

The Effect of Interpersonal Communication on Academic Productivity among Generation Z Students: The Mediating Role of Self-Efficacy

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ABSTRACT : This study aims to examine the effect of interpersonal communication on academic productivity among Generation Z students through the mediating role of self-efficacy. The study employed a quantitative approach with data collected from 191 respondents using a structured questionnaire. Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. The findings indicate that interpersonal communication has a positive and significant effect on self-efficacy and academic productivity. Self-efficacy also has a significant positive effect on academic productivity. In addition, self-efficacy significantly mediates the relationship between interpersonal communication and academic productivity. These findings suggest that supportive interpersonal communication can strengthen students' confidence and improve their academic productivity. The study contributes to the understanding of psychological and communication factors influencing academic outcomes among Generation Z students.

KEYWORDS : *Interpersonal Communication, Self-Efficacy, Academic Productivity, Generation Z, Mediation*

I. INTRODUCTION

The rapid development of digital technology has transformed the learning environment of higher education, particularly for Generation Z students who are characterized as digital natives. This generation is highly exposed to fast-paced communication, multitasking, and technology-driven interactions, which influence their academic behavior and learning patterns. While such characteristics provide advantages in accessing information and fostering collaboration, they also pose challenges in maintaining academic focus and productivity. Academic productivity, therefore, is not merely reflected in academic achievement, but also in students' ability to complete tasks efficiently, maintain consistency in engagement, and manage academic demands effectively (Sianipar. et al., 2024).

In this context, interpersonal communication plays a crucial role in shaping students' academic experiences. Effective interpersonal communication between students and lecturers, as well as among peers, facilitates knowledge exchange, emotional support, and collaborative learning. According to DeVito (DeVito, 2019), interpersonal communication involves the process of sending and receiving messages between individuals that influence understanding and relationship quality. In academic settings, open and supportive communication enables students to receive constructive feedback, clarify academic tasks, and develop a deeper understanding of learning materials (Helaluddin *et al.*, 2023). These interactions not only enhance cognitive outcomes but also contribute to students' psychological readiness in facing academic challenges.

From a theoretical perspective, the relationship between interpersonal communication and academic productivity can be explained through Albert Bandura Social Cognitive Theory, which emphasizes the interaction between environmental, personal, and behavioral factors (Bandura, 1986). Within this framework, interpersonal communication represents the social environment that provides external stimuli, while self-efficacy functions as a key personal factor influencing behavior. Self-efficacy refers to an individual's belief in their ability to organize and execute actions required to achieve specific goals (Bandura, 1997). In academic contexts, students with high self-efficacy tend to demonstrate greater persistence, stronger motivation, and more effective learning strategies, leading to improved academic productivity.

Previous studies have indicated that interpersonal communication significantly influences self-efficacy by providing social persuasion, observational learning, and emotional support (Altman, Irwin and Taylor, 1973). In addition, self-efficacy has been widely recognized as a strong predictor of academic performance and productivity (Schunk, 2012). However, most existing studies tend to examine these relationships separately, focusing either on the direct effect of interpersonal communication on self-efficacy or the effect of self-efficacy on academic outcomes. Limited research has explored the integrative mechanism that connects these variables simultaneously, particularly in the context of Generation Z students in higher education (Meng and Zhang, 2023).

This gap highlights the need for a more comprehensive analysis that explains how interpersonal communication influences academic productivity through self-efficacy as a mediating variable (Novitasari, 2025). Therefore, this study aims to examine the effect of interpersonal communication on academic productivity among Generation Z students, with self-efficacy serving as a mediator (Syidad and Julaihah, 2025). By integrating these variables into a unified model, this study is expected to provide deeper insights into the psychological and social mechanisms that underlie academic productivity and offer practical implications for improving student performance in higher education.

II. LITERATUR REVIEW

Interpersonal communication plays a fundamental role in shaping students' academic experiences within higher education. It involves the exchange of messages that influence understanding, relationships, and collaborative processes among individuals (Suryana and Permana, 2025). In academic settings, effective communication between students and lecturers, as well as among peers, facilitates the delivery of information, clarification of academic tasks, and the provision of feedback. These interactions create a supportive learning environment that enhances students' engagement and participation in academic activities.

