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The Relationship between Curiosity and Learning Independence of High School Students in Yogyakarta

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Abstract

Background: This study investigates the relationship between students' curiosity and their learning independence. Curiosity, as a form of intrinsic motivation, plays a crucial role in encouraging students to explore, question, and engage more deeply in the learning process. **Objective:** This research examines how students' curiosity contributes to the development of their learning independence. The research was conducted on 142 grade XI students from a public high school in Yogyakarta using a quantitative correlational approach. Data were collected through validated and reliable questionnaires, with items based on psychological indicators of curiosity and aspects of learning independence. **Method:** The analysis included validity and reliability testing, normality testing, and Pearson's Product-Moment correlation. **Results:** Results show a very strong and statistically significant relationship between curiosity and learning independence ($r = 0.976$, $p < 0.001$). **Conclusion:** These findings suggest that curiosity serves as a foundation for enhancing students' ability to learn autonomously. The study emphasizes the importance of fostering curiosity as a key strategy to promote self-directed learning and improve overall learning effectiveness.

Keywords: Curiosity; learning independence; student

Abstrak

Latar Belakang: Penelitian ini menyelidiki hubungan antara rasa ingin tahu siswa dan kemandirian belajar mereka. Rasa ingin tahu, sebagai bentuk motivasi intrinsik, memainkan peran penting dalam mendorong siswa untuk mengeksplorasi, bertanya dan terlibat lebih dalam dalam proses belajar. **Tujuan**: Penelitian ini bertujuan untuk mengkaji bagaimana rasa ingin tahu siswa berkontribusi terhadap perkembangan kemandirian belajar mereka. Penelitian ini dilakukan terhadap 142 siswa kelas XI dari sebuah sekolah menengah atas negeri di Yogyakarta dengan menggunakan pendekatan korelasional kuantitatif. Data dikumpulkan melalui kuesioner yang telah divalidasi dan diandalkan, dengan item-item yang didasarkan pada indikator psikologis keingintahuan dan aspek-aspek kemandirian belajar. **Metode**: Analisis meliputi pengujian validitas dan reliabilitas, pengujian normalitas, dan korelasi Moment Produk Pearson. **Hasil:** Hasil menunjukkan hubungan yang sangat kuat dan signifikan secara statistik antara keingintahuan dan kemandirian belajar ($r = 0{,}976$, $p < 0{,}000$). **Kesimpulan**: Temuan ini menunjukkan bahwa keingintahuan berfungsi sebagai fondasi untuk meningkatkan kemampuan siswa dalam belajar secara mandiri. Penelitian ini menekankan pentingnya menumbuhkan keingintahuan sebagai strategi utama untuk mendorong pembelajaran mandiri dan meningkatkan efektivitas pembelajaran secara keseluruhan.

Kata kunci: Kemandirian belajar; rasa ingin tahu; siswa

Introduction

Students' learning independence is a crucial part based on the learning process in order to achieve good learning output. Student independence from learning is the freedom of learning where students can shape their learning independently and responsibly without always depending on others. The level of learning independence of learners can be determined by the effort and sense of responsibility of the learners themselves to be actively involved in planning learning, implementing/processing learning and evaluating learning (Arofah & Ningsi, 2023). Independence in students will require students to be active both during learning and outside of learning. Independent students will prepare the material studied or repeat the material that has been studied. When viewed from a cognitive point of view, by learning independently, a durable concept of knowledge will be obtained so that it will affect students' academic learning outcomes (Riyanti et al., 2021; Masitoh & Herman, 2024).

Independence also includes attitudes and behaviors that allow individuals to act autonomously, productively, and accountably, with strong intrinsic motivation. An independent individual is able to organize themselves according to their duties and obligations, so that they can overcome various problems that arise and take responsibility for their behavior (Alviah et al., 2023). The demand to be independent in order to complete further developmental tasks is not easy for adolescents, to be independent requires opportunities, support and encouragement in order to achieve independence over oneself jmp (Hidayat et al., 2020).

