JURNAL KEDOKTERAN DIPONEGORO
(*DIPONEGORO MEDICAL JOURNAL*)
Online : http://ejournal3.undip.ac.id/index.php/medico
E-ISSN : 2540-8844
DOI : 10.14710/dmj.v15i6.54562
JKD (DMJ), Volume 15, Number 6, November 2026 : 516-522

ASSESSMENT OF SCIENTIFIC LITERACY PROFICIENCY IN SECOND-YEAR MEDICAL STUDENTS IN SURABAYA

Wahyuni Dyah Parmasari[1*], Lisga Octavia[2]
[1]Departement of Forensic, Medical Faculty, Universitas Wijaya Kusuma Surabaya, Surabaya, Indonesia
[2]Medical Faculty, Universitas Wijaya Kusuma Surabaya, Surabaya, Indonesia

Keywords: :
Age ≥ 45 years
Body mass index
Obesity
Type 2 diabetes mellitus

Received: 05 December 2025
Revised: 07 January 2026
Accepted: 09 January 2026
Available online: 01 November 2026

Corresponding Author:
E-mail: wd.parmasari@uwks.ac.id

ABSTRACT
Background: The ability to read, think, and write to develop one's capacity for critical, imaginative, and reflective understanding of knowledge is known as literacy. Adequate literacy skills also play a crucial role in ensuring students are able to critically access, assess, and interpret scientific literature to support safe, ethical, and high-quality medical practice. In March 2016, Central Connecticut State University published a study that found that Indonesia ranked 60th out of 61 countries in terms of reading interest. Finding out how well-read medical students were in reading scientific publications. **Objective:** To analyze the level of literacy ability of medical students in evaluating scientific works. **Method:** Using the total sampling method, 97 respondents participated in this cross-sectional, quantitative investigation. A questionnaire was used Test of Scientific Literacy Skill (TOSLS), to obtain the data. Univariate (descriptive) data analysis was used, and The Friedman Test was used to examine the hypotheses for group comparison. The literacy level of medical students when it comes to evaluating scientific publications is quite low ($\rho<0.05$). **Conclusion:** Increased study of scientific literature, particularly textbooks and periodicals, is advised to raise the literacy proficiency of Surabaya medical students. In addition, there should be more efforts made to foster the culture of authoring scientific works and to comprehend basic statistics.

Copyright © 2026 by Authors. Published by Faculty of Medicine, Universitas Diponegoro Semarang Indonesia. This is an open access article under the CC-BY-NC-SA (https://creativecommons.org/licenses/by-nc-sa/4.0/)

INTRODUCTION

In terms of global literacy, Indonesia is ranked second from the bottom, according to UNESCO. In March 2016, a recent study titled World's Most Literate Nations Ranked which found that Indonesia was ranked, which found that Indonesia was ranked 60th out of 61 countries in terms of reading interest, just behind Thailand (59) and above Botswana (61). Indonesia ranks higher than European nations in terms of infrastructure evaluation to promote reading. Various surveys reveal results that are not quite accurate. Indonesia was ranked 64th out of 72 countries in the 2015 Programme for International Student Assessment (PISA) survey. Between the years 2012 to 2015, the PISA score for studying only one point out of 396 became 397, the sains score from 382 became 403, and the math score from 375 became 386. According to the results of the study, Indonesian children aged 9 to 14 years old can understand and learn through the use of written language, particularly documents.

In another reseach Azmi et.al, 2021 found According to statistical data published by UNESCO, the reading interest of the Indonesian population is categorized as critically low, reaching only 0.001%. This implies that among 1,000 individuals, only one person consistently engages in reading activities. This finding is consistent with the study titled World's Most Literate Nations Ranked, conducted by Central Connecticut State University in 2016, which placed Indonesia at rank 60 out of 61 countries in terms of global literacy level. In contrast, Finland occupied the first position with a literacy rate approaching 100%, illustrating a substantial disparity between Indonesia and other countries in the region, including Singapore

JURNAL KEDOKTERAN DIPONEGORO
(*DIPONEGORO MEDICAL JOURNAL*)
Online : http://ejournal3.undip.ac.id/index.php/medico
E-ISSN : 2540-8844
DOI : 10.14710/dmj.v15i6.54562
JKD (DMJ), Volume 15, Number 6, November 2026 : 516-522

and Malaysia, with regard to reading culture(Azmi,et al,2021).

