

## Student Academic Success: Can it be Improved Through the Discipline of Learning?

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### Abstract

*This research aims to determine the influence of learning discipline on students' academic success with peers as a moderator variable. The method used is an explanatory survey with questionnaire as data collection techniques. The populations in this study were all 643 students. Using simple random sampling techniques, a sample of 254 students was obtained. Data analysis uses multiple regression analysis with Moderate Regression Analysis (MRA). The results show that student academic success is influenced by the level of discipline; and peers moderate the influence of learning discipline on student academic success. These findings imply that improving student academic success can be improved through increasing learning discipline and supportive peers.*

**Keywords:** *Learning Discipline, Academic Success, Peers, Educational Outcomes.*

### Introduction

Academic success and obtaining good grades are among the primary goals at all levels of education, with positive outcomes benefiting both for students and the education system (Mega et al., 2014). Academic success plays an important role in educational institutions because it is often used as a parameter to measure institutional performance (Alyahyan & Dustegor, 2020), so that a decrease in academic success is detected as a risk and obstacle to achieving educational targets (Kuh et al., 2010). Therefore, identifying the factors that influence academic success has long been a key concerns for researchers and educational psychologists, and it remains one of the challenges that Higher Education Institutions must address (Hayat et al., 2020).

The concept of academic success is generally associated with the achievement of summative assessments, which are determined by learning outcomes (Rivers et al., 2019). However, York et.al (2015) argue that academic success should not be viewed from one perspective but can be identified through six elements include academic achievement, involvement in educational activities, satisfaction, acquisition of desired knowledge, skills and competencies, persistence, and achievement of educational outcomes. In line with Terenzini's (1989) opinion, the term academic success broadly combines various educational outcomes, from achieving grades to developing attitudes and morals, which provide an overview of individual success and the productivity of the education system in the future (Kakkar & Dahiya, 2014).

Every country strives to develop its human resources so that they possess the skills and knowledge required for future jobs. Data from the World Bank and UNESCO show that, even before the Covid-19 outbreak, the global education system was experiencing a learning crisis. Around 53% of school children in low and middle income countries who live with learning disabilities (Azevedo et al., 2020). It is then estimated that around 43% of children will still find it difficult to achieve quality academic achievements in 2030. After Covid 19, the impact of the Covid-19 pandemic that occurred at the end of 2019 was an extraordinary shock that hampered the world of education.

The Covid-19 pandemic, which has reduced the quality of students' effective years of learning, has made them pessimistic about achieving global targets. Without effective responses and policies, learning

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achievement will decrease because the level of learning achieved is lower than before (Azevedo et al., 2020). School closures during Covid-19 have also exacerbated an existing situation that has left the world in the midst of a global learning crisis which, apart from causing a decline in average test scores, also threatens countries' efforts to build human resources that have the skills and knowledge needed for work. in the future (World Bank, 2019).

This shift to distance learning process (online learning) is also felt by students at universities, indirectly limiting their access to essential learning resources such as libraries (Satwika et al., 2021). In this environment, students may experience confusion, become passive, and less productive (Argaheni, 2020). Such condition can lead to academic decline (Andiarna & Kusumawati, 2020), which must not be overlooked as the world adjusts to the “new normal”. Research conducted by Hui Geng and Han Wei (2023) shows that learning discipline significantly impacts academic success in an e-learning learning environment.

To assess the level of student academic success, pre-research was carried out using the indicators from York et.al, (2015), namely indicators of academic achievement, acquisition of desired skills and competencies, satisfaction. Based on these three indicators, student academic success was categorized as low. The results of this pre-research suggest that students at the Faculty of Economics and Business Education, Indonesian Education University, face challenges with academic success. Further investigation is required to identify the factors influencing their academic success.

Learning discipline in the daily knowledge acquisition is a crucial factor in enhancing academic success (Gorbunovs, et.al, 2016). The research results of Dickworthh and Seligman (2005) found that learning discipline had twice the influence on academic achievement compared to IQ, namely 67%. Apart from learning discipline factors, the influence of the classroom environment, home environment and peer environment is also a significant independent predictor of academic success (Fraser and Kahle, 2007), although on the other hand, research by Crowe, et.al (2015) shows different results, namely that Peer influence does not increase students' academic success.