The influence of interpersonal communication extends beyond information exchange and affects students' internal psychological conditions, particularly self-efficacy. Through interaction, students receive feedback, social support, and opportunities for observational learning, which contribute to the development of self-efficacy (Berger, Charles R. and Calabrese, 1975). Within the framework of Albert Bandura Social Cognitive Theory, these forms of social interaction function as sources of verbal persuasion and vicarious experience, both of which are essential in strengthening individuals' belief in their capabilities (Bandura, 1986)

Self-efficacy refers to an individual's belief in their ability to organize and execute actions required to achieve specific goals (Abdullah, Psikologi and Mercuri, 2019). In academic contexts, self-efficacy determines how students approach tasks, the level of effort they invest, and their persistence when facing difficulties. Students with high self-efficacy tend to demonstrate greater motivation, resilience, and the ability to regulate their learning strategies effectively, which ultimately supports better academic outcomes (Woreta and Zewude, 2025)

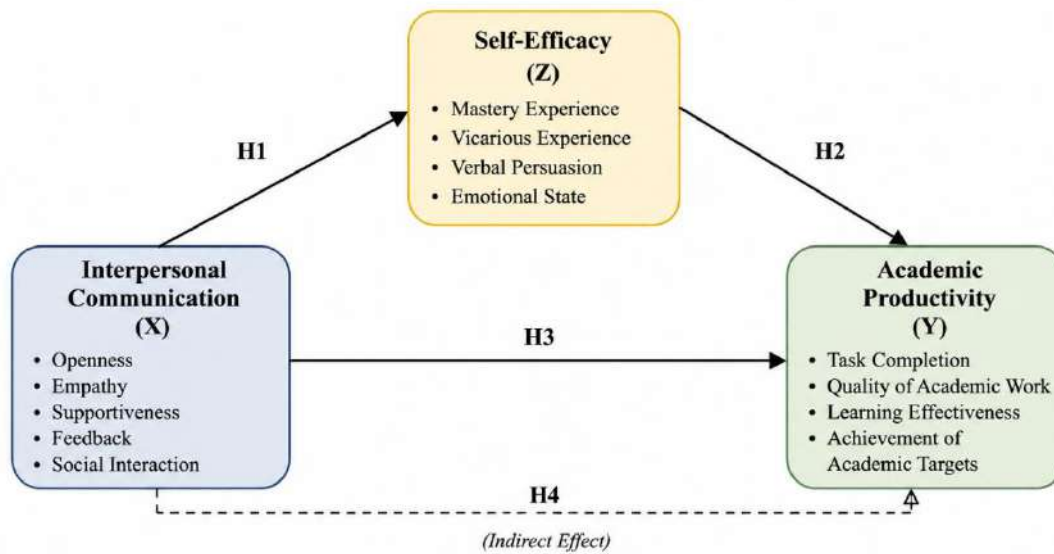
Self-efficacy has been widely recognized as a strong predictor of academic productivity. Students who believe in their abilities are more likely to complete academic tasks on time, maintain consistency in learning, and achieve better academic performance. Academic productivity is not limited to grades but also includes task completion, quality of work, and learning effectiveness. The interaction between confidence and behavior plays a crucial role in determining how students manage academic responsibilities (Utari *et al.*, 2022)

Previous studies have examined the relationships between interpersonal communication, self-efficacy, and academic outcomes, yet most of them focus on direct effects between variables (Bakar, 2015). Limited research has explored the mediating role of self-efficacy in explaining how interpersonal communication influences academic productivity, particularly among Generation Z students (Jana, 2024). This gap highlights the need for an integrated model that explains both the relationship and the underlying mechanism connecting these variables.

Conceptual framework

Based on the theoretical and empirical review, this study proposes a conceptual framework that illustrates the relationship between interpersonal communication, self-efficacy, and academic productivity. The model also incorporates the mediating role of self-efficacy in explaining how interpersonal communication influences academic productivity.