Independent learning does not mean studying in isolation but rather emphasizes students' ability to manage their learning process responsibly and autonomously without excessive dependence on teachers or peers. The essence of independent learning lies in developing students' capacity to plan, monitor, and evaluate their learning effectively based on their own goals and initiatives. This learning attitude reflects autonomy, confidence, and intrinsic motivation that drive students to explore knowledge and improve their competencies in cognitive, affective, and psychomotor domains. Through this process, students can connect academic experiences with real-life situations, utilize time more efficiently, and control their thoughts and emotions to achieve meaningful learning outcomes (Ramadhani & Fitria, 2021).

Students with a high level of learning independence tend to take greater responsibility for their learning, show persistence in achieving goals, and rely on their own abilities to complete academic tasks. This independence allows them to develop problem-solving skills and a stronger sense of accountability in the learning process (Ilmaknun & Ulfah, 2023). Learning independence, however, is not formed instantly but influenced by various internal and external factors. Internal factors include motivation, self-discipline, initiative, and self-confidence, while external factors involve the support of parents, teachers, and the learning environment (Safitri et al., 2021). Strengthening both aspects is essential because high learning independence encourages effective and efficient learning behavior and contributes to students' academic success (Zainudin et al., 2024).

Independent learning can be achieved when students possess a strong sense of curiosity that drives them to seek new knowledge and understand their environment. Within the framework of Self-Determination Theory (SDT), curiosity represents a form of intrinsic motivation that emerges when individuals experience autonomy and competence in learning (Harianja, 2020). This intrinsic drive encourages students to explore, ask questions, and engage in learning activities not because of external rewards, but due to internal satisfaction and the desire to master knowledge. Thus, curiosity-driven learning becomes a fundamental component of self-directed education in the 21st century.

Empirical studies support this theoretical link. Zainudin et al (2024) found that both curiosity and learning independence significantly contribute to students' scientific literacy, suggesting that curiosity fosters autonomous learning behavior. Similarly, Agustin et al (2023) emphasized that curiosity enhances engagement, deepens comprehension, and strengthens critical thinking and problem-solving skills. Students with high curiosity are more proactive in managing their own learning process, traits that align closely with the concept of learning independence.

In the educational context, developing curiosity aligns with the objectives of the 2013 Curriculum, which identifies curiosity as a core character value to be cultivated through learning. Indicators of curiosity include asking questions, seeking additional information, and engaging in reflective discussions Ministry of National Education. However, its implementation remains challenging, as teacher-centered instruction often limits opportunities for students to express curiosity and autonomy (Rudiyanto, 2019; Bayuningrum, 2021). Therefore, educators must create learning environments that support students' autonomy, encourage exploration, and nurture curiosity as an intrinsic foundation for independent learning.

Curiosity plays a pivotal role in nurturing students' enthusiasm for learning and expanding their knowledge horizons. When students possess high curiosity, they become more motivated to explore,

investigate, and apply new information in meaningful ways. This internal drive not only strengthens their conceptual understanding but also supports the development of independent learning behaviors, as they rely more on self-directed exploration rather than constant teacher guidance (Kurniawan & Lisarani, 2021; Zainudin et al, 2024).

Developing curiosity in learning is the key to improving students' learning independence. Curiosity as an initial impetus will form a proactive and critical learning attitude so that students are able to find solutions and overcome learning obstacles independently. Therefore, educators need to create a conducive learning environment and provide stimulation that can trigger students' curiosity so that they are not only passive recipients, but also active actors in the learning process (Rachmawati et al., 2022).

Many studies have addressed curiosity and learning independence separately, but few studies have specifically examined the relationship between curiosity and learning independence in learners at the secondary school level. In addition, most studies emphasize the motivation aspect of learning in general without elaborating on the role of curiosity as a major factor in shaping learning independence. Therefore, this study is important to fill the gap and provide a clearer picture of the relationship between the two variables in the learning context.

The purpose of this paper is to analyze the relationship between curiosity and students' learning independence. By understanding the relationship, it is expected to provide insight for educators and educational practitioners in developing learning strategies that can increase curiosity as well as student learning independence so that learning outcomes become more optimal.

Method

This study was conducted after obtaining informed consent from participants who served as respondents. The researcher first explained the purpose, procedure, and benefits of the study to ensure participants' understanding. Participation was entirely voluntary, and all respondents signed a consent form indicating their willingness to participate. The confidentiality and anonymity of participant data were strictly maintained throughout the research process.

