# Reviewing the School Literacy Movement Assessment at the International level: A Systematic Literature Review (2020-2024)

#### Windya Retno Ariyani, Sri Marmoah, Winarno

Universitas Sebelas Maret masranariyani@gmail.com

# Article Historyaccepted 1/11/2024approved 1/12/2024published 1/2/2025

#### Abstract

The Assessment of the School Literacy Movement (GLS) is an important component in improving the quality of education and ensuring the effectiveness of literacy programs. This study is to review GLS assessment best practices at the international level based on research studies that have been published between 2020-2024. In particular, this study will identify the various assessment methods used, analyze the evaluation tools, and solution constraints in the latest research on GLS assessment. The research method used is Systematic Literature Review (SLR) with a focus on evaluation, assessment and challenges of GLS implementation. Literacy assessments need to adopt a multi-dimensional approach that includes not only reading and writing skills, but also broader social and cultural practices. The trend towards more authentic and contextual assessments demonstrates the importance of relevance to students' real lives. The integration of technology and data analytics opens up new opportunities in understanding and improving student literacy. Consideration of socio-economic and perinatal factors is also important in understanding the development of literacy. Teacher capacity building through training and continuous support is a critical component in the successful implementation of literacy programs. Literacy assessments should be designed with flexibility and adaptability, taking into account local contexts while maintaining global standards. The implication in this study is that multi-stakeholder collaboration between teachers, researchers, and policymakers is very important in overcoming implementation and resource challenges.

Keywords: Differentiated learning, Systematic literature review, reading skills

#### Abstrak

Penilaian Gerakan Literasi Sekolah (GLS) merupakan komponen penting dalam meningkatkan kualitas pendidikan dan memastikan efektivitas program literasi. Kajian ini bertujuan untuk mengkaji praktik terbaik penilaian GLS di tingkat internasional berdasarkan studi penelitian yang telah dipublikasikan antara tahun 2020-2024. Secara khusus, kajian ini akan mengidentifikasi berbagai metode penilaian yang digunakan, menganalisis alat evaluasi, dan kendala solusi dalam penelitian terbaru tentang penilaian GLS. Metode penelitian yang digunakan adalah Tinjauan Pustaka Sistematis (SLR) dengan fokus pada evaluasi, penilaian, dan tantangan implementasi GLS. Penilaian literasi perlu mengadopsi pendekatan multidimensi yang tidak hanya mencakup keterampilan membaca dan menulis, tetapi juga praktik sosial dan budaya yang lebih luas. Tren menuju penilaian yang lebih autentik dan kontekstual menunjukkan pentingnya relevansi dengan kehidupan nyata siswa. Integrasi teknologi dan analisis data membuka peluang baru dalam memahami dan meningkatkan literasi siswa. Pertimbangan faktor sosial ekonomi dan perinatal juga penting dalam memahami perkembangan literasi. Pengembangan kapasitas guru melalui pelatihan dan dukungan berkelanjutan merupakan komponen penting dalam keberhasilan implementasi program literasi. Penilaian literasi harus dirancang dengan fleksibilitas dan adaptabilitas, dengan mempertimbangkan konteks lokal sambil mempertahankan standar global. Implikasi dalam penelitian ini adalah bahwa kolaborasi multipihak antara guru, peneliti, dan pembuat kebijakan sangat penting dalam mengatasi tantangan implementasi dan sumber daya. Kata kunci: Pembelajaran terdiferensiasi, Tinjauan pustaka sistematis, keterampilan membaca

Social, Humanities, and Education Studies (SHEs): Conference Series p-l https://jurnal.uns.ac.id/shes e-l

p-ISSN 2620-9284 e-ISSN 2620-9292



This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

#### INTRODUCTION

Literacy is known to be an important indicator in looking at the quality of education and resources in a country (Winata et al., 2017). The literacy level in Indonesia is still relatively low, it is based on the results of international assessments. There are various types of assessments that we often hear about, namely the Programme for International Student Assessment (PISA), in 2018, a survey stated that the average reading literacy score of Indonesian students was only ranked 371, ranked 74 out of 80 countries (Nurcahyoko et al., 2024) In response to the low PISA ranking, the government intensified the School Literacy Movement (GLS) starting from elementary to secondary levels (Marmoah & Poerwanti, Suharno, 2022; Setiyadi, 2018)