## Literature Review

### *Academic Success*

Success is closely related to accuracy in determining goals, while goals are targets that we have set (Helmet, 2012). The term “academic success” broadly encompasses various educational outcomes, from achieving grades to developing attitudes and morals (Terenzini, 1989), achieving summative assessments, which are determined by learning outcomes (Rivers et al., 2019). Academic success is often defined as degree completion (Jacobi, 1991) which is influenced by several factors such as academic achievement, course experience, and students' perceptions of the learning environment (Bogdan & Biklen, 2007). York et al. stated that academic success should not be views from just one perspective but cab be indetified through six elements: academic achievement, involvement in educational activities, satisfaction, acquisition of desired knowledge and competencies, persistence, and achievement of educational outcomes. The dynamic nature of these factors emphasizes the influence of the environment and teachers.

Indicators of academic success as well as assessment instruments that can be used to measure academic success are presented by the six nodes of the academic success model in table 1.

**Table 1. Indicators and Measurement of Academic Achievement**

Reference	Method	Description
Academic Achievement		
York et.al. (2015)		Academic Achievement Index
Acquisition of Skills and Competencies		
(Snyder et al.,	<i>Adult Hope Scale</i>	The AHS measures Snyder's cognitive model of hope

2002)	(AHS)	which defines hope as a positive motivational state based on a sense of success obtained interactively (a) agency (goal-directed energy), and (b) pathways (planning). to achieve the goal)
(Bandura, 1998) (Bryant & Fuqua, 1997)	<i>Self-Regulated Learning Scale</i> (SRL)	This measure attempts to capture 8 dimensions: positive self-concept; realistic self-assessment, understanding and ability to deal with racism, preference for long-term goals over more pressing short-term needs, support of others for academic plans, successful leadership experience, demonstrated community service, and academic interest and familiarity.
<b>Persistence</b>		
(Pace, 1984) (Williams et al., 2007) (Holmes et al. 2007)	<i>College Student Experience Questionnaire</i> (CSEQ)	The CSEQ assesses the quality of effort students expend in using institutional resources and opportunities provided for their learning and development.
(Kuh et al., 2010)	<i>National Survey of Student Engagement</i> (NSSE)	Student engagement represents two important features of college quality. The first is the amount of time and effort students devote to their studies and other purposeful educational activities. The second is how the institution deploys its resources and organizes curriculum and other learning opportunities to get students to participate in activities that decades of research studies show are related to student learning.

### *Learning Discipline*

The development of disciplined character in students is crucial, as it is one of the most important character values possessed by students, which gives rise to other character values.

A well-developed sense of discipline fosters responsible attitudes and behavior and increases students' awareness of their obligations, such as completing assignments given by lecturers (Urbanus, 2021). Discipline is basically self-control in fulfilling rules both made by oneself and outside oneself, whether by family, educational institutions, society, state or religion (Drever, 1974). Discipline is an influence designed to help individuals be able to face the environment. Discipline grows from the need to maintain a balance between an individual's tendencies and desires to act in order to obtain something with the restrictions or regulations required by the environment for him (Arofah, 2017). Discipline serves as an essential influence that helps students adapt to their environment by balancing personal goals with external expectations. (Conny, 2009). Meanwhile, Hamalik (2014) stated that students' undisciplined behavior will ultimately lead to unfavorable consequences, both for the child's personality and for the implementation of education at school. Learning discipline will also make students accustomed to studying without having to be told by their parents and can improve the student's achievement which will also increase their academic success.

### *Friends of the Same Age*

Adolescence is a challenging period for individuals, not only due to physical changes that may cause anxiety, but also because of the transition from childhood to adolescence. During this stage, individuals are more inclined to live in groups and want to live in freedom in an effort to find self-identity. Peer groups are the first social environment where adolescents learn to live with other people who are not family members (Vembriarto, 1993).

Stelf, as cited by Eirene (2017), said that peer groups involve interactions within a group where members have a tendency to imitate each other. These interactions facilitate processes such as identification,

cooperation and collaboration. This process will color the process of forming typical behavior in adolescents (Gladding 1995). Incentivized closeness of students with their peers will form a group with good relationships between members which is very important for the development of adolescents at normal age. The importance of teachers' collaboration is emphasised in many studies of CPD, as one of the main goals of professional development is to establish a core group of teachers to influence others'

## Methodology

The data analysis used is multiple regression analysis with moderator variables. A moderator variable is a variable that can strengthen or weaken the relationship between the independent variable and the dependent variable. There is a temporary suspicion whether peers (Z) play a moderating role in the influence of learning discipline (X) on academic success (Y).