Figure 1. Conceptual Framework



The conceptual framework shows that interpersonal communication is expected to have both direct and indirect effects on academic productivity. The indirect effect occurs through self-efficacy, which acts as a mediating variable linking social interaction and academic outcomes.

Based on the theoretical and empirical considerations above, this study proposes the following hypotheses:

H1: Interpersonal communication has a positive effect on self-efficacy among Generation Z students.

H2: Self-efficacy has a positive effect on academic productivity among Generation Z students.

H3: Interpersonal communication has a positive effect on academic productivity among Generation Z students.

H4: Self-efficacy mediates the relationship between interpersonal communication and academic productivity among Generation Z students.

III. METHODS

Research Design and Study Setting

This study employed a quantitative approach with an explanatory research design to examine the relationships between interpersonal communication, self-efficacy, and academic productivity among Generation Z students (Prof Dr. Sugiono, 2013). The study was conducted in Jakarta and Banten, representing urban student populations with diverse academic and social backgrounds.

Population and Sample

The population of this study consisted of Generation Z students in higher education. A purposive sampling technique was applied based on criteria such as active student status and willingness to participate (Dr. Drs. H. Rifai Abubakar, 2021). A total of 191 respondents were included in the study.

The solvin formula is expressed as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Description:

n = Number of Samples

N = Population Size

e = Error tolerance

$$n = \frac{20610}{1 + 20610(0.005625)^2}$$

$$n = \frac{20610}{1 + 116.94}$$

$$n = \frac{20610}{117.94}$$

$$n \approx 174.7 \rightarrow 175$$

The sample size was determined using the Slovin formula. Based on a population of 20,610 students and a margin of error of 7.5%, the minimum required sample was 175 respondents. However, this study involved 191 respondents to increase the accuracy and reliability of the findings (Saputra, 2022).

Data Collection and Research Instrument

Data were collected using a structured questionnaire distributed to Generation Z students in Jakarta and Banten. The questionnaire was developed based on established indicators from previous studies and measured using a Likert scale. Interpersonal communication was measured through openness, empathy, supportiveness, feedback, and social interaction. Self-efficacy was assessed using dimensions such as mastery experience, vicarious experience, verbal persuasion, and emotional state. Academic productivity was measured through task completion, quality of academic work, learning effectiveness, and achievement of academic targets. All questionnaire items were measured using a five-point Likert scale ranging from strongly disagree to strongly agree.

Instrument Testing and Ethical Considerations

Instrument testing was conducted through validity and reliability assessments using PLS-SEM with SmartPLS software. The validity test was evaluated using outer loading, Average Variance Extracted (AVE), discriminant validity, and HTMT, while reliability was assessed through Cronbach's Alpha and Composite Reliability. The results indicated that all constructs met the required criteria for validity and reliability.

Ethical considerations were addressed by ensuring voluntary participation and confidentiality of respondents' data. Respondents were informed that the collected data would be used only for academic purposes.

Data Analysis Technique

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. The analysis included evaluation of the measurement model (outer model) and structural model (inner model), as well as hypothesis testing and mediation analysis using bootstrapping procedures.

IV. RESULT

Respondent Characteristics

The respondents in this study consisted of 191 Generation Z students. The majority were aged between 20–22 years, with the highest proportion at age 21. In terms of gender, female respondents dominated the sample, accounting for 73.3%, while male respondents accounted for 26.7%. The characteristics of respondents are presented in Table 1. The majority of respondents were

Category	Frequency	Percentage
Male	51	26.7%
Female	140	73.3%
Total	191	100%

Table 1 Characteristics of Respondents

Descriptive Statistics

Descriptive statistics show that all variables are at a high level. Interpersonal communication has a mean value of 3.41 (SD = 0.63), academic productivity has a mean of 3.33 (SD = 0.67), and self-efficacy has a mean of 3.21 (SD = 0.74).