One of the efforts to build and improve literacy skills in schools in Indonesia through reading habits (Pantiwati, 2021). This program integrates literacy activities in learning, development, and habituation through, for example; 15-minute reading activity, responding to enrichment books, and using reading strategies in all subjects (Pantiwati, 2021). Although GLS has been implemented in various schools in Indonesia for a long time, the implementation still faces many obstacles such as lack of infrastructure, support from other stakeholders, namely parents and the community (Ertl, 2006; Ichsan, 2018). Literacy assessment in Indonesia is still a debate today, on the other hand, international literacy assessments such as PISA have proven to be effective in measuring and comparing students' literacy achievements between countries (Snyder, 2019a). For example, international assessments such as PISA, PIRLS (Progress in International Reading Literacy Study), and TIMSS (Trends in International Mathematics and Science Study) provide a complete framework for evaluating students' literacy skills globally. Research shows that the results of this assessment have a significant impact on national education policies and curriculum reforms in various countries (Breakspear, S, 2012). For example, after the results of the 2000 PISA, Germany carried out a massive educational reform that resulted in a significant increase in the subsequent PISA score (Ertl. 2006). This is an example of the effectiveness of the PISA assessment that has been carried out by Germany before.

There have been limited studies analyzing the implementation and effectiveness of School Literacy Movement (GLS) assessments at the international level. Several relevant studies provide important context: (Antoro, 2017) examined GLS implementation in Indonesian schools, finding varied assessment approaches but lacking standardized evaluation methods; (Wandasari et al., 2019) investigated literacy practices in Indonesian schools, highlighting the need for more systematic evaluation frameworks; and (Faizah et al., 2016) provided foundational guidelines for GLS implementation and assessment in Indonesia. Given these existing studies, a systematic literature review (SLR) is needed to rigorously and comprehensively examine the latest research on GLS assessment at the international level. This methodological approach enables the systematic synthesis of scientific evidence from various primary studies, identifies gaps in current research, and provides a solid foundation for future investigations, as emphasized by (Snyder, 2019b). There have not been many studies that analyze how GLS assessments at the international level are carried out and their effectiveness in improving student literacy. Systematic literature review (SLR) is needed to rigorously and comprehensively review the latest research on GLS assessment at the international level. The SLR method allows for the systematic synthesis of scientific evidence from a variety of primary studies, identifies gaps in current research, and provides a basis for future research (Snyder, 2019a)

The urgency of this research lies in understanding and gaining insights based on international standards, which will provide valuable inputs to enhance the effectiveness of the School Literacy Movement (GLS) program in Indonesia. By analyzing various assessment approaches implemented across different countries, this study aims to identify the most effective strategies for measuring and improving student literacy levels.

Furthermore, this comprehensive analysis of international practices will not only contribute to the development of more robust assessment frameworks but also help Indonesian educators and policymakers make informed decisions about adapting and implementing successful literacy programs that have been proven effective in other educational contexts.

This study aims to review GLS assessment best practices at the international level based on research studies that have been published between 2020-2024. In particular, this study will identify the various assessment methods used, analyze the evaluation tools, and solution constraints in the latest research on GLS assessment. The results of the study are expected to provide recommendations for improving the implementation and assessment of GLS in Indonesia, as well as provide direction for future research in this field. In an effort to comprehensively understand the implementation and evaluation of the School Literacy Movement (GLS), this research is guided by several interrelated key questions.

The researcher seeks to explore how GLS is evaluated at the school level in an international context, encompassing various assessment aspects and methodologies applied across different countries. Furthermore, this research aims to identify and analyze various GLS assessment instruments and methods used at the school level in the international scope, providing deep insights into best practices in measuring literacy program success. Additionally, this research focuses attention on the challenges and obstacles faced in implementing school literacy program assessments at the international level, which can provide valuable insights for future program improvements and developments. These three aspects form a comprehensive research framework for understanding the dynamics of school literacy program evaluation in a global context.

#### METHOD

The design in this study is to use Systematic Literature Review (SLR) which is used to evaluate and interpret topics relevant to the assessment of the School Literacy Movement (GLS) at the international level. These SLR guidelines follow the guidelines from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Page et al., 2021).

