



Effectiveness of Chromebooks in Learning Indonesian Language: A Literature Review

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Abstrak

Penelitian ini merupakan sebuah kajian sistematis yang bertujuan untuk mengkaji efektivitas penggunaan Chromebook dalam pembelajaran Bahasa Indonesia, terutama dalam konteks pendidikan dasar dan menengah di Indonesia. Kajian ini juga menelaah dinamika sosial-politik terkait dugaan korupsi dalam pengadaan perangkat teknologi pendidikan, yang dapat mempengaruhi implementasi serta hasil pembelajaran. Dengan metode *Systematic Literature Review* (SLR), penelitian ini mengidentifikasi dan menganalisis literatur ilmiah dari tahun 2015–2025 yang relevan. Hasil kajian menunjukkan bahwa meskipun Chromebook berpotensi meningkatkan keterlibatan siswa dan kualitas pembelajaran, terdapat tantangan yang sistematis seperti keterbatasan pelatihan guru, infrastruktur yang belum merata, serta ketidaktransparansi kebijakan pengadaan dapat menghambat efektivitas pembelajaran.

Kata Kunci: *Chromebook*, pembelajaran Bahasa Indonesia, *Kajian Literatur Sistematis (SLR)*, kurikulum merdeka, digitalisasi Pendidikan.

Abstract

This study is a systematic study that aims to evaluate the effectiveness of using Chromebooks in learning Indonesian, especially in the context of primary and secondary education in Indonesia. This study also explains the socio-political dynamics related to alleged corruption in the procurement of educational technology devices, which can affect the implementation and learning outcomes. Using the Systematic Literature Review (SLR) method, this study analyzes and analyzes relevant scientific literature from 2015–2025. The results of the study indicate that although Chromebooks have the potential to increase student engagement and learning quality, there are systematic challenges such as limited teacher training, uneven infrastructure, and lack of transparency in procurement policies that can hinder learning effectiveness.

Keywords: *Chromebook*, Indonesian language learning, *Systematic Literature Review (SLR)*, Kurikulum Merdeka, Education Digitization

Research Background

Education is defined as an activity carried out with precision, attention to detail, and a positive attitude with the goal of achieving desired results. To achieve these educational goals, schools function as formal institutions. Through schools, students learn various subjects. Education is one of the most important aspects of human life, as it continues to grow. Every aspect of human life, including education, is negatively

impacted by the increasing development of science and education (Handayani & Subakti, 2020).

In the current 4.0 era, education must keep pace with technological advances and changes. This includes developing an engaging and rigorous curriculum. Since the implementation of the Independent Curriculum, the learning process in education has slowly undergone a transformation toward digital learning. Teachers

play a crucial role in fostering growth and inspiration, leveraging innovation in teaching. Focusing on technology-based education can help students develop learning styles that suit their individual needs, encourage them to face new challenges, enhance their question-asking skills, and slow down their learning pace to suit their needs. Learning experiences that connect subject matter to students' real lives are crucial to student learning activities, as these learning experiences serve as sources of knowledge and skills that will contribute to the achievement of learning outcomes. (Fatikhah & Samsiyah, 2023)

Media is a term derived from language or a medium that functions as a communication tool. The word "media" comes from the Latin word "medium" (meaning between). This research focuses on the exchange of information between a recipient and a source. As Anwar (2015) stated, media encompasses all forms of storytelling used to convey ideas and messages to an audience. In this regard, the government has issued policies related to school digitalization. To support this digital learning policy, the government provides online teaching materials for use with educational stakeholders and provides ICT devices for educational units, including