Variable	Mean	Std. Deviation
Interpersonal Communication	.41	0.63
Self-Efficacy	.21	0.74
Academic Productivity	.33	0.67

Measurement Model (Outer Model)

All indicators show outer loading values above 0.50, indicating that each indicator is valid in measuring its respective construct

Indicator	Interpersonal Communication	Self-Efficacy	Academic Productivity
KI1	> 0.50		
KI2	> 0.50		

SE1		> 0.50	
SE2		> 0.50	
AP1			> 0.50
AP2			> 0.50

Average Variance Extracted (AVE)

The Average Variance Extracted (AVE) values for interpersonal communication (0.518) and self-efficacy (0.510) exceed the recommended threshold of 0.50. Although academic productivity has an AVE value of 0.497, it is still considered acceptable due to its proximity to the threshold

Variable	AVE	Cronbach Alpha	Composite Reliability
Interpersonal Communication	0.518	> 0.80	> 0.80
Self-Efficacy	0.510	> 0.80	> 0.80
Academic Productivity	0.497	> 0.80	> 0.80

Discriminant Validity (Fornell-Larcker)

The Fornell-Larcker criterion indicates that some constructs show high correlations; however, overall discriminant validity is considered acceptable for further analysis

	x1	y	z
x1	0.677		
y	0.759	0.661	
z	0.660	0.766	0.714

HTMT

The HTMT values are mostly below the threshold of 0.90, indicating acceptable discriminant validity among constructs

	x1	y	z
x1			
y	0.887		
z	0.729	0.863	

Reliability

All constructs demonstrate high reliability, with Cronbach's Alpha and Composite Reliability values above 0.80, indicating strong internal consistency

	Cronbach's alpha	Composite reliability (rho_c)
x1	0.851	0.883
y	0.838	0.874
z	0.913	0.926

Structural Model (Inner Model)

The R-square value for academic productivity is 0.733, indicating that 73.3% of the variance is explained by interpersonal communication and self-efficacy. Meanwhile, the R-square value for self-efficacy is 0.476, indicating moderate explanatory power

Variable	R Square
Self-Efficacy	.476
Academic Productivity	.733

Hypothesis Testing (Bootstrapping)

The results show that interpersonal communication has a significant positive effect on self-efficacy ($\beta = 0.406, p < 0.001$), and self-efficacy has a significant positive effect on academic productivity ($\beta = 0.404, p < 0.001$). Interpersonal communication also directly affects academic productivity ($\beta = 0.421, p < 0.001$)

Hypothesis	Relationship	Coefficient (β)	P-Value	Result
H1	Interpersonal Communication → Self-Efficacy	0.406	<0.001	Supported
H2	Self-Efficacy → Academic Productivity	0.404	<0.001	Supported

H3	Interpersonal Communication → Academic Productivity	0.421	<0.001	Supported
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Mediation Effect

The indirect effect of interpersonal communication on academic productivity through self-efficacy is significant ($\beta = 0.164$, $p < 0.001$), indicating that self-efficacy mediates the relationship between interpersonal communication and academic productivity

Relationship	Indirect Effect (β)	P-Value	Result
Interpersonal Communication → Self-Efficacy → Academic Productivity	0.164	<0.001	Supported

V. DISCUSSION

The findings indicate that interpersonal communication has a positive and significant effect on self-efficacy among Generation Z students. This result suggests that the quality of interaction experienced by students contributes to the development of confidence in their academic abilities. Communication characterized by openness, empathy, feedback, and supportive interaction allows students to feel more confident in expressing opinions, completing academic tasks, and overcoming learning difficulties. Social interaction also provides emotional reinforcement that strengthens students' beliefs in their own capabilities.

These findings are consistent with Albert Bandura Social Cognitive Theory, which explains that self-efficacy develops through social experiences, verbal persuasion, and observational learning (Bandura, 1997). Interpersonal communication creates opportunities for students to receive encouragement, observe successful academic behavior, and gain constructive feedback from lecturers and peers. Such experiences gradually shape positive self-perceptions and increase students' confidence in handling academic responsibilities.