The inclusion criteria used in this study are: 1) The research articles published are only those indexed by Scopus Q1-Q4; (2) Research that discusses GLS assessments or similar school literacy programs at the international level; (3) Research that reports the results of assessments, evaluation methods, or the impact of school literacy programs; (4) Articles in English; and (5) Articles published in the 2020-2024 time frame, to ensure the most recent and relevant topic. The exclusion criteria consist of (1) review articles, not research articles; (2) articles in the form of proceedings; (3) articles that cannot be downloaded or subscribed to, (4) non-social sciences articles.

All articles were obtained through the publisher elsevier using the data base science direct. This is because science direct is a data base with an accurate Scopus index and has a high impact in the international world. As for the search strategy: use relevant keywords such as "school literacy movement assessment", "international literacy program evaluation", and "literacy assessment methods". The article selection process uses Mendeley and Zotero software to filter titles and manage references.

The number of filtered articles will be presented in the PRISMA flowchart. Analysis of the quality of the study will be carried out using appropriate assessment tools, such as the Mixed Methods Appraisal Tool (MMAT) for studies with mixed methods (Hong et al., 2018). The flow chart of the PRISMA SLR can be presented in the following Figure 1:

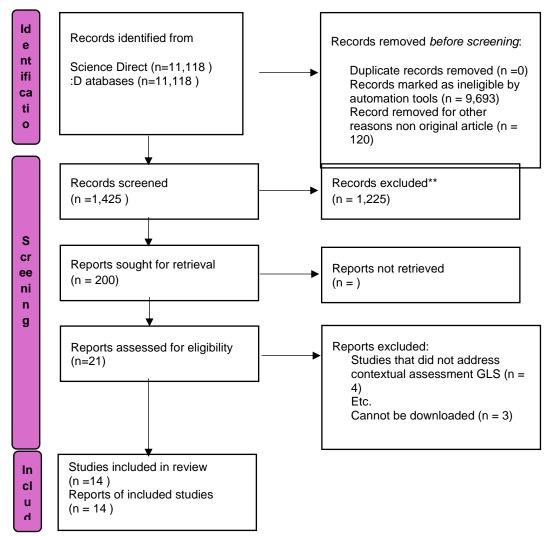


Figure 1. PRISMA GLS Assessment Flow Diagram (Page et al., 2021).

As for the inclusion criteria of the articles, the selection of articles was obtained as many as 14 articles for further analysis. The study focuses on 2020-2024 for the recency and relevance of the research topic. Most of the studies used quantitative methods to present their findings (70%), which is indeed relevant because the assessment in general uses data processing to measure, the rest (30%) use qualitative and mixed methods.

The research sample in this case includes many samples, including students from elementary school to college, teachers and other stakeholders. The number of samples of 50% ranged from (n= 92 to 3000), while 30% used larger samples (n=1000) and 20% used samples below (n= 200) samples.

The assessment topics that are the focus of the research include science literacy (about 30%), school safety (about 20%), school readiness (about 20%), and various other aspects such as environmental literacy, language literacy, and the use of open educational resources (about 10% each). Several studies were conducted in Asian countries such as Vietnam (Ho et al., 2024a) and China (Sun & Zhang, 2022), while other articles are done in Western countries such as the United States (Ding, 2022; Walker & Whitver, 2020) and Greece (Maurer & Bogner, 2020).

Although the included studies have diverse characteristics, such as geographical location, level of education, and the topic of assessment taught, the findings of the study consistently show the importance of the assessment being relevant to the topic and suitable for further analysis to assess the assessment that is promising to be applied in various educational contexts at the international level. In addition, these articles show that the trend in the use of assessment methods such as; Use of technology (Enriquez et al., 2024), performance-based assessments (Atkinson et al., 2024), and the integration of formative and summative assessments (Getenet & Getnet, 2023a). These findings emphasize the importance of a multi-method approach in educational assessment to get a more comprehensive picture of student learning and development.

