

Improving Reading Skills Through the SAS Method Based on Interactive Website Media

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ABSTRACT

Early reading skills play a crucial role in determining students' success in advanced reading. Therefore, teacher attention and intervention are essential in developing early reading skills. Early reading is seen as the primary foundation for subsequent learning, which must be built solidly and managed effectively. This study aims to improve reading skills in elementary school students. One approach offered is the application of the Synthetic Analytical Structure Method (SAS) combined with the use of website-based interactive media. This method is expected to significantly improve students' early reading skills. The study used a Classroom Action Research (CAR) design, implemented in two cycles, each encompassing four stages: planning, implementation, observation, and reflection. Research data were obtained through observation, interviews, assessment, and documentation techniques. The research results show that the use of the interactive web-based SAS method empirically improves students' reading skills in the early stages. This is demonstrated by the increase in completion rates from the pre-cycle (45%) to the second cycle (88%). This not only improved reading technique (pronounced letters and words), but also increased comprehension and desire to learn.

Keywords: *Interactive Media; Reading Skills; Synthetic Analytical Structure; Website.*

INTRODUCTION

One of the most important basic skills in the learning process at the elementary level is reading ability. Reading is not just about recognizing letters and words; it also involves understanding, analyzing, and interpreting the information contained in the text (Akbar, 2022; Andari, 2023; Lukman & Herwandi, 2023; Nurkhofifah, 2022). Good reading skills will contribute to improving students' overall learning outcomes. However, many students still experience reading difficulties, both in terms of phoneme mastery, word comprehension, and sentence structure.

Reading skills have an essential role in the learning process, because through the habit of reading, a person can expand their knowledge and insight, which in turn increases intelligence (Mustikawati & Fitriani, 2022; Nurhasnah et al., 2022). In this way, individuals will be better prepared to face various life challenges in the future. (Fauziah & Hidayat, 2022; Wekke, 2023). On that basis, reading activities need to be instilled and practiced at all levels of education, including at the elementary school level

(Anam et al., 2023; Zainuddin & Hardiansyah, 2023). In the Elementary and Secondary Education Unit Content Standards for lower grades, language and literature skills encompass four main aspects: listening, speaking, reading, and writing. These four aspects are closely interrelated and contribute integrally to the development of students' language skills (Cheriebelle & Markus, 2023; Maeja & Laka, 2023; Vianney & Ginting, 2023).

Reading is a form of written language skill that is receptive in nature (Imron, 2022; Ramadhani & Wulandari, 2022). It is called receptive because through reading activities, individuals obtain various information, knowledge, and new experiences that contribute to improving thinking skills, sharpness of understanding, and broadening of insight.

Early reading skills have a significant influence on the development of advanced reading skills. Therefore, the role and attention of teachers are crucial factors in mastering early reading skills (Irnanda et al., 2022; Wekke, 2022). Beginning reading is seen as a foundation for subsequent learning processes, so it needs to be built solidly and managed effectively. In the learning process, teachers are required to train, guide, and direct students with patience and precision so that learning objectives can be achieved. Specifically, the goal of beginning reading in grade II is to equip students with basic reading mechanics, practice comprehension and pronunciation skills in simple sentences with appropriate intonation, and develop fluency and accuracy in reading words and simple sentences (Akbar, 2022; Widiani et al., 2022).

One of the causes of poor reading skills is physiological factors caused by physical condition and gender. Furthermore, intellectual factors also play a significant role in determining students' reading abilities. Various aspects, such as learning models, media, approaches, and strategies implemented by teachers, influence students' language skills, including reading ability. This is because intellectual factors have a significant influence on the quality of students' beginning reading skills (Sari & Fauziah, 2023; Simanihuruk et al., 2022).

One of the primary responsibilities of teachers in reading instruction is to guide students in understanding, interpreting, evaluating, and appreciating the content of the reading. Teachers are also required to foster students' interest and increase their attention to reading activities (Fat, 2022; Maksum, 2022). In this process, the selection of appropriate methods and media for learning must be crucial, as they can be crucial in making the material more engaging and easier for students to understand. Furthermore, teachers need to teach various effective reading techniques and strategies so students can gain a good understanding of the reading material (Mulyawan et al., 2022; Puji & Kusumaningrum, 2023).

Observations and interviews with elementary school teachers in Majalengka Regency revealed that students' early reading skills were relatively low. They also stutter and have difficulty distinguishing letter sounds. The longer a sentence, the more difficult it is for students to spell or read it. They also have difficulty reading difficult or rarely heard words or sentences. As a result, they have difficulty recognizing letters and pronouncing words. Therefore, the problem in this study is how to improve students' reading skills using the Analytical Synthetic Structure (SAS) method based on interactive

website media. The application of this method is very urgent as an alternative interactive learning method and an adaptation to the rapid development of technology.