The moderate regression analysis testing model in this research is:

$$Y = \beta_0 + \beta_1 X + \beta_2 Z + \beta_3 X * Z + e$$

Description:

Y = readiness to become a teacher

$\beta_0$  = constant

$\beta_2, \beta_3$  = coefficients

X = learning discipline

Z = peers

X\*Z = interaction between variable X and variable Z

e = error

The sampling technique was simple random (simple random sample) with a population of 643 students at the Faculty of Economics and Business Education, Indonesian Education University class of 2019 as students entering the final completion period of their studies. A sample of 254 students was obtained as respondents. The data obtained is primary data obtained through scores on an interval scale.

## Results

Academic success in this research is the dependent variable, measured from three indicators of academic success from York, Gibson & Ranking (2015), namely indicators of academic achievement, acquisition of desired skills and competencies, and indicators of satisfaction. An overview of the three indicators can be seen in Table 2.

**Table 2. Average Score of Academic Success Variables**

Indicator	Measurement	No Item	Percentage (%)	Total Percentage (%)	Category
<i>Acquisition Skills and Competencies</i>	<i>Adult Hope Scale</i>				
	a. <i>Pathways</i>	29	69,21	72,01	Enough
		30	74,80		
b. <i>Agency</i>	31	67,95	67,95	Enough	

	<i>c. Filler</i>	32	68.66	68,66	Enough
	<i>Self Regulated Learning</i>				
	<i>a. Personal function</i>	33	69.98	68,98	Enough
	<i>b. Behavioral Function</i>	34	74,72	74,72	Enough
	<i>c. Environment Function</i>	35	69,06	69,06	Enough
<i>Satisfaction</i>	<i>Collage Student Experience Questionare</i>				
	<i>a. Background Information</i>	36	70,31	72,40	Enough
		37	74,49	74,49	Enough
	<i>b. Collage Activities</i>	38	72,76	72,76	Enough
	<i>c. Conversation</i>	39	74,17	74,17	Enough
	<i>d. Reading/Writing</i>	40	71,81	71,81	Enough
	<i>e. The Collage Environment</i>	41	69,76	69,76	Enough
	<i>f. Estimate of Gains</i>	42	68,90	68,90	Enough
	<i>National Survey of Student Engagement</i>				
	<i>a. Level of Academic Challenge</i>	43	70,55	70,55	Enough
		<i>b. Active and Student Collaboration</i>	44	73,23	72,09
	45		70,94	Enough	
	<i>c. Student Interactions</i>	46	72,13	72,13	Enough
	<i>d. Enriching Educational Experience</i>	47	74,80	74,80	Enough
	<i>e. Supportive Campus Environment</i>	48	64,65	64,65	Enough
<i>Academic Achievement</i>	Academic Achievement Index	49	63,86	63,86	Enough

Regression equation analysis aims to determine the influence of learning discipline on student academic success and is moderated by peer factors.

Based on the results of data processing, a regression coefficient model for variable.

**Table 3. Hierarchical Regression Results**

Model	R <sup>2</sup>	B	SE	Beta	F Change	Sign
Model 1	0.504	18.221	0.064	0.710	15.998	0.000
Model 2	0.526	0.018	0.007	1.088	2.619	0.003

Based on Table 3, it can be seen that the regression equation obtained in this research is:

- Model 1 explains that by using hierarchical regression in the first stage, namely to see the high and low level of learning discipline on academic success, significantly ( $F = 15.998, p < 0.05$ ) it is able to explain 50.4% of the variation in high and low academic success (Y) which is experienced by respondents.
- Model 2 explains the entry of the moderation effect (XZ) into the model, which has significantly increased R2 from 0.504 to 0.526 or R2 increased ( $\Delta R^2$ ) by 2.2% ( $F \text{ change} = 2.619, p = 0.003 < 0.05$ ). So from the results of this regression it can be concluded that peers moderate the influence of learning discipline on academic success.