	nents of School Literacy Assessment Based on	
Component	Key Findings	Sources
Assessment Methods	<ul> <li>Scenario-based assessments enhance contextual literacy evaluation.</li> </ul>	Simpson et al. (2023)
	<ul> <li>Standardized tests provide measurable and comparable literacy data.</li> </ul>	Enriquez et al. (2024); Walker & Whitver (2020)
	<ul> <li>Holistic approaches such as rubrics, portfolios, and gamification (e.g., MeLIL, Library Escape Room) provide deeper insights into literacy skills.</li> </ul>	Atkinson et al. (2022)
	<ul> <li>Developmental profiles categorize literacy into 'emerging', 'expected', and 'exceeding' levels.</li> </ul>	Atkinson et al. (2022)
Domains of Literacy Assessed	<ul> <li>Information literacy evaluated through tools like MeLIL and visual analytics.</li> </ul>	Pinto et al. (2022); Ding (2021)
	<ul> <li>Health literacy assessed via instruments like PEMAT and DISCERN.</li> </ul>	Ho et al. (2024a)
	<ul> <li>Environmental and science literacy assessed through Confirmatory Factor Analysis (CFA) and PISA data.</li> </ul>	Maurer & Bogner (2020); Ding (2021)
Technology Integration	<ul> <li>Advanced data analysis methods, such as MDS and MANCOVA, provide comprehensive evaluations.</li> </ul>	Enriquez de la O et al. (2023); Ding (2021)
	<ul> <li>Use of digital platforms for collaborative and interactive literacy assessments.</li> </ul>	Pinto et al. (2024); Ho et al. (2021)
Teacher Assessment Literacy	<ul> <li>Emphasis on the importance of teacher training to improve assessment literacy and reduce biases.</li> </ul>	Sun & Zhang (2022); Atkinson et al. (2024)
	<ul> <li>Online courses and professional learning communities recommended for skill enhancement.</li> </ul>	Simpson et al. (2020); Sun & Zhang (2023)
Socio- Economic and Contextual Factors	<ul> <li>Socio-economic background and early development influence literacy outcomes.</li> </ul>	Atkinson et al. (2024)

RESULT

Table 1. Components of School Literacy Assessment Based on Research Findings

Component	Key Findings	Sources
	<ul> <li>Literacy assessments tailored to local and global contexts improve applicability and relevance.</li> </ul>	Getenet & Getnet (2023b)
Challenges and Solutions	<ul> <li>Lack of teacher training addressed through systematic capacity building and resource allocation.</li> </ul>	
	<ul> <li>Digital divide mitigated by improving digital literacy and access to resources.</li> </ul>	
	<ul> <li>Methodological limitations addressed through longitudinal studies and diverse research designs.</li> </ul>	Pinto et al. (2022); Atkinson et al. (2024)

# Evaluation of the School Literacy Movement in the International Scope

The evaluation of the School Literacy Movement (GLS) at the international level shows a varied approach in assessing students' literacy skills in schools. Based on a review of 14 articles, it can be seen that the literacy evaluation method covers various aspects and uses a variety of assessment instruments.

One of the approaches used is scenario-based evaluation, where participants are asked to design a literacy program and assessed based on specific criteria (Simpson et al., 2023). This method allows for a more contextual and applicative assessment of literacy comprehension. Meanwhile, more traditional approaches such as standardized assessments and objective tests are also still widely used (Enriquez et al., 2024; Walker & Whitver, 2020). This kind of test provides measurable and widely comparable data. Some studies use specialized instruments to evaluate literacy, such as the Flesch Reading Ease Score (FRES) and the Flesch-Kincaid Grade Level (FKGL) which measure the level of readability of texts (Ho et al., 2024a). Other instruments such as DISCERN and the Patient Education Materials Assessment Tool (PEMAT) are used to assess the quality of written health information, which is an important aspect of health literacy.

Literacy evaluation also involves various methods of data collection, including surveys, interviews, and focus groups (Pinto et al., 2024). The use of rubrics, checklists, and portfolios is also commonly used to provide a more comprehensive assessment. Several innovative assessment tools such as Metrics for Library Information Literacy (MeLIL) and Library Escape Room incorporate gamification elements in information literacy assessments. At the elementary school level, literacy assessments often use developmental profiles such as the Early Years Foundation Stage Profile, which assesses students' reading and writing skills (Atkinson et al., 2022). This kind of assessment categorizes student performance into 'emerging', 'expected', or 'exceeding', providing a clear picture of the level of literacy achievement.