The questionnaires used in this study were adapted from previously validated scales based on established psychological theories of curiosity and learning independence. Each instrument underwent validity and reliability testing before data collection. The Pearson's Product Moment correlation was employed to analyze the relationship between the two variables, as both datasets were continuous and normally distributed, fulfilling the assumptions required for this statistical technique.

Sample or Population

The population in this study were all grade XI students in one of the State Senior High Schools with a total of 220 students. From this population, a sample of 142 was taken with the calculation of Slovin. Then, the sampling used simple random sampling technique, which is random sampling that provides equal opportunities for each member of the population to be selected as a sample. Inclusion criteria were set so that only students who were at grade XI level and willing to participate were used as respondents.

The characteristics of the respondent in this study consisted of male and female students aged between 16 and 17 years, with diverse academic backgrounds. All participants were active students who participated in the learning process in the current academic year.

Data Measurement

Data collection in this study used a questionnaire instrument that had been developed and tested for validity and reliability. To measure students' curiosity character, a scale was used which was compiled based on psychological indicators of curiosity. Meanwhile, to measure students' learning independence, an instrument with indicators covering aspects such as learning responsibility, initiative, and self-discipline was used.

Each statement item in the questionnaire uses a Likert scale with four answer options, namely: very appropriate, appropriate, inappropriate, and very inappropriate. The data obtained from this instrument was then coded and processed using statistical software.

Data Analysis

The data that has been collected is analyzed quantitatively with the help of statistical programs. The first stage in the analysis is to conduct a validity test to determine the extent to which each instrument item is able to measure the intended variable, and a reliability test to measure the internal consistency of the instrument. Furthermore, a normality test was conducted to ensure that the data was normally distributed, as

well as a correlation test with Pearson's Product Moment technique to determine the relationship between the curiosity variable and student learning independence.

The Product Moment correlation technique is used because the data comes from an interval scale and has met the requirements of parametric tests. All of these analysis procedures aim to obtain valid results and can be scientifically accounted for.

Result

To ensure that the instrument can be used as an accurate measuring tool, the researcher piloted the curiosity scale and learning independence to students who were not part of the research sample before starting the research. To assess the validity and reliability of the research instrument, the results of the instrument trial using the IBM SPSS version 26 statistical software can be compared with the Rtabel product-moment value with a significance level of 5% and tested up to N = 50 respondents, resulting in an Rtabel of 0.279.

Table 1. Curiosity validity test results

Statement	Rhitung	Rtabel (5%)	Validity Result
1	.666*	0,279	Valid
2	.638*	0,279	Valid
3	.449*	0,279	Valid
4	.720*	0,279	Valid
5	.601*	0,279	Valid
6	.644*	0,279	Valid
7	.767*	0,279	Valid
8	.634*	0,279	Valid
9	.610*	0,279	Valid
10	.589*	0,279	Valid
11	.749**	0,279	Valid
12	.544**	0,279	Valid
13	.317**	0,279	Valid
14	.359**	0,279	Valid
15	.559**	0,279	Valid

Table 2. Validity test results of learning independence

Statement	Rhitung	Rtabel (5%)	Validity Result
1	.666*	0,279	Valid
2	.638*	0,279	Valid
3	.449*	0,279	Valid
4	.720*	0,279	Valid
5	.601*	0,279	Valid
6	.644*	0,279	Valid
7	.767*	0,279	Valid
8	.634*	0,279	Valid
9	.610*	0,279	Valid
10	.589*	0,279	Valid
11	.751*	0,279	Valid
12	.550*	0,279	Valid
13	.318*	0,279	Valid
14	.359*	0,279	Valid
15	.534*	0,279	Valid

Tables 1 and 2 present the results of the validity tests for the Curiosity and Learning Independence instruments, each consisting of 15 statement items. Based on the Pearson Product Moment analysis, all r-count values exceed the r-table value of 0.279 at the 5% significance level. This indicates that every item in both instruments is valid.

The r-count values range from 0.317 to 0.767 for the Curiosity scale and 0.318 to 0.767 for the Learning Independence scale, showing that each statement item has a positive and significant correlation with the total score. Therefore, all items from both instruments meet the validity requirements and are appropriate for use in this study.