Chromebook is a computer/laptop device in general, the difference lies in the operating system used, namely Linux-based Chrome OS. Chromebook is equipped with Chrome Device Management as software, then Chromebook can be operated online or offline with cloud data based so it does not require large storage on the device. Schools that receive Chromebook assistance can access the device with a belajar.id account (Ministry of Education and Culture of the Republic of Indonesia, 2021). Referring to Permendikbud No. 31 of 2019, the decision of the Minister of Education and Culture No. 320 / P / 2019, this assistance is provided in the context of digitalizing education to support digital learning activities by providing online teaching materials so that they can be used together by education personnel, students, schools and the community (Dewanti 2020). This policy emphasizes the use of information technology facilities in the form of tablet computers and home learning portals as school operational assistance. Chromebook is a computer/laptop device in general, the difference lies in the operating system used, namely Linux-based Chrome OS. Chromebooks are equipped with Chrome Device Management as software, furthermore Chromebooks can be operated online or offline with a cloud-based data so that

they do not require large storage on the device. Schools that receive Chromebook assistance can access the device with a belajar.id account (Ministry of Education and Culture of the Republic of Indonesia, 2021). Referring to Permendikbud No. 31 of 2019, the Minister of Education and Culture's Decree No. 320 / P / 2019, this assistance is provided in the context of digitalizing education to support digital learning activities by providing online teaching materials for shared use by education personnel, students, schools and the community (Dewanti 2020). This policy emphasizes the use of information technology facilities in the form of tablet computers and home learning portals as school operational assistance.

This Chromebook assistance is a follow-up to the government's school digitalization policy, which utilizes advances in ICT as a learning tool. This assistance is expected to support learning activities that are appropriate for the millennial generation, who view technology as a key element in education, teaching, and learning (Utama et al., 2021).

Since the implementation of the independent curriculum, the learning process in education has slowly undergone a transformation toward digital learning. This transformation in education is based on the importance of developing students' potential, especially in meeting the increasing demand for knowledge, improving the quality of learning, and developing student skills (Sufyadi et al., 2022). However, digitalization also presents a significant challenge for students in the future. Therefore, students must be able to adapt to these changes, requiring collaboration between parents and teachers for their development. meningkatkan kualitas pembelajaran, serta mengembangkan keterampilan siswa.

Chromebooks, as learning aids for students, should help make the learning process more effective and efficient in achieving learning objectives, taking into account the operational definition of learning aids, namely:

1. Relevance: This relates to the relevance of the material, the desired learning objectives, and the curriculum used.

2. Effectiveness: Effectiveness in helping students understand, master, and complete assignments and learning materials.

3. Suitability to Needs: This should be tailored to the needs and characteristics of students, such as accommodating different learning styles and levels of understanding.

4. Accessibility: This should be easily and seamlessly accessible to students.

5. Interactive and Active Learning: This should encourage students to actively participate in learning, allowing them to explore and practice the concepts they understand.

6. Fun and Inspirational: This should enable students to learn with enjoyment.

7. Improved Achievement and Knowledge: This should enhance their learning experience and knowledge, thus improving their achievement and knowledge.

Chromebooks are a new innovation in education as digital learning tools. The Indonesian government, through various digitalization programs, has distributed these devices to elementary schools, including those in grades four through six (Astutik et al., 2023; Supriyadi & Muis, 2022). However, studies show that their utilization is not yet optimal, primarily due to students' limited technological proficiency and the lack of integration of Chromebooks into all subjects (Selvia, 2024).

In the context of Indonesian language learning, conventional approaches are still dominant, so the adoption of digital media such as Chromebooks has not completely replaced traditional methods (Julianto, 2023b). Research by Putri (2024) found that students experienced technical difficulties in using Chromebooks, such as connecting to the internet, accessing Google Classroom, and editing assignments using Canva. These limited digital skills impacted the low effectiveness of media use in learning. Nevertheless, students showed interest in visual and audio-based learning, such as videos and digital stories, because they were able to increase learning motivation and understanding of the material (Damayanti et al., 2022).

The use of technologies like Chromebooks has the potential to improve student engagement and learning outcomes if supported by appropriate pedagogical strategies and adequate teacher training (Wiranata, 2022). Therefore, the development of interactive digital-based learning media that aligns with the characteristics of 21st-century learners is necessary. One innovation that is beginning to be developed is the integration of Chromebooks with the Canva application for delivering materials, as well as the use of Google Forms as a learning evaluation tool (Putri, 2024; Mahyudi, 2023).

However, the success of implementing technologies like Chromebooks in education is

also influenced by the socio-political context. One example is alleged corruption in the procurement of these devices, which raises concerns about the effectiveness of their implementation.