The results also support previous studies which state that supportive communication environments contribute significantly to the formation of self-efficacy (Pajares, 1996; Schunk, 2012). Students who actively engage in interpersonal interaction tend to have better emotional adaptation and stronger academic confidence compared to students with limited communication experiences.

The study also reveals that self-efficacy has a significant positive effect on academic productivity. Students with strong self-efficacy demonstrate higher persistence, better learning management, and greater consistency in completing academic tasks. Confidence in personal ability encourages students to remain motivated even when facing academic pressure or challenges. As a result, students become more capable of maintaining learning effectiveness and achieving academic targets.

This finding aligns with previous research emphasizing that self-efficacy influences behavioral persistence and academic achievement (Bandura, 1986; Schunk, 2012). Students who believe in their abilities tend to invest greater effort in academic activities and are less likely to experience academic disengagement. Self-efficacy also affects how students regulate emotions, organize study strategies, and respond to failure. These factors ultimately contribute to increased academic productivity.

The current findings reinforce the argument that psychological factors are essential in understanding student academic performance, particularly among Generation Z students who often face distractions and academic pressure within highly digitalized learning environments.

The results further indicate that interpersonal communication directly affects academic productivity. Effective communication enables students to obtain information clearly, coordinate academic tasks efficiently, and build collaborative learning relationships. Students who experience positive communication with lecturers and peers tend to demonstrate stronger academic engagement and improved task completion.

Interaction within academic environments also creates social support systems that encourage students to remain active in the learning process. Communication that includes feedback, understanding, and emotional support contributes not only to cognitive development but also to students' academic motivation. These findings indicate that academic productivity is influenced not only by individual capability but also by the quality of social interaction surrounding students.

The mediation analysis demonstrates that self-efficacy significantly mediates the relationship between interpersonal communication and academic productivity. This finding indicates that interpersonal communication not only directly influences academic productivity but also strengthens students' confidence, which subsequently enhances their academic performance. The mediating effect explains the psychological mechanism through which social interaction contributes to academic outcomes.

These results provide empirical support for Albert Bandura Social Cognitive Theory, particularly the interaction between environmental and personal factors in shaping behavior. Interpersonal communication functions as an external social stimulus, while self-efficacy acts as an internal psychological mechanism that translates social experiences into productive academic behavior.

VI. CONCLUSION

This study examined the effect of interpersonal communication on academic productivity among Generation Z students, with self-efficacy acting as a mediating variable. The findings demonstrate that interpersonal communication has a positive and significant effect on self-efficacy and academic productivity. Self-efficacy also shows a significant positive influence on academic productivity. In addition, the mediation analysis confirms that self-efficacy plays an important role in mediating the relationship between interpersonal communication and academic productivity.

These findings indicate that effective interpersonal communication contributes not only to students' academic interactions but also to the development of confidence in their academic abilities. Students who experience supportive communication environments tend to demonstrate stronger self-belief, better learning persistence, and higher academic productivity. The results reinforce Albert Bandura Social Cognitive Theory, which emphasizes the interaction between environmental and personal factors in shaping behavior.

This study contributes to the existing literature by providing an integrated explanation of how interpersonal communication influences academic productivity through self-efficacy among Generation Z students. Practically, the findings suggest the importance of creating supportive communication environments in higher education to strengthen students' confidence and improve academic outcomes.

Future studies are recommended to explore additional variables that may influence academic productivity, such as learning motivation, academic stress, or digital learning behavior, as well as involving broader respondent characteristics to obtain more comprehensive findings.

Recommendation and Future Research

Higher education institutions are encouraged to create supportive communication environments that strengthen students' self-efficacy and academic productivity. Lecturers may improve interactive communication and provide constructive feedback to enhance student engagement in academic activities.

This study was limited to Generation Z students in Jakarta and Banten and focused only on interpersonal communication, self-efficacy, and academic productivity. Future research is recommended to involve broader samples and explore additional variables such as learning motivation, academic stress, or digital learning behavior.