One way to address low reading skills is through the selection of appropriate learning methods and media. Learning methods and media serve as strategic tools for achieving predetermined learning objectives (Darmawanti, 2022; Muchtar et al., 2023). In addition, the application of appropriate reading techniques is also necessary to help students overcome various difficulties they face in the reading process.

The web-based Analytical Synthetic Structure (SAS) method teaches students to understand word structure globally, analyze word parts (analytical), and then synthesize them into a single word or sentence (synthetic). This method is one way of reading that can solve the above problem. This approach helps students recognize word patterns more systematically, thus making it easier for them to develop their reading skills (Ayuni et al., 2023; Nurhayati, 2021; Rikmasari & Anggraeni, 2022; Siki et al., 2024). Therefore, this method is more synthetic in nature. It is hoped that students will more easily understand each reading they study using this method.

The use of interactive, web-based media in learning is increasing. This model offers several advantages, such as engaging visualizations, high interactivity, and flexibility in learning access (Novitasari & Kurniawati, 2023; A. Putri et al., 2022; Safira et al., 2021). By incorporating the SAS method into website-based interactive media, it is hoped that it will be easier for students to understand reading learning materials in a more interesting and entertaining way.

Much research has been conducted to improve students' reading skills. One such study is the Synthetic Analytical Structure (SAS) method, which is considered one of the most effective approaches to teaching reading. This study will investigate the use of the SAS method, based on interactive website media, to improve students' reading skills.

METHOD

This study was conducted in the form of Classroom Action Research (CAR), which consists of two cycles. Prior to the implementation of the action, a pre-test and observation were conducted to measure students' reading skills. The learning action used the Synthetic Analytical Structure Method (SAS) combined with web-based interactive media. Data from the pre-test and observation were used as the basis for designing the action in cycle I. Furthermore, the results of the reflection in cycle I were used to determine improvements to the action in cycle II. Cycle I was implemented in three meetings, while Cycle II was implemented in two meetings.

The second cycle was carried out in two meetings. In general, the series of activities in cycle II was like those in cycle I, but the actions given were different because the activity scenarios in cycle II were designed based on the results of reflections from cycle I. In this study, three data collection instruments were used, namely: (1) tests, (2) observation sheets, and (3) questionnaires. The tests were used to measure students' learning outcomes in reading skills. The observation sheets were used to record all learning activities, observe changes that occurred during the actions given, assess the impact of both planned and unplanned actions, and identify obstacles that emerged and

how these obstacles affected the course of the actions. Meanwhile, the questionnaire functioned to collect students' responses to the teacher's ability to manage learning using the Synthetic Analytical Structure Method (SAS) based on interactive media through a website platform.

The subjects of this study included all parties directly involved in the learning process, namely, students and teachers. The data analyzed consisted of two types: quantitative and qualitative. Quantitative data were obtained through tests aimed at measuring students' level of understanding of the reading material. Meanwhile, qualitative data were obtained from observations and students' responses regarding learning activities and their responses to the interventions provided.

The data in this study were analyzed interactively in three stages: data reduction, data presentation, and drawing conclusions or verification. In the data reduction stage, the goal is to obtain a large amount of data that meets the requirements for analysis through a process of selection or simplification. This is done to ensure that the research results are unambiguous and to eliminate unnecessary data.

The descriptive data used for the analysis are presented in easy-to-understand graphical form and wording. Meanwhile, data on student creativity in learning is presented as percentages. In the Conclusion Drawing/Verification stage, data is recorded, classified, and interpreted to reach conclusions. Conclusions are written in short sentences, but they have a broad meaning.

FINDINGS AND DISCUSSION

This research was conducted in two cycles, involving second-grade elementary school students as the subjects. Prior to the intervention, the researchers administered a pre-cycle initial reading test. This test was used to determine the students' initial reading abilities, including letter mastery, word recognition, simple sentence reading, intonation, and comprehension.

Pre-cycle results indicate that students' reading ability remains low. Of the total number of students, only about 45% were able to read successfully, meeting the school's Minimum Completion Criteria (KKM). Most students still experience difficulties, such as: *first*, Letter recognition: Some students are unable to correctly distinguish letter sounds, especially those with similar shapes (e.g., b–d, m–n, or p–q); *Second*, reading simple words: Students often pause when reading words consisting of more than two syllables. Words with closed syllables (e.g., "tanduk," "kursi") are more difficult than words with open syllables (e.g., "buku," "bola"). Third, reading short sentences: Students still stutter when reading simple sentences, often using inappropriate pauses and intonation. *Fourth*, reading comprehension: Most students simply sound out words without understanding the meaning of the text. This is evident in students' responses when asked simple questions related to the text.