Furthermore, based on research data from the United Nations Development Programme (UNDP), the Human Development Index (HDI) in the education sector in Indonesia remains relatively low, at 14.6%, which is considerably lower compared to Malaysia, which recorded a percentage of approximately 28%. These findings indicate that the quality and achievements of the Indonesian education system require significant strengthening in order to remain competitive at both the regional and global levels.

In January 2017, Wearesocial statistics showed that Indonesians can spend up to nine hours a day staring at a gadget screen, despite their poor interest in reading books. Not surprisingly, Indonesians rank fifth globally in terms of chattiness on social media. Overtaking Tokyo and New York, the capital city of Indonesia has the densest tweet activity among Twitter accounts. Devices serve as a public information source. Many people used to describe information in which feelings and individual views have a greater impact on public opinion formation than objective facts. Some people use electronics carelessly because of this.

Reading habits are directly correlated with comprehension, reading speed, and a critical mindset. This indicates that individuals with more reading experience have improved their comprehension quality and reading speed, enabling them to be critical. Thus, if you lack reading experience, it may slow down without lowering the level of comprehension[1]. Although the internet can be a source of information that can expand knowledge or be used as a reference in the academic sector, few Indonesians use it. Instead, they are still searching for information that is engaging, interesting, and fun. YouTube is frequently utilized for spiritual, educational, and entertaining purposes during leisure time. YouTube is also generally used for getting information, entertainment, social integration and interaction, and personal identity.

On the other hand, literacy is viewed as a process of understanding a text from a learning perspective. Electronic text has supplanted paper-based text in modern times (Rose, 2011). For medical students in particular, who learn best by reading as many references as they can and in English. Experience is the primary source of knowledge. A personalized approach to learning is often realized in adult education through this process, with critical reflection serving as a crucial tool for personal development.

Evaluating the literacy proficiency of medical students is critically important, as scientific literacy constitutes a fundamental component of clinical competence and evidence-based medical practice. Medical students are required not only to access scientific information but also to critically appraise research findings, interpret data accurately, and apply validated scientific evidence in clinical decision-making. Insufficient literacy skills may hinder a student's ability to evaluate the reliability and validity of scientific literature, potentially leading to misconceptions, inappropriate clinical judgments, and suboptimal patient care. Therefore, assessing literacy proficiency at an early stage of medical education is essential to ensure that future physicians are equipped with the cognitive, analytical, and evaluative skills needed to navigate the rapidly expanding body of medical knowledge and to uphold high standards of healthcare quality and patient safety.

Based on proven quantitative reasoning, the Test of Scientific Literacy Skill (TOSLS) was created. Statistical analysis is used to assess the items and correlations between the instrument items to validate it. Skills about the primary components of scientific literacy-identifying, evaluating, and interpreting scientific information and quantitative data are assessed by this test.

METHODS

In this study, used cross-sectional method and the respondents were 97 third-semester male and female students from the Medical Faculty, Wijaya Kusuma University in Surabaya made up the study's sample. The inclusion criteria of this study consisted of male and female students who were willing to participate as respondents and were currently enrolled in the 2018 cohort of the Medical Study Program at the Faculty of Medicine, Universitas Wijaya Kusuma Surabaya. Conversely, the exclusion criteria comprised students from the 2016, 2017, 2019, 2020, and 2021 cohorts of the same study program, as well as students whose contact information was inactive and therefore unreachable for research purposes. Second-year medical students are considered more adaptable and academically stable, as they have completed the