Some studies also emphasize the importance of evaluating literacy in a broader context, including ecological and science literacy. (Maurer & Bogner, 2020) using Confirmatory Factor Analysis (CFA) to test the relationship between knowledge, values, and behavior in the context of environmental literacy. Meanwhile, Ding (2021) used PISA data to evaluate science literacy, which includes reasoning skills about science and technology. Literacy evaluation also involves an assessment of teacher assessment knowledge and practice (Sun & Zhang, 2022). This shows that teacher assessment literacy is an important component in the success of school literacy programs.

The synthesis that can be concluded is that the main findings show a diversity of evaluation methods, ranging from scenario-based assessments (Simpson et al.,

2020), standardized tests (Enriquez et al., 2024), to the use of special instruments such as FRES and FKGL (Ho et al., 2024b). The evaluation also covers various aspects of literacy, including information literacy, health, the environment, and science. An emerging trend is the use of more holistic assessment methods, such as rubrics and portfolios (Pinto et al., 2024), as well as the integration of technology and gamification in assessments. It is important to note that the evaluation focuses not only on the student's ability, but also on the teacher's assessment literacy (Sun & Zhang, 2022). Although there is a tendency towards more contextual assessments, standardization through national tests such as NAPLAN (Getenet & Getnet, 2023b) remains considered important for comparison and monitoring of progress at large.

# School Literacy Assessment in the International Scope

An analysis of the included studies reveals several key characteristics or features of school literacy assessments at the international level that have been proven effective in evaluating students' literacy skills. First, the use of a scenario-based approach that is contextual and relevant to students' real experiences (Simpson et al., 2020). This approach allows students to apply their literacy knowledge in situations similar to everyday life.

Second, the integration of advanced technology and data analysis, such as the use of visual analytics and multidimensional scaling (MDS) to analyze large-scale assessment data (Ding, 2021). This method allows for the visualization and interpretation of complex data, providing in-depth insights into the factors that affect student literacy. Third, the application of diverse and comprehensive assessment methods, including pretest and post-test (Walker & Whitver, 2022), as well as confirmatory factor analysis (CFA) (Maurer & Bogner, 2020). This multi-method approach allows for a more holistic evaluation of students' literacy abilities. Fourth, the use of standardized large-scale assessments, such as NAPLAN in Australia (Getenet & Getnet, 2022), which allows comparisons of literacy outcomes between schools and regions. Data from this assessment is also used to inform education policies and resource allocation.

Fifth, emphasis on socio-economic context and perinatal factors in the analysis of literacy outcomes (Atkinson et al., 2024). This approach recognizes that literacy is not only influenced by educational factors, but also by students' social background and early development. Sixth, the integration of literacy assessment in various domains, including information literacy (Pinto et al., 2022), environmental literacy (Maurer & Bogner, 2020), and science literacy (Ding, 2021). This approach reflects the understanding that literacy is a multi-dimensional construct that goes beyond traditional reading and writing skills. Finally, the use of advanced statistical analysis such as MANCOVA (Enriquez de la O et al., 2023) to evaluate the effectiveness of literacy programs and identify factors that affect assessment results.

These characteristics indicate that effective school literacy assessments at the international level should be designed with the real context of students in mind, integrate advanced technology and data analysis, use a multi-method approach, consider socioeconomic factors, and cover a wide range of literacy domains. By paying attention to these characteristics, the development of school literacy assessments can be more optimal in evaluating and improving the quality of student literacy in various global educational contexts.

# Challenges and Constraints in Assessment: Solutions

The analysis of the included articles reveals some of the main challenges and obstacles in school literacy assessment at the international level, as well as potential solutions to overcome them.

First, the lack of adequate training for teachers is a significant obstacle (Simpson et al., 2020). The solution is to provide systematic online courses for assessment training

and encourage the formation of assessment learning communities among teachers (Sun & Zhang, 2023). Second, time constraints in the curriculum hinder literacy development (Simpson et al., 2020). To address this, better integration between literacy assessments and the regular curriculum is needed.

Third, the challenge of utilizing educational datasets for decision-making (Enriquez de la O et al., 2023). The solution is to develop an innovative framework that integrates digital technologies for learning and assessment. Fourth, the digital divide that affects access to online educational resources (Ho et al., 2021). Addressing the digital divide and ensuring users have the necessary digital competencies is crucial for fair assessment.

