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Analysis of Culture Shock Levels Among 2025 Science Cohort Students in Relation to University Learning Patterns

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Abstract
The transition from high school to university requires new students to adjust to more complex academic demands. This study aims to identify forms of academic culture shock and the learning adaptation strategies employed by first-year students in the 2025 Science Program. A quantitative descriptive method was used by analyzing students' responses regarding changes in learning patterns, adjustments to learning strategies, and psychological factors experienced during the adaptation process. The results indicate significant shifts in learning patterns, particularly in learning styles, the need to modify learning methods, and the reorganization of study schedules. These shifts reflect the emergence of academic culture shock arising from the demands of more independent, analytical, and structured learning in higher education. Although students demonstrate adaptive capacities through improved learning strategies and time management, several challenges persist, such as decreased concentration, difficulty understanding new academic terminology, and hesitation to interact with lecturers. Beyond learning processes, culture shock also affects psychological well-being, including stress and academic anxiety. These findings highlight the need for more systematic academic support for new students.
Keywords: Educational Transition, Academic Culture Shock, Learning Adaptation, First-Year Students, Psychological Factors

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INTRODUCTION

The transition from high school to university is a critical period that requires new students to adapt to a far more complex academic environment. This transition involves not only increased cognitive demands but also new patterns of interaction, different learning cultures, and diverse evaluation systems that require greater independence. Such conditions may trigger academic culture shock, a state of confusion or psychological pressure that arises when individuals encounter a learning system that differs significantly from their previous experiences (Oberg, 1960). In higher education settings, this phenomenon commonly appears in the form of difficulties adjusting learning strategies, understanding lecturers' teaching styles, and coping with more independent academic workloads compared to secondary school. Several studies have shown that first year students are highly vulnerable to this phenomenon. Yulia and Arifin (2021), reported that more than half of new students experience symptoms of academic culture shock during their first semester due to shifts in learning systems and demands for autonomy. Consistent with this, the Self-Regulated Learning Theory (Zimmerman, 2000), explains that university students are required to plan, monitor, and evaluate their learning independently. However, findings by Sari and Lestari (2020) indicate that many first-year students still lack adequate self regulation skills, placing them at greater risk of experiencing culture shock. Other challenges commonly reported include time-management difficulties (Agustin & Pratiwi, 2022), fatigue during discussion-based classes, and pressure from independent assignments. These conditions may lead to unstable learning patterns and

decreased academic motivation (Hutapea, 2023; Rahmawati, 2022). Although previous studies have discussed the relationship between academic culture shock and learning adaptation, research specifically examining students in the 2025 Science Program remains limited. This gap is important because science programs typically require strong analytical abilities, laboratory competencies, and strict time management factors that may intensify adaptation challenges. Therefore, it is necessary to analyze the level of academic culture shock and its influence on the learning patterns of new students in this program. The findings of this study are expected to provide a comprehensive understanding of the obstacles faced during academic adaptation and serve as a foundation for institutions to design more effective academic support strategies.

RESEARCH METHODS

Research Design

This study employed a quantitative approach with a descriptive design to describe the level of academic culture shock experienced by new students in the 2025 Science Program. This design enables the researcher to present factual descriptions through numerical analysis of students' responses related to changes in learning methods, forms of adaptation, and psychological aspects during the transition process.

Research Subjects

The research subjects consisted of all new students in the 2025 Science Program. The population was also used as the sample through a total sampling technique because all members met the criteria and were willing to participate. A total of 113 students were involved, and all respondents completed the instrument without missing data.

Data Collection Technique

Data were collected using a Likert-scale questionnaire consisting of 15 statements designed to identify the level of academic culture shock. The instrument covered four main aspects: changes in learning habits, self-adjustment strategies, academic obstacles, and psychological conditions related to adaptation stress. Each item used a five-point response scale (1 = strongly disagree to 5 = strongly agree). The reliability test using Cronbach's Alpha produced a value of 0.844, indicating high internal consistency of the instrument. Data collection was carried out through a digital platform distributed to all students. After all responses were collected, the data were downloaded, organized, and prepared in Excel format for further analysis.

Data Analysis Techniques

Data analysis was conducted in several stages. First, descriptive statistics were used to calculate the mean, standard deviation, frequency, percentage, and total score of each item. The overall mean of 3.55 indicated that responses tended to fall within the neutral-to-agree range. Items with the highest means were those related to differences in learning styles, the need to adjust learning methods, and schedule modifications. Conversely, the lowest means were found in items related to concentration issues and understanding academic terminology. Second, the total culture shock score ranging from 15 to 75 was obtained by summing all item scores. The average total score was 53.30, with a standard deviation of 6.57 and a score range of 41–72, indicating variation among respondents in their experience of culture shock. Third, the level of culture shock was categorized using the tercile method, resulting in three groups: low (34%), medium (36%), and high (30%). Finally, the distribution of total scores was visualized using a histogram to illustrate patterns and trends in the culture shock levels experienced by new students.