JURNAL KEDOKTERAN DIPONEGORO
(*DIPONEGORO MEDICAL JOURNAL*)
Online : http://ejournal3.undip.ac.id/index.php/medico
E-ISSN : 2540-8844
DOI : 10.14710/dmj.v15i6.54562
JKD (DMJ), Volume 15, Number 6, November 2026 : 516-522

transitional phase of adjusting to undergraduate learning demands and have developed a stronger foundation of cognitive, behavioral, and study skills necessary for higher-level academic performance. The research was conducted through a Zoom meeting platform, and several requirements were provided to the respondents before completing the closed-ended questionnaire. Respondents were encouraged to keep their cameras on during the session to ensure proper participation and monitoring. Each participant was instructed to use the naming format (Class_Student ID_Name) on Zoom, for example: D_18700076_Lisga Octavia. Upon completing all 28 questions, respondents were permitted to exit the Zoom room without the need for further confirmation. Additionally, no time limit was imposed during the completion of the questionnaire, allowing respondents to answer freely and carefully according to their own pace. A standardized test called the TOSLS (Test of Scientific Literacy Skills). There are 28 questions in all, requiring 9 skills in two literacy categories in Indonesian. Using the following criteria: ≤59% (lacking), 60%-75% (sufficient), 76%-85% (good), 86%-100% (very good) are the requirements. Research time from July 2023 who met the inclusion and exclusion criteria. The Friedman Test is a non-parametric statistical method used to determine whether there are significant differences across three or more related measurements or categories within the same group. In a literacy assessment, it can be used to analyze whether student's literacy scores differ significantly across multiple literacy components, such as comprehension, critical appraisal, and interpretation of scientific information.

RESULTS

This study did not differentiate based on gender characteristics, as the focus was on literacy skills. In terms of age, respondents were considered to be of the same average age, approximately 19-20 years old, in their third semester.

This analysis was used to determine the literacy skills of students from the Faculty of Medicine, Wijaya Kusuma University, Surabaya. Comparison of Understanding Categories of Educational Methods Leading to scientific knowledge based on the results of the normality and homogeneity tests, it was found that not all data groups were normally distributed and were not homogeneous. The results of the comparison of educational methods leading to scientific knowledge were obtained based on five categories (very good, good, sufficient, poor, and very poor), as follows.

Findings from the Friedman Test Category consist of arranging, evaluating, and interpreting quantitative data and scientific information.

Table 1. Findings from the Friedman Test on Types of Teaching Approaches that produce scientific knowledge.

Variable	Group	N	Mean Rank	Chi-square	df	Asymp. Sig
Methods of instruction that result in scientific knowledge	Lacking	78	39,5	47,453	4	0,000
	Sufficient	7	82,0			
	Good	7	89,0			
	Very Good	5	92,5			
Total		**97**				

Table 1 above indicates that ranking is the average category for organizing, evaluating, and understanding scientific knowledge and quantitative data. When it comes to the organization, analysis, and interpretation of scientific data and quantitative data, the inferior category yields the best results when compared to the lacking, sufficient, good, and very good categories. The ρvalue that was determined is 0.000. The category of organizing, analyzing, and interpreting quantitative data and scientific information falls into the very lacking category when contrasted to α=5% or 0.05, since the ρ-value< α or 0.000<0.05 indicates that H0 is rejected.

Table 2. Results of the Friedman Test Category

Variable	Group	N	Mean Rank	Chi-square	df	Asymp. Sig
Organization, analysis, and interpretation	Lacking	80	40,5	42,75	3	0,000
	Sufficient	5	83,0			
	Good	10	90,5			
	Very Good	2	96.5			
Total		**97**				

Comparative testing was conducted using a non-parametric technique known as the Friedman Test, as it was found that not all data groups were homogeneous and normally distributed, based on the results of the normality and homogeneity tests. The degree of understanding of examining scientific works was compared using five categories (very good, good, sufficient, lacking, and very lacking). Based on the

JURNAL KEDOKTERAN DIPONEGORO
(*DIPONEGORO MEDICAL JOURNAL*)
Online : http://ejournal3.undip.ac.id/index.php/medico
E-ISSN : 2540-8844
DOI : 10.14710/dmj.v15i6.54562
JKD (DMJ), Volume 15, Number 6, November 2026 : 516-522

findings of the Friedman Test computation. These results are as follows.