Models with moderation effects tend to be more effective than models without moderation effects in explaining variations in the levels of respondents' academic success. So, academic success can be influenced by learning discipline and strengthened by the presence of peers.

This research hypothesis is acceptable so it can be generalized to the population, as shown in table 4, a summary of the results of hypothesis testing.

**Table 4. Summary of Hypothesis Testing Results**

Hypothesis	t count	t table	Conclusion
Learning Discipline influences Academic Success	2.587	1.973	Accepted
Peers moderate the influence of Learning Discipline on Academic Success Ha accepted	2.619	1.973	Accepted

## Discussion

Research results show that learning discipline significantly impacts student academic success, meaning that as student academic success can be increased along with increasing student learning discipline. The higher the level of discipline, the greater the academic success. These results align with the research by Mirza Dewi, R and Kurniawati, R (2023) and Marti, S, et al. (2019) which show that learning discipline enhances academic achievement. Several research recommend increasing discipline among students to improve academic performance and suggest that governments design effective discipline policies and guidelines. (Odoyo Simba, N. 2016) As students have entered late adolescence to adulthood, they are more likely to have established their identities (Yusuf, 2017). Implementing discipline by creating and enforcing rules encourages students to voluntarily comply with the rules which in turn will have an impact on mutual respect, responsibility, and the creation of a democratic campus environment (Lozano, 2020).

The application of learning discipline in online learning is greatly influenced by both internal and external factors. It also requires cooperation among all parties including students, lecturers, parents and the campus (Manurung et al., 2022). Disciplinary attitudes and behavior are not developed quickly, they require a long process that starts from an early age, within the family, and continues through higher education. Family and campus are important places for the development of student learning discipline (Nurholis, 2019). A successful student follows the rules, accepts discipline, and performs his academic assignments as instructed (Dishon & Goodman, 2017). This learning discipline must be carried out gradually and routinely so that it becomes a student habit. In relation to learning activities, peers can positively increase self-confidence, and foster collaboration, so that students will be able to learn to solve problems of learning difficulties which in the end students can achieve the desired academic success, but on the contrary if peers are not conducive then will have a negative impact so that students are unable to develop strategies for the learning process, which in the end can have a negative impact on their academic success. Peers are an important factor in determining academic success and the influence of peers on educational outcomes is significant (Coleman, 1968), (Winston & Zimmerman, 2004), (Fraser & Kahle, 2007). The presence of peers can motivate student and lead to the concentration of high-performing students in schools with abundant resources. This research explains that there is a relationship between peers and student achievement and there is an indirect relationship through student motivation. Indirectly, peer influence is very important, where student characteristics and behavior influence the behavior of other students. This is supported by the assumptions of Bandura's learning theory where individuals learn by imitating what is in their environment, especially the behavior of other people (Surya, 2004). However, this is contrary to (Crowe et al., 2015; Anita & Wahyudin, 2018). here is also a relationship between the peer environment and learning discipline, as students' discipline levels are often influenced by their social environment, including their peers.. As explained by (Tu'u, 2004), it is easier for students to imitate what they see as role models, rather than what they hear, therefore examples from people around them are very influential. Changes in behavior that arise as a result of the peer environment are that if someone associates with friends who have a high level of discipline then that person can be influenced to have a high level of discipline too. However, on the other hand, if someone hangs out with friends who are lazy or have a low level of discipline, then it is very possible

for that person to be influenced to become a lazy person too. As stated by Santoso (2006) that "some influences in peer groups are positive and some are negative"

## Conclusion

This research aims to determine the influence of learning discipline on students' academic success with peers as a moderator variable. The research results show that student academic success is influenced by the level of discipline; and peer factors moderate the influence of learning discipline on student academic success. Models with moderating effects tend to be more effective than models without moderating effects in explaining variations in the levels of academic success of respondents.

This means that academic success will be even better if it is supported by positive peer factors as an extrinsic motivation factor, students need peers who can support their learning activities.

## Limitations and Recommendations

This research tests 3 of the 6 academic achievement indicators from York, et.al, (2015), namely academic achievement, satisfaction, and skills and competency variables. The research seems to be more complete and better if it tries to test the six indicators of academic achievement, as well as being able to expand the population and research sample.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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