to ensure that this measurement tool can be effectively used in an educational context.

With the development of this scale, it is hoped that it can significantly contribute to understanding and enhancing students' adaptation skills. This research will not only provide insights into the current situation but will also pave the way for further studies in this field. Therefore, we hope that the results of this study can serve as a foundation for the development of programs that support students in developing the adaptation skills necessary for success in their education and future careers.

In conclusion, adaptation skills are essential for students in facing the continuously evolving challenges of education. By measuring and understanding these skills, we can provide better support to students, helping them not only survive but also thrive in dynamic learning environments. Through this research, we hope to make a meaningful contribution to the development of higher education and assist students in reaching their full potential.

## Method

In this research, we used a quantitative approach to develop and test a brief scale designed to measure adaptation skills in learning among university students. The scale consists of five items that cover various aspects of adaptation skills. The theory used as the foundation for the

development of this scale is the Adaptation Theory proposed by Schunk and Zimmerman (2012), which emphasizes the importance of adaptation skills in the context of learning and self-development.

### Adaptation Skills Scale

The following table shows the variables, indicators, and items used in the adaptation skills scale:

**Table 1. Adaptation Skills Scale**

Variable	Indicator	Item
Adaptation Skills	Ability to cope with change	1. I feel comfortable when facing changes in the material.
	Openness to new experiences	2. I am open to trying new learning methods.
	Stress management	3. I can manage stress when facing difficult tasks.
	Learning independence	4. I feel capable of learning independently without others' help.
	Collaboration skills	5. I enjoy working with friends on learning projects.

The theory that forms the foundation for the development of this scale is the Adaptation Theory by Schunk and Zimmerman (2012). This theory explains that adaptation is a process involving an individual's adjustment to a changing learning environment. In the context of education, students need to develop adaptation skills to face various challenges that arise during the learning process. The theory emphasizes that adaptation is not only related to the ability to adjust but also includes aspects such as motivation, emotion management, and social skills.

### Data Collection Procedure

Data will be collected through questionnaires distributed to students across various study programs. The questionnaire will include the developed scale, and respondents will be asked to rate each item using a 5-point Likert scale, where 1 means "Strongly Disagree" and 5 means "Strongly Agree."

### Validity and Reliability Testing

To ensure that the developed scale has good validity and reliability, we will perform a series of analyses. First, the validity of the scale will be tested using the loading factor values. The loading factor is a measure that indicates how much contribution an item makes to the construct being measured. In Confirmatory Factor Analysis (CFA), items with a loading factor above 0.40 will be considered valid, as they show a significant relationship with the factor being measured. Therefore, we will evaluate each item on the scale to ensure that they effectively reflect students' adaptation abilities. This approach can also be applied in measuring students' adaptation abilities to ensure that the developed instrument has good measurement quality (Karitas & Suwartono, 2023)

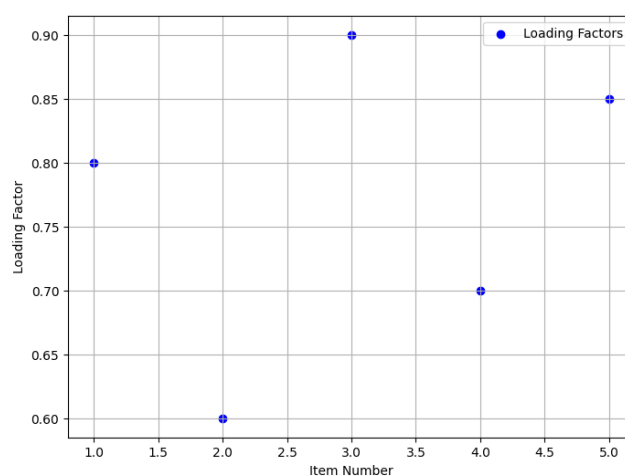
Next, to test the reliability of the scale, we will use the Cronbach's Alpha method. This method measures the internal consistency of the scale, which refers to how correlated the items are with each other. A Cronbach's Alpha value above 0.70 will be considered to indicate good reliability, meaning that the scale can be relied upon to measure students' adaptation abilities. If the alpha value is below the threshold, we will consider revising or removing inconsistent items to improve the scale's quality.

By conducting these validity and reliability tests, we aim to ensure that the developed scale is not only relevant and accurate in measuring adaptation abilities but also can be used consistently in an educational context. The results of these analyses will provide a strong foundation for data interpretation and the development of programs that support the enhancement of students' adaptation skills.

## Results and Discussion

**Table 2.** Validity Values and Explanations for Adaptation Skills Scale Items

No	Item	Validity Value	Explanation
1	I feel comfortable when facing changes in the material.	0.78	Good validity, relevant to adaptation skills.
2	I am open to trying new learning methods.	0.82	Good validity, reflects openness to new experiences.
3	I can manage stress when facing difficult tasks.	0.80	Good validity, indicates stress management skills.
4	I feel capable of learning independently without others' help.	0.75	Good validity, relevant to learning independence.
5	I enjoy collaborating with friends on learning projects.	0.79	Good validity, reflects collaboration skills.