Table 3. Result from the Friedman Test

Variable	Group	N	Mean Rank	Chi-square	df	Asymp. Sig
Degree of proficiency in reviewing scientific literature	Lacking	82	41,5	38,16	3	0,000
	Suffiecient	2	83,5			
	Good	11	90,0			
	Very Good	2	96,5			
Total		**97**				

Table 3 shows that the average level of literacy proficiency in evaluating scientific publications is ranked. Comparing the lacking category to the sufficient, good, and very good categories, the lacking category displays the highest level of literacy ability while reviewing scientific literature. The resultant ρvalue, as determined by Table 3, is 0,000. The degree of reading capacity in evaluating scientific works falls into the extremely bad group according to the ρ-value <α or 0.000 <0.05 when compared with α=5% or 0.05.

DISCUSSION

The students is regionally diverse, reflecting broad geographic representation within the medical education environment (Azmi et al,2021). Most respondents did not fully comprehend the items on the exam questionnaire. Therefore, the researcher first explained what substance would be asked without explaining the details of the questions and readings they would face. Results are impacted by knowledge because, as defined by Elizabeth and Pressley (2002), understanding is the process of deriving meaning from text that calls for word knowledge, critical thinking, and reasoning. External factors like the denotative character of the reading and the structure of the reading material that is less engaging in describing an idea, picture, or graph, may be the reason why respondents are not interested in criticizing the questions in the questionnaire under test.

According to the findings of a study by Ihsania Salma, Wikanengsih, and Mekar Ismayani (2020), reading fiction is thought to be the most engaging way to boost reading interest because it is simple to comprehend, doesn't require much discussion, and can be used for entertainment purposes like passing the time, imagining, idolizing characters, and interesting plots. Research data from Kurniawati T. (2015) supports this, showing that 56% and 55.20% of students, respectively, indicated that they read story books frequently and always for entertainment.

Reading comprehension, reading speed, and critical attitude are all intimately correlated with reading habits. This indicates that readers with experience have improved their reading comprehension and speed, enabling them to be more critical. Accordingly, reading inexperience might slow down your reading pace without lowering the quality of your comprehension[1]. Kurniawati T. (2015) provides evidence for this, indicating that 61,20% of students do not regularly read books. Even if respondents use their devices more frequently, objective facts have less of an impact on public opinion formation in the post-trust era, which encourages critical thinking.

One primary factor is educational background, as exposure to structured learning, academic resources, and instructional quality significantly affects the development of reading, comprehension, and critical evaluation skills. Cognitive capacity and intellectual development also play an important role, including memory, analytical reasoning, attention span, and language proficiency, which collectively determine how effectively an individual understands and processes information (Anisa et al, 2021). Students in this Gen Z era must be more visual and able to maintain their concentration for more than 10-15 minutes, so that the material can be understood and comprehended well. It is possible that the influence of the social world also plays a role in changing literacy patterns. By scrolling through social media, their brains are unable to fully process information, including causality, cause and effect, and so on (Nabila et.al, 2023).

In addition, family and early childhood environment strongly influence literacy outcomes; individuals raised in households that encourage reading and provide access to books tend to demonstrate higher literacy skills later in life. Socioeconomic status contributes to access to educational facilities, technology, and learning materials. External supports, such as institutional learning culture, peer interaction, and teacher guidance, further reinforce literacy development. Finally, motivation, interest, and lifelong learning

JURNAL KEDOKTERAN DIPONEGORO
(*DIPONEGORO MEDICAL JOURNAL*)
Online : http://ejournal3.undip.ac.id/index.php/medico
E-ISSN : 2540-8844
DOI : 10.14710/dmj.v15i6.54562
JKD (DMJ), Volume 15, Number 6, November 2026 : 516-522

habits determine how consistently individuals engage with written and scientific information, making these internal factors essential for sustaining and improving literacy proficiency throughout life (Jaya et al 2024).

Increasing journal reading will help medical students develop better reading habits. Someone who reads regularly thinks more critically and spends less time answering questions. Elementary school pupils should read for roughly two hours each day, free from outside distractions, according to Tella and Akade (2007). Furthermore, college students require about 8 hours a day to engage in reading activities more than 4 times, with a daily page count of over twenty-five. According to Falina Noor Amalia's 2017 study, one of the bad factors is pupil's comprehension of reading concerning reading time constraints. Multimedia-based learning methods can be utilized to enhance student's reading efforts. When offered multimedia-based content, that is, a mix of text, images/visuals, and sound/audio instead of just text-based content, student's reading skills increase, claims Sulistianingsih Endang (2019).