After the initial conditions were identified, learning activities were implemented in Cycle I use the Synthetic Analytical Structure (SAS) method, supported by interactive website media. Cycle I was conducted in three meetings. Evaluation results showed an increase in students' reading abilities, including: Learning completion increased from

45% to 70%; Students began to become accustomed to recognizing words (global structure), then analyzing their constituent letters, and synthesizing them back into a single word; For example, in the word "buku," students more quickly recognized the word as a unit, then analyzed the letters b-u-k-u and put them back together smoothly; and reading speed increased, although some students still stuttered; Reading comprehension also improved, as evidenced by some students being able to answer simple questions like "Who went to the market?" based on the text read.

However, there were still weaknesses in Cycle I, including some students' lack of focus when using interactive website-based media. Others were more interested in the animations than in the words they were supposed to read. Based on reflections on Cycle I, improvements were made to Cycle II, which was conducted over two meetings. Teachers provided more intensive support, guided students individually, and directed them to use interactive media as a learning tool, not just entertainment. The results of Cycle II showed even greater improvements: Completion has increased to 88%; Students who previously had difficulty recognizing letters are now more fluent, although they still make a few errors with certain letters; Reading compound words or simple sentences can be done more quickly and with fewer pauses; Reading intonation starts to form naturally, for example, in questions and declarative sentences; Reading comprehension has improved; more than 80% of students are able to answer questions related to the content of the short texts they read.

Thus, quantitatively, it can be concluded that the implementation of the SAS method based on interactive website media has had a significant impact on improving students' reading skills, with a 43% increase in completion rate from the pre-cycle (45%) to the second cycle (88%). To support this finding, the following is a breakdown of the completion rate per reading skill aspect:

Table 1. Students' completion of reading skills

Reading Skills Aspects	Pre-Cycle	Cycle I	Cycle II
Letter recognition	60%	80%	92%
Reading simple words	48%	72%	87%
Reading simple sentences	40%	68%	85%
Reading intonation	35%	65%	82%
Reading comprehension	30%	60%	80%

The table clearly shows that each aspect experienced consistent improvement in each cycle. The most significant improvement occurred in reading comprehension, which rose from only 30% in the pre-cycle to 80% in the second cycle. This demonstrates that the use of the interactive media-based SAS method not only helps students read words and sentences but also improves their understanding of the text's meaning.

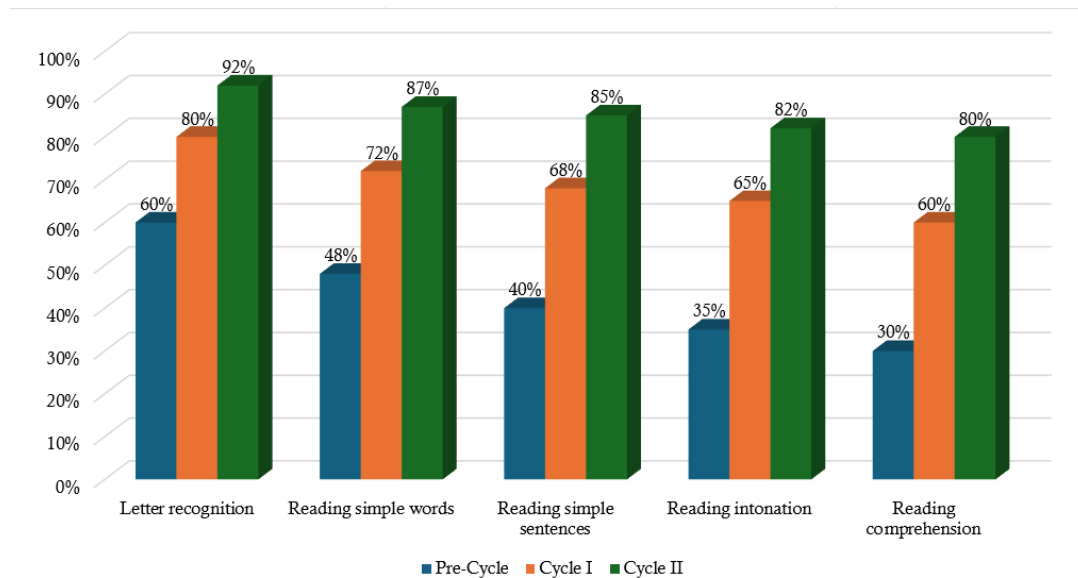


Figure 1. Students' completion of reading skills

In addition to quantitative data, this study also obtained qualitative findings through interviews, classroom observations, and reflection notes. The qualitative data provided a more comprehensive picture of how the learning process took place and how students and teachers responded to the implementation of the SAS method based on the interactive website media.