RESEARCH RESULTS AND DISCUSSION

Descriptive Statistics of Culture Shock Items

Table 1 presents the descriptive statistics of 15 items measuring academic culture shock among 113 first year students in the 2025 Science Program. The overall trend shows that respondents generally agreed that they experienced substantial changes in learning patterns when transitioning to higher education. The mean values ranged from 2.85 to 4.13, with a global average of 3.55. This suggests a moderate level of perceived change in learning demands and psychological adjustment. The highest mean scores were observed in items related to differences in learning styles (M = 4.13), the need to modify learning methods (M = 4.04), and the necessity of creating new study schedules (M = 4.01). These findings emphasize that the shift from teacher centered classroom instruction in secondary school to more autonomous, analytical, and time-regulated learning expectations in university is strongly felt by students. Similar tendencies were also reported by Agestia *et al*. (2024), who noted that new students commonly experience initial disorientation when adapting to the academic culture of higher education. Meanwhile, the lowest means were found in items pertaining to difficulties concentrating in the campus environment (M = 2.85), challenges understanding academic terminology (M = 3.20), and decreased motivation due to adaptation stress (M = 3.21). These scores, although lower relative to other items, still indicate notable adjustment challenges, particularly in cognitive and emotional aspects of early academic life. Prior work by Hatika *et al*. (2022) and Maulida (2023), similarly highlighted that understanding discipline specific terminology and managing emotional strain are among the most frequent barriers for first-year students.

Tabel 1. Descriptive Statistics of the Culture Shock Instrument Items for Students

No	Item statement	Mean	Standard Deviation (SD)
1	I feel that the learning style in college is very different from that in school.	4.13	0.82
2	I need to change my learning methods in order to keep up with the demands of college.	4.04	0.60
3	I have to make a new study schedule to accommodate campus activities.	4.01	0.63
4	I study independently more often than before.	3.81	0.64
5	I feel that my friends' learning styles influence the way I learn.	3.64	0.78
6	I follow the group learning strategy even though it doesn't quite suit me.	3.52	0.82
7	I often feel overwhelmed following the material because it is delivered too quickly.	3.46	0.84
8	I am having difficulty adjusting to the new assignment and grading system.	3.42	0.79
9	The campus environment makes it difficult for me to concentrate while studying.	2.85	0.95
10	I feel uncomfortable in group discussions because of differences in learning habits.	3.32	0.76
11	I have difficulty understanding academic terms in lectures.	3.20	0.86
12	I often hesitate to ask questions to my lecturers because I'm afraid of saying something wrong.	3.25	0.82
13	I need more time to understand the task instructions.	3.30	0.78
14	The change in the learning environment makes me feel anxious when doing assignments.	3.28	0.93
15	Stress due to academic adaptation affects my motivation to study.	3.21	0.92

Instrument Reliability

Table 2. Statistics of Students' Total Culture Shock Scores

Statistics	Value
Number of Respondents (N)	113
Minimum Score	41
Maximum Score	72
Mean	53.30
Standard Deviation (SD)	6.57
Theoretical Range	15–75
Number of Items	15
Cronbach's Alpha	0.844

Based on Table 2, the total culture shock scores ranged from 41 to 72, with a mean of 53.30 (SD = 6.57). Importantly, the reliability test produced a Cronbach's Alpha of 0.844, indicating high internal consistency. This demonstrates that the instrument effectively measures a coherent construct of academic culture shock across multiple dimensions. The reliability level aligns with recommendations from Zhou (2008), who emphasized that multidimensional constructs of adaptation such as behavioral, cognitive, and affective components require robust measurement reliability to ensure valid interpretation.

Descriptive Statistics per Item

Table 3. Highest and Lowest Items

Category	Item	Mean
Highest 1	Differences in learning styles between school and college	4.13
Highest 2	Need to change learning methods	4.04
Highest 3	Need to make a study schedule	4.01
Lowest 1	The campus environment disrupts concentration.	2.85
Lowest 2	Difficulty understanding academic terms	3.20
Lowest 3	Stress reduces motivation	3.21

The pattern in Table 3 demonstrates a clear distinction between aspects of adaptation that students perceive as highly salient and those that pose more subtle or secondary challenges. The three highest-mean items differences in learning styles, the need to change learning methods, and the need to create new study schedules indicate that students primarily experience culture shock through structural and procedural shifts in learning. These items reflect the immediate, surface-level discrepancies students encounter when transitioning to university, such as increased autonomy, faster pacing, and more demanding task structures. This aligns with Saputri (2024) and Ahmed & Shahzeb (2024), who argue that academic transition triggers rapid behavioral adjustments as students attempt to realign their study habits with new institutional expectations. In contrast, the lowest-mean items point to challenges that, while less frequently endorsed, still represent meaningful barriers to full academic integration. Difficulties such as reduced concentration due to the campus environment, limited comprehension of academic terminology, and motivation decreases caused by adaptation stress suggest underlying cognitive and emotional struggles. These issues do not necessarily appear immediately but tend to manifest as students negotiate the deeper layers of academic culture. Hamiji *et al.* (2024), found similar patterns, showing that communication hesitancy and cognitive overload often emerge during the early adaptation phase, particularly when students are still internalizing academic norms.