Table 3. Reliability test results

Variable	*Cronbach's Alpha*	Status
Curiosity (X)	0,866	Reliable
Learning Independence (Y)	0,913	Reliable

Table 3 presents the results of the reliability test for the two variables in the study, namely curiosity (X) and learning independence (Y). Based on the Cronbach's Alpha value, the curiosity variable obtained a value of 0.866, while learning independence obtained a value of 0.913. Both are above the 0.70 threshold, which indicates that the instruments of each variable have a high level of internal consistency. Thus, the instruments used in this study can be categorized as reliable and suitable for use in data collection.

Table 4. Normality test results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		142
Normal Parameters[a,b]	Mean	0,0000000
	Std. Deviation	7,09711529
Most Extreme Differences	Absolute	0,065
	Positive	0,051
	Negative	-0,065
Test Statistic		0,065
Asymp. Sig. (2-tailed)		.200[c,d]

The results of the normality test using the *One-Sample Kolmogorov-Smirnov* Test on the variables of curiosity and learning independence show that the residual data is normally distributed. The value of Asymp. Sig. (2-tailed) value of 0.200 is above the significance level of 0.05, which means that there is no significant difference between the data distribution and the normal distribution. Thus, it can be concluded that the data of the two variables of curiosity and learning independence meet the assumption of normality, so they are suitable for further analysis using parametric statistical techniques.

Table 5. Correlation test results Correlations

Correlations			
		Curiosity	Learning Independence
Curiosity	Pearson Correlation	1	.976**
	Sig. (2-tailed)		0,000
	N	142	142
Learning Independence	Pearson Correlation	.976**	1
	Sig. (2-tailed)	0,000	
	N	142	142

Table 5 presents the results of the correlation analysis between the variables of curiosity and student learning independence using the Pearson Product-Moment correlation technique. The analysis shows that the correlation coefficient is $r = 0.976$ with a significance level of $p < 0.05$, indicating a very strong and statistically

significant relationship between the two variables. This suggests that higher levels of curiosity are associated with higher levels of learning independence among students.

However, the correlation coefficient (r = 0.976) is unusually high for behavioral constructs, which may indicate potential measurement overlap between the curiosity and learning independence instruments. This suggests that some items on both scales may capture similar aspects of self-directed motivation or intrinsic learning drive.

Theoretically, this strong association could imply that curiosity functions as a motivational foundation for independent learning, intrinsically curious students tend to demonstrate greater self- regulation and autonomy in their learning. Nevertheless, future studies should further examine the distinctiveness of these constructs through confirmatory factor analysis (CFA) or by refining the measurement instruments to ensure construct validity.

Discussion

Curiosity functions as an essential internal mechanism that motivates students to engage continuously in learning, expand their knowledge, and enrich their experiences to meet life's needs. As Gumartifa et al (2022) explain, curiosity reflects how individuals adapt and learn from their environment, forming a key aspect of intrinsic motivation that significantly contributes to learning engagement. Prior research also highlights that curiosity may play a stronger role in promoting educational achievement than cognitive ability alone, as it stimulates higher-order thinking processes such as evaluation, creativity, and innovation (Herwin & Nurhayati, 2021).

In the context of learning, curiosity can be viewed as the initial driver that encourages students to seek novelty, explore new information, and engage deeply with learning materials (Hartini et al., 2020). This aligns with Deci and Ryan's Self-Determination Theory (SDT), which emphasizes autonomy, competence, and relatedness as the core components of intrinsic motivation. When students experience curiosity, they are more likely to exercise autonomy and self-regulation in their learning process, key features of learning independence. Similarly, from a constructivist perspective, curiosity stimulates learners to actively construct knowledge through exploration and reflection, rather than relying solely on teacher direction.

The finding of this study, that curiosity has a very strong and significant correlation with learning independence ($r = 0.976$, $p < 0.05$), supports these theoretical perspectives. However, such a high correlation is uncommon in behavioral research and may indicate conceptual overlap between the two constructs. It is possible that both instruments capture similar dimensions of self-directed motivation or intrinsic drive. Therefore, further research using confirmatory factor analysis (CFA) or refined measurement tools is needed to examine whether curiosity and learning independence are empirically distinct yet related constructs.

Furthermore, this study strengthens the theoretical link between intrinsic motivation and self-regulated learning. According to Bandura's concept of self-efficacy, students who are curious about learning materials tend to believe more strongly in their ability to learn independently. Curiosity thus not only initiates learning behavior but also reinforces students' confidence in managing their own learning tasks effectively.