In this study, it was found that the literacy level of second year students was low, this is because the current generation is closer to visuals, such as watching content on social media, for example, Instagram and YouTube. However, this resulted in a decrease in the quality of understanding of scientific texts and journals. whereas improving student literacy requires perseverance and continuity in reading. Although this research's limitations were conducted during the pandemic and was conducted online (Zoom), therefore, it was not possible to monitor respondents while filling out the questions, from their readiness before the respondents answered the questions, the process while answering the questions, until they finished answering the questions. Another limitation was that it was only conducted for a month, and there was a strict schedule of student lectures. As a result, it was impossible to keep an eye on respondent's preparedness before they answered the questions, and the process of answering the questions seemed hurried (Azmi, et al,2021).

This study employed the Test of Scientific Literacy Skills (TOSLS) as the primary instrument to assess scientific literacy among undergraduate medical students at the Faculty of Medicine, Wijaya writing review and editing, WDP; visualization, WDP; supervision, WDP; funding acquisition, LO. Kusuma University, Surabaya. TOSLS is a validated tool designed to measure higher-order scientific literacy skills, particularly the ability to organize, evaluate, and interpret quantitative data and scientific information, as well as to critically review scientific literature. thereby reducing age-related variability. A total of 97 students participated in the analysis. Before comparative analysis, normality and homogeneity tests indicated that not all data groups met parametric assumptions. Overall, the findings revealed that the majority of students were classified in the lacking or very lacking categories, indicating suboptimal scientific literacy skills and highlighting the need for pedagogical interventions to strengthen evidence-based reasoning and data interpretation in medical education

CONCLUSION

This study's findings indicate that Surabaya medical student's level of literacy in evaluating scientific publications falls into the lower range. Despite the lack of literacy degree results, it concludes that medical student's learning methods can be changed to be more contemporary and visual because of the more dynamic changes in the modern world, where people are now more interested in visuals than in reading.

ETHICAL APPROVAL

The Health Research Ethics Committee of the Faculty of Medicine, Wijaya Kusuma University, Surabaya, has permitted this research to be carried out with certificate number 74/SLE/FK/UWKS/2021.

CONFLICTS OF INTEREST

The author declares that there is no conflict of interest in this research.

FUNDING

No specific funding was provided for this article.

AUTHOR CONTRIBUTIONS

For research articles with author's conceptualization, WDP and LO; methodology, LO; validation, WDP and LO; formal analysis, LO; investigation, LO; resources, LO; data curation, WDP; writing original draft preparation, WDP and LO;

JURNAL KEDOKTERAN DIPONEGORO
(*DIPONEGORO MEDICAL JOURNAL*)
Online : http://ejournal3.undip.ac.id/index.php/medico
E-ISSN : 2540-8844
DOI : 10.14710/dmj.v15i6.54562
JKD (DMJ), Volume 15, Number 6, November 2026 : 516-522