Fifth, limitations in research design, such as correlational design that limits the determination of cause-and-effect relationships (Atkinson et al., 2024). The solution is to conduct longitudinal research and use more diverse assessment methods (Pinto et al., 2022). Sixth, the potential for bias in teacher assessment (Atkinson et al., 2024). To overcome this, a combination of teacher assessments and standardized tests is required.

Seventh, budget constraints that hinder investment in assessments (Pinto et al., 2022). The solution is to allocate resources efficiently and seek support from various stakeholders. Eighth, the gap between school safety policy and implementation (Tong et al., 2024). Regular risk assessments involving various stakeholders and the development of risk maps are needed to improve understanding of potential risks.

Finally, the limitations of the sample in some studies (Maurer & Bogner, 2020) suggest the need to replicate the findings in more diverse populations to improve wider applicability. Thus, the synthesis that can be concluded is that school literacy sessions at the international level face various challenges, ranging from limited teacher training to digital and methodological gaps. The proposed solution reflects a multifaceted approach that integrates professional development, technological innovation, and research methodology improvement. The key is flexibility and adaptability in assessments, acknowledging local contexts while maintaining global standards. Increased collaboration between stakeholders, including teachers, researchers, and policymakers, is critical to addressing resource and implementation constraints. The use of advanced technology and data analytics must be balanced with efforts to address the digital divide. A more holistic and longitudinal assessment approach is needed to comprehensively understand the development of student literacy. Finally, focusing on teacher capacity building and integrating assessment into daily teaching practices is a crucial step to improve the effectiveness of school literacy assessments globally.

# DISCUSSION

This study aims to review GLS assessment best practices at the international level based on research studies that have been published between 2020-2024. In particular, this study will identify the various assessment methods used, analyze the evaluation tools, and solution constraints in the latest research on GLS assessment. Based on the results of the article that was reviewed and the results were identified. Several points can be found, namely; First, the diversity of evaluation methods used, ranging from scenario-based assessments to standardized tests, reflects that multi-dimensionality is urgently needed in literacy assessment as an educational construct. This is also supported by the multidimensional literacy theory put forward by (Street, B. V., n.d.)which focuses that literacy is not only the ability to read and write but must involve broader social and cultural practices.

Second, the trend of more contextual assessments, such as rubrics and portfolios, shows a shift from traditional assessments to authentic assessments. The theory of authentic assessment was developed by (Wiggins, G, 1998) supported by this research which emphasizes the importance of assessing students' literacy in real life. Integration The integration of advanced technology and data analysis in literacy

assessments, such as the use of visual analytics and multidimensional scaling, reflects developments in the fields of educational data mining and learning analytics. This theory, as discussed by (Siemens, G., & Long, P., 2011), emphasizing the potential of big data in improving our understanding of the learning process and literacy.

Key Insights we can found:

- 1. **Assessment Methods:** Combining traditional and innovative approaches offers a more comprehensive understanding of student literacy.
- 2. **Domains Assessed:** Expanding literacy assessment to include information, health, environmental, and science literacy ensures multidimensional skill evaluation.
- 3. **Teacher Support:** Continuous training for teachers is crucial to enhance the effectiveness and fairness of assessments.
- 4. **Contextual Relevance:** Considering socio-economic factors and local contexts improves assessment applicability.
- 5. **Technological Integration:** Leveraging advanced analytics and digital tools enriches the evaluation process but must address access gaps.

The integration of technologies in data analysis, such as the use of visual analytics and multidimensional scaling, reflects developments in the field of educational data mining and learning analytics. This theory is also discussed by (Siemens, G., & Long, P., 2011), emphasizing the potential of big data in improving our understanding of the learning process and literacy. In addition, the emphasis on socio-economic context and factors influencing literacy is also in line with ecological theory which emphasizes the importance of understanding children's development in daily life (Bronfenbrenner, U, 1979). The challenges and obstacles faced in the identification of articles are the lack of teacher training and the digital divide, thus showing the need for a systematic approach in the implementation of GLS assessment. The proposed solutions, such as the provision of online courses for assessment training (Sun & Zhang, 2023) and the development of innovative frameworks that integrate digital technologies (Enriquez de la O et al., 2023), reflect a multifaceted approach that integrates professional development and technological innovation.