Total Culture Shock Score

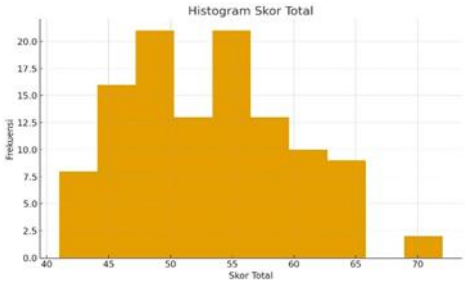

Figure 1. Distribution of Total Culture Shock Scores

Figure 1 illustrates the distribution of total culture shock scores, showing a normal and balanced spread across respondents. This distribution suggests that the experiences of culture shock are neither extreme nor isolated but broadly shared across the cohort. Such a pattern is consistent with the argument of Agestia *et al*. (2024), that academic culture shock is a common transitional phenomenon rather than an outlier experience. Furthermore, the score range (41–72) indicates that even the lowest-scoring students still experience some degree of adjustment difficulty, reinforcing that transition to higher education is inherently demanding.

Categorization of Culture Shock Levels

Table 4. Categories of Student Culture Shock Levels

Category	Score Range	Amount	Persentase
Low	Low score (tercile 1)	38	34%
Half	Halftime score(tercile 2)	41	36%
High	High score (tercile 3)	34	30%
Total	-	113	100%

Table 4 classifies students into three groups using a tercile distribution: 34% low, 36% medium, and 30% high levels of academic culture shock. The fact that the largest proportion lies in the medium category indicates that culture shock is present but generally manageable for most students. Nevertheless, the substantial proportion in the high category (30%) highlights that nearly one-third of the cohort may require additional academic support, guidance, and psychological scaffolding. These results support previous studies Hatika *et al*. (2022), that emphasized the need for early intervention for first-year students experiencing intense adjustment difficulties.

Interpretation and Integration of Findings

The integrated findings reveal that academic culture shock among first year science students operates through intertwined cognitive, communicative, and psychological dimensions. The data indicate that many students struggle to realign their established learning habits with the demands of university level study, which emphasizes analytical reasoning, independent learning, and disciplined time management. Such shifts reflect what Maulida (2023), describes as the emergence of a "new academic culture" that requires students to reconstruct their study orientations rather than merely intensify their previous habits. While high-mean items demonstrate that students respond actively by modifying learning strategies and reorganizing study schedules this adaptive behavior does not fully eliminate the underlying academic dissonance. At the same time, lower scoring items highlight a persistent barrier in academic communication and literacy. Students' difficulties in grasping academic terminology,

coupled with hesitation to engage in dialogue with lecturers, suggest that the transition extends beyond cognitive demands into the realm of communicative norms. This pattern resonates with findings from Hamiji *et al*. (2024), who argue that unfamiliarity with the implicit rules of academic interaction can reduce confidence and restrict students' willingness to participate in knowledge exchanges. Such communicative constraints may exacerbate the cognitive adjustments already required, forming a compounded source of academic strain.

Psychological responses further deepen this complexity. Although not overwhelming, moderate levels of stress, anxiety, and fluctuating motivation reflect the affective turbulence commonly associated with culture shock, as explained in Zhou (2008), student adaptation framework. Emotional strain appears to coexist with efforts at behavioral adaptation, indicating that students' observable strategies (such as scheduling or method modification) may partially mask the psychological pressures they continue to navigate internally. These findings point to a transition process that is neither wholly disruptive nor completely adaptive but situated in an intermediate space where coping efforts and residual challenges coexist. Collectively, the results suggest that students exhibit commendable adaptive initiative while still encountering structural obstacles that require institutional intervention. Previous studies by Agestia *et al*. (2024) and Saputri (2024), emphasize that structured academic guidance particularly in communication support, learning strategy workshops, and transitional orientation programs plays a decisive role in preventing early-semester academic distress. The present findings reinforce that argument: adaptation does occur, but its success is contingent upon the availability of system support that addresses both cognitive and affective dimensions of students' academic transition.

CONCLUSION

The findings of this study show that new students in the 2025 science program undergo notable shifts in their learning patterns as they transition into the university environment. They recognize substantial differences in learning culture especially in terms of independence, pace, and academic demands while simultaneously attempting to adjust through changes in study methods and scheduling. Although their adaptive responses appear strong, several obstacles remain, particularly related to academic terminology, communication with lecturers, and psychological strain during early adjustment. These results illustrate that academic culture shock operates across cognitive, communicative, and emotional dimensions, and that successful adaptation requires not only individual effort but also supportive academic structures.

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