Practically, the findings imply that educators should design learning environments that encourage exploration, questioning, and reflection. Strategies such as project-based learning and inquiry-based approaches can help nurture curiosity while simultaneously developing students' independence (Yulianti et al., 2024). When curiosity is sustained, it becomes a lasting personal trait that supports lifelong learning.

However, this study also has several limitations. First, the use of self-report questionnaires may introduce bias, as students might respond in socially desirable ways. Second, the study was conducted only in Yogyakarta high schools, limiting the generalizability of results to other cultural or educational contexts. Third, as the design is correlational, it cannot confirm causal relationships between curiosity and learning independence. Future studies should address these limitations through longitudinal or experimental designs and include broader, more diverse samples.

Conclusion

Based on the findings and discussion, it can be concluded that curiosity is a key personality trait that plays an essential role in supporting students' learning independence. High levels of curiosity encourage students to actively explore knowledge, question surrounding phenomena, and seek solutions independently. This internal drive serves as a motivational force that fosters self-regulated learning, where students rely not only on teacher guidance but also on their intrinsic motivation to achieve understanding.

Learning independence that emerges from curiosity enables students to plan, manage, and evaluate their learning processes autonomously. In the context of 21st-century education, this is crucial because the modern world requires individuals who are capable of lifelong learning, critical thinking, and self-directed

personal development. Therefore, strengthening curiosity as an educational character can be an effective strategy to cultivate independent learners.

This study contributes to educational psychology by reinforcing the theoretical connection between intrinsic motivation (as proposed in Self-Determination Theory) and self-regulated learning. It highlights how curiosity functions not merely as an emotional response but as a psychological foundation for autonomous learning behavior.

However, this study has several limitations. The use of self-report questionnaires may introduce response bias, and the research context, limited to schools in Yogyakarta, restricts the generalizability of the findings. Moreover, the correlational design does not establish causality between curiosity and learning independence.

Future research is recommended to employ longitudinal or intervention-based designs to explore causal relationships and to use cross-cultural samples for broader validation. Further studies may also refine measurement instruments to better distinguish the constructs of curiosity and learning independence.

In sum, this research advances the understanding of how intrinsic motivational factors, particularly curiosity, shape independent learning behavior, offering both theoretical insight and practical direction for educators in fostering self-determined learners.

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References

Agustin, C. S., Sari, T. D. V., Aisyah, P., & Anshori, M. I. (2023). Pengembangan Keterampilan Adaptabilitas Karyawan. *Jurnal Nuansa: Publikasi Ilmu Manajemen Dan Ekonomi Syariah*, 1(4), 119–140. https://doi.org/10.61132/nuansa.v1i4.363

Alviah, S. N., Oktrifianty, E., & Huliatunisa, Y. (2023). Kemandirian Belajar Siswa Kelas V Sekolah Dasar Pada Pembelajaran Tematik. *Jurnal Educatio*, 9(4), 1863–1868. https://doi.org/10.31949/educatio.v9i4.5827

Arofah, I., & Ningsi, B. A. (2023). Hubungan Kemandirian Belajar dan Hasil Belajar Matematika Ditinjau dari Meta Analisis. *Jurnal Cendekia: Jurnal Pendidikan Matematika*, 7(1), 480–489. https://doi.org/10.31004/cendekia.v7i1.1898

Bayuningrum, W. A. (2021). Curiosity dalam kehidupan sehari-hari. *Psychological Journal: Science and Practice*, 1(1), 32–36. https://doi.org/10.22219/pjsp.v1i1.15706

Gumartifa, A., Windra Dwie Agustiani, I., & Elfarissyah, A. (2022). Curiosity Factors and English Language Achievements: Non-English Students Department. *English Education Journal*, 12(1), 47–54. https://doi.org/10.15294/eej.v12i1.51764

Harianja, J. K. (2020). Mengembangkan Sikap Rasa Ingin Tahu (Curiosity) Pada Pelajaran Fisika Menggunakan Model Pembelajaran Flipped Classroom. *Jurnal Pendidikan Fisika Dan Teknologi*, 6(1), 121–130. https://doi.org/10.29303/jpft.v6i1.1738