The recommendation for future research is that researchers must compare the duration and advantages of assessments from Asia and Europe and know the weaknesses and advantages of each assessment so that they can produce the best assessment tools. This research is limited because it only identifies and analyzes data sources from science direct and within a period of 5 years.

#### CONCLUSION

The Systematic Literature Review (SLR) article successfully identified several findings and key components for the development of literacy program assessments based on international studies. Literacy assessments need to adopt a multi-dimensional approach that includes not only reading and writing skills, but also broader social and cultural practices. The trend towards more authentic and contextual assessments demonstrates the importance of relevance to students' real lives. The integration of technology and data analytics opens up new opportunities in understanding and improving student literacy. Consideration of socio-economic and perinatal factors is also important in understanding the development of literacy. Teacher capacity building through training and continuous support is a critical component in the successful implementation of literacy programs. Literacy assessments should be designed with flexibility and adaptability, taking into account local contexts while maintaining global standards. The implication in this study is that multi-stakeholder collaboration between teachers, researchers, and policymakers is very important in overcoming implementation and resource challenges.

#### REFERENCE

- Antoro, B. (2017). *Gerakan literasi sekolah: Dari pucuk hingga akar*. Direktorat Jenderal Pendidikan Dasar dan Menengah Kementerian Pendidikan dan Kebudayaan.
- Atkinson, A. L., Hill, L. J. B., Pettinger, K. J., Wright, J., Hart, A. R., Dickerson, J., & Mon-Williams, M. (2022). Can holistic school readiness evaluations predict academic achievement and special educational needs status? Evidence from the Early Years Foundation Stage Profile. *Learning and Instruction*, 77, 101537. https://doi.org/10.1016/j.learninstruc.2021.101537
- Breakspear, S. (2012). The Policy Impact of PISA: An Exploration of the Normative Effects of International Benchmarking in School System Performance (OECD Education Working Papers 71; OECD Education Working Papers, Vol. 71). https://doi.org/10.1787/5k9fdfqffr28-en
- Bronfenbrenner, U. (1979). The ecology of human development: Experiments by nature and design. *Harvard University Press.*
- Ding, C. (2022). Examining the context of better science literacy outcomes among U.S. schools using visual analytics: A machine learning approach. *International Journal of Educational Research Open*, *3*, 100191. https://doi.org/10.1016/j.ijedro.2022.100191
- Enriquez, G., Gill, V., Campano, G., Flores, T. T., Jones, S., Leander, K. M., McKnight, L., & Price-Dennis, D. (2024). Generative AI and composing: An intergenerational conversation among literacy scholars. *English Teaching: Practice & Critique*, 23(1), 6–22. https://doi.org/10.1108/ETPC-08-2023-0104
- Ertl, H. (2006). Educational standards and the changing discourse on education: The reception and consequences of the PISA study in Germany. *Oxford Review of Education*, *32*(5), 619–634. https://doi.org/10.1080/03054980600976320
- Faizah, D. U., Sufyadi, S., Anggraini, L., Waluyo, W., Dewayani, S., Muldian, W., & Roosaria, D. R. (2016). *Panduan gerakan literasi sekolah di sekolah dasar*. Direktorat Jenderal Pendidikan Dasar dan Menengah Kemdikbud RI.
- Getenet, S., & Getnet, H. (2023a). Investigating the use of the National Assessment Program – Literacy and Numeracy (NAPLAN) test results. *Studies in Educational Evaluation*, 78, 101277. https://doi.org/10.1016/j.stueduc.2023.101277
- Getenet, S., & Getnet, H. (2023b). Investigating the use of the National Assessment Program – Literacy and Numeracy (NAPLAN) test results. *Studies in Educational Evaluation*, 78, 101277. https://doi.org/10.1016/j.stueduc.2023.101277
- Ho, B., Hong, E. M., & Benson, B. E. (2024a). Assessing and Improving the Effectiveness of Online Patient Education Materials on Essential Vocal Tremor: A Comprehensive Evaluation. *Journal of Voice*. https://doi.org/10.1016/j.jvoice.2024.02.021
- Ho, B., Hong, E. M., & Benson, B. E. (2024b). Assessing and Improving the Effectiveness of Online Patient Education Materials on Essential Vocal Tremor: A Comprehensive Evaluation. *Journal of Voice*. https://doi.org/10.1016/j.jvoice.2024.02.021
- Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M.-C., Vedel, I., & Pluye, P. (2018). The Mixed Methods Appraisal Tool (MMAT) version 2018 for information professionals and researchers. *Education for Information*, *34*(4), 285–291. https://doi.org/10.3233/EFI-180221
- Ichsan, A. S. (2018). GERAKAN LITERASI SEKOLAH DI SEKOLAH ISLAM (SEBUAH ANALISIS IMPLEMENTASI GLS DI MI MUHAMMADIYAH GUNUNGKIDUL). *Al-Bidayah: Jurnal Pendidikan Dasar Islam, 10*(1), 69–88. https://doi.org/10.14421/al-bidayah.v10i1.189