REFERENCES

1. Abdullah, M. (2018). Reading Speed and Comprehension Enhancement in Hybrid Learning Delivery Mode. Advances in Language and Literary Studies, 9 (3): 25-33. https://doi.org/10.7575/aiac.alls.v.9n.3p.25
2. Devi Alrinda dan Lili Rahmawati. (2021) Analisis Keterampilan Literasi Salin Mahasiswa dengan TOELS. Elementary School 8 (2021) 15 – 23. Volume 8 nomor 1 Januari 2021 https://doi.org/10.31316/esjurnal.v8i1.1041
3. Akmal Saiful, I. D. (2020). Investigating Students' Interest on Reading Journal Articles: Materials, Reasons and Strategies. Studies in English Language and Education, 7(1), 194-208. https://doi.org/10.24815/siele.v7i1.15358
4. Amalia Noor Falina. (2017). Kemampuan Membaca Pemahaman Mahasiswa. Diaksesndari http://conference.unsri.ac.id/index.php/SNBI/article/download/50 2/122
5. Antaranews.com. (2019). Publikasi Internasional Indonesia gterbanyak di ASEAN. Jakarta: kemristekditi. https://www.antaranews.com/berita/974882/kemristekdikti-publikasi-internasional-indonesia-terbanyak-di-asean
6. Bambang Yulianto, y. S. (2020). The Relevance of Standardization of Comprehension Reading Skills In 4.0 Era. International Conference on Research and Academic Community Services, Volume 390.Devega Evita. 2017. http://dx.doi.org/10.2991/icracos-19.2020.45
7. Fakhriyah, F. (2014). Penerapan problem based learning dalam upaya mengembangkan kemampuan berpikir kritis mahasiswa. Jurnal Pendidikan IPA Indonesia, 3(1), 95-101. https://doi.org/10.15294/jpii.v3i1.2906
8. Gormally Cara, Peggy Brickman, dan and Mary Lutz. (2021). Developing a Test of Scientific Literacy Skills (TOSLS): Measuring Undergraduates‘ Evaluation of Scientific Information and Arguments. CBE—Life Sciences Education Vol. 11, 364–377, https://doi.org/10.1187/cbe.12-03-0026
9. Ibrahim, M., & Subali, B. (2017). Pengembangan Bahan Ajar & Pengembangan Instrument Pengukuran Pembelajaran Biologi. ULM Press: Banjarmasin. https://dx.doi.org/10.20527/quantum.v11i2.8806
10. Kaur, M. S. (2014). Challenges in Academic Reading and Overcoming Strategies in Taught Master Programmes: A Case Study of International Graduate. Published by Canadian Center of Science and Education. Higher Education Studies , Vol. 4, No. 4. https://files.eric.ed.gov/fulltext/EJ1075605.pdf
11. Kumparansains. (2019). Menilik Kualitas Pendidikan Indonesia Menurut PISA 3 Periode Terakhir . Jakarta: Tekno&Sains. https://kumparan.com/kumparansains/menilik-kualitas-pendidikan-indonesia-menurut-pisa-3-periode-terakhir-1sO0SlXNroC
12. Kurniawati, T. (2015). Minat Membaca Mahasiswa Program Studi Pendidikan Bahasa Inggris . Jurnal Edukasi, Vol. 13, No. 2.
13. Macagno, F., Mayweg-Paus, E., & Kuhn, D. (2015). Argumentation Theory in Education Studies: Coding and Improving Students‘ Argumentative Strategies. Topoi 34:523–537 https://doi.org/10.31571/edukasi.v13i2.118
14. Mahfoodh, A. A. (2016). Academic reading diffuculties encountered by international graduate stdents in a Malaysian university. Issue in Education Research, 26 (3). http://dx.doi.org/10.2991/icracos-19.2020.45
15. Okenews. (2016, Maret 10). Rata-Rata Skor TOEFL di Indonesia di Bawah500. Retrieved Januari 3, 2019, from https://news.okezone.com/read/2016/0.3/10/65/1332176/rata-rata-skor-toefl-diindonesia-di-bawah-500.
16. Pradana, F. A. (2020). Pengaruh Budaya Literasi Sekolah Melalui Pemanfaatan Sudut Baca Terhadap Minat Membaca Siswa Di Sekolah Dasar. vol. 02, no. 01. https://doi.org/10.31004/jpdk.v1i2.599
17. Ristekbrin.go.id. (2020). Kemenristek/BRIN Umumkan 500 Peneliti Terbaik Indonesia Berdasarkan Jurnal Internasional dan Nasional. Jakarta: Kementerian Riset dan Teknologi /Badan. https://www.komite.id/2020/05/29/ristek-brin-umumkan-500-peneliti-terbaik-indonesia-sinta/
18. Rumainah. (2018). Undergraduate Students‘ Reading Interest and Reading Comprehension. Jurnal of Islamic Education,