REFERENCES

- [1] Abdullah, S.M., Psikologi, F. and Mercuri, U. (2019) 'Social Cognitive Theory': Available at: <https://doi.org/10.24167/psidim.v18i1.1708>.
- [2] Altman, Irwin and Taylor, D.A. (1973) *Social Penetration: The Development of Interpersonal Relationships*. New York, NY: Holt, Rinehart and Winston.
- [3] Bakar, F.A. (2015) 'Pengaruh Komunikasi Interpersonal Antara Dosen Dan Mahasiswa Terhadap Motivasi Belajar Dan Prestasi Belajar Akademik Mahasiswa', *Jurnal Pekommas*, 1(1), p. 18.
- [4] Bandura, A. (1986) *Social Foundations of Thought and Action: A Social Cognitive Theory*. 1st Editio. Prentice Hall. Available at: https://en.wikipedia.org/wiki/Social_Foundations_of_Thought_and_Action.
- [5] Bandura, A. (1997) *Self-Efficacy: The Exercise of Control*. 1st editio. New York, NY: W. H. Freeman and Company. Available at: <https://archive.org/details/selfefficacyexer000band>.
- [6] Berger, Charles R. and Calabrese, R.J. (1975) 'Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication', *Human Communication Research*, 1, pp. 99–112. Available at: <https://doi.org/10.1111/j.1468-2958.1975.tb00258.x>.
- [7] DeVito, J.A. (2019) *The Interpersonal Communication Book*. 15th editio. Pearson Education.
- [8] Dr. Drs. H. Rifai Abubakar (2021) *Pengantar metodologi penelitian*.
- [9] Helaluddin *et al.* (2023) 'Gen Z Students Perception of Ideal Learning in Post-Pandemic: A Phenomenological Study From Indonesia', *International Journal of Educational Methodology*, 9(2), pp. 423–434. Available at: <https://doi.org/10.12973/ijem.9.2.423>.
- [10] Jana, A. (2024) 'Time Management and Self-Motivation Skills for Academic Success in Students: A Comprehensive Review', 7(11), pp. 105–119.
- [11] Meng, Q. and Zhang, Q. (2023) 'The Influence of Academic Self-Efficacy on University Students' Academic Performance: The Mediating Effect of Academic Engagement'.
- [12] Novitasari, M. (2025) 'TERHADAP PRODUKTIVITAS AKADEMIK MAHASISWA PENDIDIKAN EKONOMI (Survei Mahasiswa Pendidikan Ekonomi Universitas Siliwangi Angkatan 2022-2023)', 2(4), pp. 61–73.
- [13] Prof Dr. Sugiono (2013) *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Alfabeta, Bandung.
- [14] Saputra, N. (2022) *Metodologi penelitian kuantitatif*.
- [15] Schunk, D.H. (2012) *Learning Theories: An Educational Perspective*. 6th edn. Boston, MA: Pearson Education.

- [16] Sianipar. et al., 2024 (2024) 'PENGARUH MANAJEMEN WAKTU TERHADAP PRODUKTIVITAS BELAJAR PENGGUNA MEDIA MAHASISWA UNIVERSITAS QUALITY THE INFLUENCE OF TIME MANAGEMENT ON THE LEARNING PRODUCTIVITY OF SOCIAL MEDIA USERS IN THE EDUCATIONAL ENVIRONMENT OF STUDENTS', 3, pp. 1–15.
- [17] Suryana, M.A. and Permana, L.A. (2025) 'The Role of Interpersonal Communication in Enhancing Student ' s Academic Success and Social Skill at Vocational College , Universitas Diponegoro', 2(1), pp. 23–28.
- [18] Syidad, A.W. and Julaihah, U. (2025) 'The Effect of Self-Efficacy and Peers on Student Time Management Skills Abstrak', 16(01), pp. 57–68.
- [19] Utari, S. *et al.* (2022) 'Pengaruh Self Efficacy Terhadap Prestasi Akademik Melalui', 3(1), pp. 36–43.
- [20] Woreta, G.T. and Zewude, G.T. (2025) 'The Mediating Role of Self-Efficacy and Outcome Expectations in the Relationship Between Peer Context and Academic Engagement : A Social Cognitive Theory Perspective', pp. 1–24.