Metode Penelitian

This research uses the Systematic Literature Review (SLR) method with a descriptive qualitative approach, namely collecting and analyzing various scientific papers relevant to the topic of Chromebook use in education. This study specifically selected and reviewed five scientific journal articles that discuss the use of Chromebooks in the context of Indonesian language learning in elementary and secondary schools. The primary sources were obtained from the Google Scholar database with a publication period between 2015 and 2025.

The qualitative approach in this SLR aims to narratively describe Chromebook usage patterns and their impact on learning processes and outcomes (Ultavia et al., 2023). The literature review involved a literature search and analysis process by reviewing various journals, books, and other relevant scientific publications (Marzali, 2016). Data analysis techniques included organizing data, grouping it into thematic units, synthesizing information, developing patterns, selecting relevant data, and drawing conclusions.

In this study, no direct observations or interviews were conducted. All data analyzed were sourced from peer-reviewed scientific publications. To ensure data validity, the contents of the five articles were repeatedly read and cross-checked (Munajah & Supena, 2021; Fadilla & Wulandari, 2023).

The following is a list of research articles related to the use of Chromebooks in education.

Table 1. *List of Research Articles*

No	Title and Author	Location	Key Findings	Applications / Features	Implications
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				es Used			oom (Willy Wirana ta, 2022)		s increas e, student respons es are positive		g models	
1	<i>Optimalisasi Penggunaan Chromebook di SDN Tanjung Jati 2</i> (Nanda Amelia, 2024)	SDN Tanjung Jati 2, Siswa Kelas V	Chrome books increase enthusiasm for learning when teachers act as facilitators.	Google Docs, YouTube, Google Translate	Teacher guidance is needed for Chromebooks to be effective as a learning medium.							
2	<i>Pemanfaatan Chromebook di SMPN 1 Banjarmasin</i> (Zairida Isra Alifa, 2024)	SMP N 1 Banjarmasin	Enhancing student's motivation and learning experience in collaborative projects	Not specifically mentioned, but supports the Independent Curriculum	Chromebooks are effective for collaborative learning and easy to manage.		5	<i>Pemanfaatan Fitur Chromebook untuk Meningkatkan Membaca Pemahaman</i> (Janesya Putri, 2024)	Penelitian Tindakan Kelas, dua siklus	Improve reading comprehension by 20%	Google Classroom, Google Docs, Canva	Utilizing Chromebook features is effective if done in a structured and reflective manner.

Research Results and Discussion

Based on the analysis of the five journal articles above, it is clear that Chromebook use has a positive impact on improving the quality of Indonesian language learning, particularly in terms of motivation, understanding, and student engagement. In general, Chromebooks can:

1. Increase enthusiasm for learning when teachers play an active role as learning facilitators (Nanda Amelia, 2024).
2. Increase student learning motivation through a collaborative approach that aligns with the principles of the Independent Curriculum (Zairida Isra Alifa, 2024).
3. Significantly improve learning outcomes with a problem-based approach (Selvia Sekar Indah, 2024).
4. Support the flipped classroom model, which strengthens student interaction and activity in the classroom (Willy Wiranata, 2022).
5. Improve reading comprehension skills through the structured use of multimedia features (Janesya Putri, 2024).

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The implementation of Chromebooks in Indonesian language learning varies depending

on the context and teaching strategies used by teachers, including:

1. Using Google Docs, Google Translate, and YouTube as sources of information and interactive exercises.
2. Applying collaborative project learning methods, especially in creative literacy activities.
3. Using digital and visual media to support problem-based learning or thematic approaches.
4. Utilizing Google Classroom as a platform for delivering materials and collecting assignments.
5. Combining Chromebooks with Canva to create educational posters or visual summaries.

Regarding the case study on the Challenges of Using Chromebooks Amidst Corruption in Indonesia, the following is provided:

Table 2. *Case Study on Challenges of Chromebook Usage*

The following graph shows the effectiveness of Chromebooks in five different studies, with estimated scores based on the research findings. All studies showed high effectiveness, ranging from 85% to 92%, reflecting the positive impact Chromebooks have on student enthusiasm, learning outcomes, and learning effectiveness.