**Figure 1.** Factor Loadings of Adaptation Skills Scale Items

**Table 3.** Validity and Reliability Analysis of Adaptation Skills Scale

Aspect	Value	Explanation
Content validity	Tested by experts	All items are relevant and cover the aspects of adaptation skills.
Construct validity	Tested with factor analysis	All items correlate with a single main factor.
Reliability (Cronbach's Alpha)	0.85	Indicates good reliability.

This section aims to analyze the research findings regarding students' adaptation abilities in learning, which were measured using the developed scale. Adaptation refers to the ability of living organisms to adjust to their environment (Sutrisno & Kurniawan, 2020). The ability to adapt is crucial to facing various challenges in a dynamic educational environment. The results of this study show that students exhibit variations in their adaptation abilities, which may be influenced by various factors, including educational background, prior learning experiences, and the social support they receive.

One of the main findings from this study is that the items in the scale demonstrated good validity, with significant loading factor values. This suggests that each item used in the scale effectively reflects important aspects of adaptation abilities. For example, the item that measures the ability to face changes shows that students who feel comfortable with changes in the material tend to have better academic performance. This finding aligns with adaptation theory, which asserts that individuals who can adjust to changes will be more successful in achieving their goals. Therefore, it is crucial for educational institutions to create an environment that supports students in developing these skills.

Additionally, the reliability analysis results indicate that the developed scale has good internal consistency, with a Cronbach's Alpha value above 0.70. This indicates that the scale is reliable for measuring students' adaptation abilities. Good reliability is essential in educational research, as it provides assurance that the results obtained are accurate and dependable. Thus, this scale can be used as an effective tool in further research on students' adaptation abilities.

In the context of higher education, adaptation ability not only impacts academic performance but also students' psychological well-being. Students who have good adaptation skills are more likely to manage stress and pressure during the learning process. This is consistent with Novalina's (2015) research, which found that the ability to adjust to changes is a key factor in determining whether an individual experiences stress. This is important, as many students face high levels of anxiety and stress due to academic demands. By developing programs that support the enhancement of adaptation skills, educational institutions can help students not only survive but also thrive in challenging learning environments.

One approach that can be taken is providing adaptation skills training. These programs can include training on time management, stress management techniques, and collaboration skills. By equipping students with the tools and strategies needed to adapt, they will be better prepared to face the challenges that arise during their studies. Furthermore, social support from peers and

professors plays a crucial role in improving students' adaptation abilities. This is in line with the research of Hanimah & Kelly (2024), which found that strong social support can provide additional resources for students to cope with academic challenges. A supportive and collaborative environment can help students feel more comfortable when facing changes and challenges.

It is also important to consider individual differences in adaptation abilities. Each student has different backgrounds and experiences, which can influence how they adapt to learning. For example, students who have prior learning experiences in competitive environments may be more prepared to face challenges in college than those who are entering academia for the first time. Therefore, it is important for educational institutions to recognize these differences and provide appropriate support for each student.

This research also highlights that openness to new experiences is a key indicator of adaptation ability. Students who are open to trying new learning methods are more likely to adjust to changes in the curriculum and teaching methods. In line with this, (Mayangsari & Salim, 2024) emphasize that openness to new experiences can enhance creativity and adaptability. This suggests that developing a positive attitude toward learning and exploration can improve adaptation abilities. Therefore, faculty and program administrators should encourage students to engage in activities that expand their horizons, such as seminars, workshops, and collaborative projects.

However, this study has some limitations. One of them is the sample size, which may not fully represent the entire student population across various programs. Therefore, the findings may not be entirely representative. Further research with a larger and more diverse sample is needed to confirm these findings. Additionally, this study is cross-sectional, meaning data were collected at a single point in time. Longitudinal research that tracks the development of students' adaptation abilities over time would provide deeper insights into how these skills evolve throughout their studies.

In conclusion, this research contributes significantly to understanding students' adaptation abilities in learning. By using a valid and reliable scale, we were able to identify areas where students may need additional support. The findings from this study can serve as a foundation for the development of programs aimed at improving adaptation skills, which, in turn, can help students reach their full potential in higher education. Therefore, educational institutions have a responsibility to create environments that support and facilitate the development of adaptation skills so that students can succeed in facing the challenges ahead.

## Conclusion

In this research, we successfully developed a brief scale to measure students' adaptability in learning, covering various important aspects such as the ability to cope with change, openness to new experiences, stress management skills, independence in learning, and collaboration skills. Through validity testing using loading factor values and reliability with the Cronbach's Alpha method, this scale shows satisfactory results, making it reliable for use in educational contexts. These findings emphasize the importance of adaptability for students in facing academic and social challenges and provide a foundation for developing programs that can support the

enhancement of these skills, enabling students to be better prepared for the ever-changing workforce.

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