- Marmoah, S., & Poerwanti, Suharno, J. I. S. (2022). Literacy culture management of elementary school in Indonesia. *Heliyon*, *8*(4), e09315. https://doi.org/10.1016/j.heliyon.2022.e09315
- Maurer, M., & Bogner, F. X. (2020). Modelling environmental literacy with environmental knowledge, values and (reported) behaviour. *Studies in Educational Evaluation*, 65, 100863. https://doi.org/10.1016/j.stueduc.2020.100863
- Nurcahyoko, K., Anniurwanda, P., & Sudirjo, E. (2024). Investigating the Factors Influencing Literacy Skills among Young Students in Rural Areas of Indonesia. *Language Circle: Journal of Language and Literature*, *18*(2), 333–341. https://doi.org/10.15294/lc.v18i2.50287
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, n71. https://doi.org/10.1136/bmj.n71
- Pantiwati, Y. (2021). MODEL PEMBELAJARAN LI-PRO-GP (LITERASI BERBASIS PROYEK TERINTEGRASI GLS DAN PPK). Prosiding Simposium Nasional Multidisiplin (SinaMu), 2. https://doi.org/10.31000/sinamu.v2i0.3593
- Pinto, M., Garcia-Marco, J., Caballero, D., Manso, R., Uribe, A., & Gomez, C. (2024). Assessing information, media and data literacy in academic libraries: Approaches and challenges in the research literature on the topic. *The Journal of Academic Librarianship*, *50*(5), 102920. https://doi.org/10.1016/j.acalib.2024.102920
- Setiyadi, D. B. P. (2018). E-literary Texts: Reading Materials for School Literacy Movement. *KnE* Social Sciences, 3(9), 538. https://doi.org/10.18502/kss.v3i9.2716
- Siemens, G., & Long, P. (2011). Penetrating the Fog: Analytics in Learning and Education. *EDUCAUSE Review*, *46* (*5*), 30–40.
- Simpson, A., Stein, M., Rosenberg, M., Ward, B., Derbyshire, A., Thornton, A. L., & Jackson, B. (2023). Early childhood educator outcomes from online professional development for physical literacy: A randomised controlled trial. *Psychology of Sport* and *Exercise*, *68*, 102464. https://doi.org/10.1016/j.psychsport.2023.102464
- Snyder, H. (2019a). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, *104*, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039
- Snyder, H. (2019b). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, *104*, 333–339.
- Street, B. V. (n.d.). What's "new" in New Literacy Studies? Critical approaches to literacy in theory and practice: Vol. 5 (2). Current Issues in Comparative Education,.
- Sun, H., & Zhang, J. (2022). Assessment literacy of college EFL teachers in China: Status quo and mediating factors. *Studies in Educational Evaluation*, 74, 101157. https://doi.org/10.1016/j.stueduc.2022.101157
- Walker, K. W., & Whitver, S. M. (2020). Assessing information literacy in first year writing. *The Journal of Academic Librarianship*, 46(3), 102136. https://doi.org/10.1016/j.acalib.2020.102136
- Wandasari, Y., Kristiawan, M., & Arafat, Y. (2019). Policy evaluation of school's literacy movement on improving discipline of state high school students. *International Journal of Scientific & Technology Research*, 8(4), 190–198.
- Wiggins, G. (1998). Jossey-Bass Publishers.
- Winata, A., Cacik, S., & R. W., I. S. (2017). ANALISIS KEMAMPUAN AWAL LITERASI SAINS MAHASISWA PADA KONSEP IPA. *Education and Human Development Journal*, 1(1). https://doi.org/10.33086/ehdj.v1i1.291