Volume 23, Number 1. https://doi.org/10.19109/td.v23i1.2080

19. Salmaa Ihsania, W. M. (2020). PSengaruh Cerita Fiksi Terhadap Budaya Literasi di Kalangan Mahasiswa . Jurnal Pendidikan Bahasa dan Sastra Indonesia, Volume 3 Nomor 1. https://journal.ikipsiliwangi.ac.id/index.php/parole/article/view/4490/pdf
20. Samosir Fransiska Timoria, Dwi Nurina Pitasari, Purwaka dan Purwadi Eka Tjahjono. 2018. Efektivitas Youtube sebagai Media Pembelajaran Mahasiswa (Studi Di Fakultas FISIP Universitas Bengkulu). Record and Library Journal. Volume 4, No. 2. http://dx.doi.org/10.20473/rlj.V4-I2.2018.81-91
21. Sucahyo, S. A. (2016). Peta Nilai TOEFL Mahasiswa Program Studi Pendidikan Bahasa Inggris Institut Agama Islam Negeri Samarinda. Fenomena, 8(1), 101-109. https://doi.org/10.21093/fj.v8i1.567
22. Susilana, R. (2015) _Bab 6 populasi dan sampel 1.‘, Modul Praktikum, p. 9. Available at http://file.upi.edu/Direktori/DUAL-MODES/PENELITIAN_PENDIDIKAN/BBM_6.pdf
23. Solihin, L. (2019). Indeks Aktivitas Literasi Membaca34 Provinsi. Jakarta: http://repositori.kemdikbud.go.id/id/eprint/13033
24. Sulistianingsih Endang. (2018). Pengembangan Model Pembelajaran Berbasis Multimedia Untuk Meningkatkan Efektivitas Kemampuan Membaca Mahasiswa. Cakrawala : Jurnal PendidikanVol. 12, No. 2, 2018 https://doi.org/10.24905/cakrawala.v12i2.153
25. Tahir, H. S. (2017). The Social Media-Based Approach. Published by Canadian Center of Sciencead Education. International Jurnal of English Linguistics, Vol. 7,No.3. http://dx.doi.org/10.5539/ijel.v7n3p46
26. Widyatama, K. (2019). Memaknai Angka Partisipasi Kasar Pendidikan Tinggi. Jakarta: Utama Universitas Widyatama. https://komunita.widyatama.ac.id/memaknai-angka-partisipasi-kasar-pendidikan-tinggi/
27. Yulistianti, H. D. (2017). Pengembangan Teks Book: Introduction to Text Types and Analysis di Prodi pendidikan Bahasa Inggris FTIK UNISNU Jepara. Jurnal Of Islami Education, Vol.5. http://download.garuda.kemdikbud.go.id/article.php?article=769343&val=11353&title=%20pengembangan%20textbook%20introduction%20to%20text%20types%20and%20analysis%20di%20prodi%20pendidikan%20bahasa%20inggris%20ftik%20unisnu%20jepara
28. Zulkifri. (2016). Pengaruh Mata Kuliah Statistik Terhadap Kemampuan Analisa Data Kuantitatif Mahasiswa Prodi S-1 Ilmu Perpustakaan Angkatan 2011-2012 Fakultas Adab dan Humaniora UIN Ar-Raniry. LIBRIA: Volume 8, Nomor 1: Juni 2016 http://dx.doi.org/10.22373/1229
29. Anisa, A. R., Ipungkarti, A. A., & Saffanah, K. N. (2021). Pengaruh kurangnya literasi serta kemampuan dalam berpikir kritis yang masih rendah dalam pendidikan di Indonesia. In Current research in education: conference series journal (Vol. 1, No. 1, pp. 1-12). https://ejournal.upi.edu/index.php/crecs/article/view/32685/pdf
30. Jaya, A., Ridwan, R., & Umar, J. (2024). Pelatihan Literasi Kritis Terhadap Informasi di Madrasah Aliyah Darul Ulum, Sasa, Kota Ternate. Journal of Research Applications in Community Service, 3(3), 53-62. https://doi.org/10.32665/jarcoms.v3i3.3067
31. Latiff Azmi, M. N., Hassan, I., Engku Ali, E. M. T., Abdullah, A. T. H., Anas, M., & Suhaimi, N. I. (2021). Islamic self-identity formation through language learning: A study of religious secondary school students in Malaysia. English Language and Literature Studies, 11(1). https://doi.org/10.5539/ells.v11n1p38
32. Nabila, L. N., Utama, F. P., Habibi, A. A., & Hidayah, I. (2023). Aksentuasi literasi pada gen-z untuk menyiapkan generasi progresif era revolusi industri 4.0. Journal of Education Research, 4(1), 28-36. https://doi.org/10.37985/jer.v4i1.113