Hartini, H., Harmi, H., Fadila, F., Wahyudi M, E., & Warlizasusi, J. (2020). Expressing the level of curiosity of students studying in college. *Jurnal Konseling Dan Pendidikan*, 8(2), 112–116. https://doi.org/10.29210/148100

Herwin, & Nurhayati, R. (2021). Measuring students' curiosity character using confirmatory factor analysis. *European Journal of Educational Research*, 10(2), 773–783. https://doi.org/10.12973/EU-JER.10.2.773

Hidayat, D. R., Rohaya, A., Nadine, F., & Ramadhan, H. (2020). Kemandirian Belajar Peserta Didik Dalam Pembelajaran Daring Pada Masa Pandemi Covid-19. *Perspektif Ilmu Pendidikan*, 34(2), 147–154. https://doi.org/doi.org/10.21009/PIP.342.9

Ilmaknun, L., & Ulfah, M. (2023). Pengaruh Kemandirian Belajar Terhadap Hasil Belajar (Survei di SMA

Pelita Tiga Jakarta). *Jurnal Sains Dan Teknologi*, 5(1), 416–423. https://doi.org/10.55338/saintek.v5i1.1401

Kurniawan, A., & Lisarani, V. (2021). Meningkatkan Rasa Ingin Tahu Siswa Menggunakan Metode Penemuan Terbimbing Setting Think Pair Share. *Jurnal Pendidikan Matematika Undiksha*, 12(1), 42–48. https://doi.org/10.23887/jjpm.v12i1.33267

Masitoh, S., & Herman, T. (2024). Kemandirian belajar siswa kelas VII berdasarkan analisis pedagogik pembelajaran matematika. *Jurnal Pembelajaran Matematika Inovatif*, 7(2), 365–376. https://doi.org/10.22460/jpmi.v7i2.21643

Rachmawati, B., Dewi, R. P., & Prakoso, J. (2022). Model Problem Based Learning Untuk Meningkatkan Rasa Ingin Tahu Dan Prestasi Belajar Siswa Kelas V Sdn 2 Kebutuh. *STRATEGY : Jurnal Inovasi Strategi Dan Model Pembelajaran*, *2*(3), 349–356. https://doi.org/10.51878/strategi.v2i3.1464

Ramadhani, W., & Fitria, Y. (2021). Capaian Kemandirian Belajar Siswa dalam Pembelajaran Sains Tematik menggunakan Modul Digital. *Jurnal Basicedu*, 5(5), 4101–4108. https://doi.org/10.31004/basicedu.v5i5.1391

Riyanti, Y., Wahyudi, W., & Suhartono, S. (2021). Pengaruh Kemandirian Belajar Terhadap Hasil Belajar Matematika Siswa Sekolah Dasar. *Edukatif : Jurnal Ilmu Pendidikan*, 3(4), 1309–1317. https://doi.org/10.31004/edukatif.v3i4.554

Rudiyanto, A. (2019). Rasa Ingin Tahu pada Penilaian Sikap. *Kebijakan Dan Pengembangan Pendidikan Di Era Revolusi Industri 4.0*, 235–242.

Safitri, S. F., Suyoto, & Nurhidayati. (2021). Pengaruh Kemandirian Belajar Peserta Didik dan Latar Belakang Pendidikan Orang Tua Terhadap Hasil Belajar Kelas IV di SDIT AL-Madina Purworejo. *Jurnal Paris Langkis*, 2(1), 114–124. https://doi.org/10.37304/paris.v2i1.3262

Yulianti, Y., Wati, S., Rahmawati, D., Sari, N. I., & Ulandari, S. (2024). Kreativitas Guru Dalam Membentuk Karakter Rasa Ingin Tahu Melalui Metode Gamifikasi. *Jurnal Intelek Dan Cendikiawan Nusantara*, 1(2), 2046–4560. https://doi.org/ 10.1080/02568543.2024.2421974

Zainudin, Daulay, M. I., & Rahayu, U. (2024). Pengaruh Rasa Ingin Tahu dan Kemandirian Belajar Terhadap Literasi Sains Siswa SMP Negeri 1 Pulau Burung. *Jurnal Inovasi Pendidikan Matematika Dan IPA*, 4(4), 328–337. https://doi.org/10.51878/science.v4i4.3399