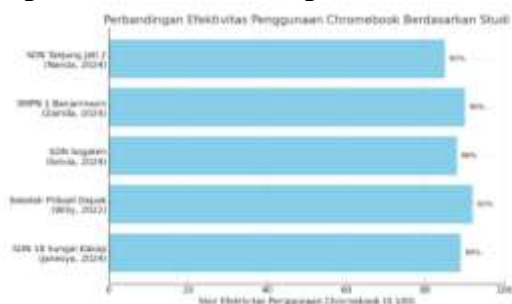


Figure 1. *Level of Effectiveness of Chromebook Usage*

This literature review confirms that Chromebooks have significant potential to improve the quality of Indonesian language learning. However, their successful implementation depends heavily on teacher readiness, school infrastructure, and the socio-political context. One such factor is the alleged corruption in the procurement of the Chromebooks used.

N o	Locat ion	Ye ar	Procur ement Amou nt and Value	Allege d Proble m	Impact / Implic ations
1	Kabu paten Mina hasa Utara , Sula wesi Utara	20 22 – 20 23	2.916 unit (2022) dan 2.631 unit (2023) ; indika si mark- up hingga Rp11 miliar	The price per unit reache d Rp7.5– 7.6 million (consid ered to exceed the standar d); an indicat ion of a violati on of technic al proced ures.	Budget waste; violati on of technic al guideli nes; declini ng public trust
2	Kabu paten Lamp ung Teng ah, Lamp ung	20 23	2.100 unit; total nilai Rp17, 45 miliar	Suppli er conditi oning, price mark- ups, volum e reducti ons, warran ty specifi cations not meetin g	Allege d corrupt ion reporte d to the High Prosec utor's Office; discrep ancy betwee n goods and payme nt
3	Kabu paten Poso, Sula wesi Teng ah	20 22	Rp13, 4 miliar untuk 112 SD	The item receive d was not a laptop but a Chrom ebook	Many schools cannot utilize Chrom ebooks due to limited interne t

Conclusion

Based on the results of five major studies, Chromebooks have been shown to positively contribute to Indonesian language learning at the elementary and secondary levels. At SDN Tanjung Jati 2 (Nanda Amelia, 2024), Chromebooks increased student enthusiasm for learning, with teachers acting as facilitators in the use of applications such as Google Docs and YouTube. A similar finding was also found at SMPN 1 Banjarmasin (Zairida Isra Alifa, 2024), where these devices supported student collaboration on projects based on the Independent Curriculum and increased learning motivation.

Furthermore, a study by Selvia Sekar Indah (2024) demonstrated a significant improvement in Indonesian language learning outcomes through a problem-based learning model utilizing Chromebooks. In the context of flipped classrooms, research by Willy Wiranata (2022) demonstrated that Chromebooks promote learning completion and effectively enhance student-teacher interaction. Meanwhile, Janesya Putri (2024) demonstrated that Chromebook features such as Google Classroom and Canva successfully improved students' reading comprehension by up to 20%.

These results demonstrate that Chromebooks have significant potential as a tool to support interactive, collaborative, and technology-based Indonesian language learning. The average

effectiveness of the studies analyzed ranged from 85% to 92%, indicating the successful implementation of these devices in the classroom, especially when supported by appropriate pedagogical strategies.

However, this effectiveness is not without significant challenges, particularly regarding the socio-political context in Indonesia. Cases of alleged corruption in Chromebook procurement in various regions have drawn serious attention. In North Minahasa, North Sulawesi, there were indications of price markups reaching Rp11 billion, with unit prices exceeding the established standards. In Central Lampung, the methods used involved conditioning suppliers, price markups, and volume reductions. Meanwhile, in Poso, Central Sulawesi, Chromebook procurement did not meet needs due to limited internet access in the region.

These cases reflect weak oversight, a lack of accountability, and minimal consideration of local infrastructure readiness for educational technology implementation. While Chromebooks are pedagogically effective, corruption in their procurement can hamper the sustainability and fairness of device distribution and undermine public trust in educational digitalization programs.

Therefore, the success of Chromebook implementation depends not only on the quality of the devices and teaching strategies, but also on transparency, policy integrity, and the readiness of the school infrastructure.

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