The class teacher reported that before the intervention, students appeared to have difficulty reading. Many lacked confidences when asked to read in front of the class. The teacher also acknowledged that the usual learning method tended to be monotonous, involving conventional reading exercises with textbooks. After implementing the interactive media-based SAS method, the teacher noted positive changes:

1. Students are more enthusiastic about participating in learning because the media displays are engaging.
2. The learning process is more structured because the SAS method provides systematic steps, from global word recognition, analysis, and synthesis.
3. Teachers are assisted in classroom management because interactive media provides well-packaged material, complete with images, sound, and exercises.
4. The main challenge, according to teachers, is how to direct students to stay focused on the reading material and not be distracted by animations or entertainment features in the media.

Some students admitted they preferred learning to read with interactive media over just using printed books. They stated that the visuals, animations, and sounds made learning feel like playing. Various student statements indicated that website-based interactive media increased motivation and facilitated comprehension. Observations were conducted during the learning process in each cycle. In the pre-cycle, researchers found that many students appeared unfocused when asked to read. Some students showed reluctance, and some even tried to avoid being asked to read in front of the class.

In Cycle I, the classroom atmosphere began to change. Although some students still appeared shy, when interactive media was displayed on the screen, almost all students were engaged and attentive. When the teacher asked students to read the words that appeared on the screen, student responses increased.

In Cycle II, the changes became even more apparent. Students were more active in asking questions, with some even competing to read first. They also appeared more confident reading in front of the class. When given practice questions on interactive media, most students answered correctly. From the reflections, several important points can be concluded:

1. Learning motivation increases significantly. Interactive media makes students more enthusiastic.
2. Reading habits have begun to form. Students no longer feel pressured but instead feel challenged to try.
3. Technical challenges, such as difficulty using devices, only occur when using them and can be overcome with teacher guidance.
4. The teacher's role as a facilitator becomes more dominant than as a sole source of information.

The results of this study indicate that the application of the Analytical Synthetic Structure (SAS) method based on interactive website media can significantly improve students' early reading skills. When viewed from the perspective of reading learning theory, this finding aligns with the view (Ayuni et al., 2023) the SAS method is effective in developing early reading skills in elementary school-aged children because it emphasizes the processes of whole word recognition (global), word part analysis, and restructuring (synthesis). According to (Siki et al., 2024) SAS provides a strong foundation for reading, writing, and arithmetic skills because students are encouraged to recognize words in real contexts before moving on to letter analysis. This differs from the phonics method, which emphasizes letter sounds first. From a constructivist perspective, SAS provides students with the opportunity to build reading comprehension through direct experience, not just through memorizing symbols.

Furthermore, the use of website-based interactive media enhances the effectiveness of the SAS method. Mayer's theory of multimedia learning (Mayer, 2017) explains that learning will be more meaningful when information is presented in an integrated manner, including words, images, and sound. This study's findings support this theory, as students more easily understand words, sentences, and reading content when interactive media displays text accompanied by visual and audio illustrations.

In line with this, research (Novitasari & Kurniawati, 2023) shows that web-based interactive learning media can enhance students' learning experiences because they provide high interactivity, flexible access, and an attractive appearance. The increase in learning motivation seen in this study supports their findings.

Quantitatively, the increase in completion rate from 45% in the pre-cycle to 88% in the second cycle aligns with findings (Nurhayati, 2021) which demonstrates that the SAS method can improve writing and reading skills in lower-grade students. These

results also support research (Fauziah & Hidayat, 2022) that the use of reading-based digital applications can accelerate early literacy skills.

Thus, this research not only strengthens existing theories but also provides empirical evidence that combining classical methods (SAS) with modern media (interactive websites) can produce more effective reading learning. To understand the relationship between the SAS method and interactive media and reading ability, it is important to review the essence of the SAS method. The Synthetic Analytical Structure (SAS) method emphasizes three main stages: Structure (global): Students are introduced to complete words or sentences without having to first recognize individual letters; Analytical: Students analyze the word into its constituent parts (syllables or letters); Synthetic: Students reassemble the constituent parts into meaningful words or sentences.

This stage is particularly suitable for lower elementary school students who are still in the concrete operational stage, according to Piaget's theory (Imanulhaq & Ichsan, 2022). They find it easier to grasp concepts through concrete objects, images, or complete symbols before moving on to detailed analysis. However, a challenge in implementing the conventional SAS method is the limited media available. Teachers often rely solely on whiteboards or flashcards, quickly becoming bored with students. This is where interactive, web-based media becomes crucial. These media provide rich visual displays, moving animations, and sound to support the SAS process.

In this way, students not only see letter symbols, but also hear sounds, see images, and can even interact directly with the media (for example, clicking on letters to rearrange them). The learning process becomes multisensory, which, according to dual coding theory (Paivio, 1990), greatly helps students' memory and comprehension.

The results of this study demonstrate that the relationship between SAS and interactive media is complementary. The SAS method provides a pedagogical framework, while interactive media provides the technological means to present learning in an engaging, systematic, and accessible manner. The collaboration between the two resulted in significant improvements in students' reading skills.

CONCLUSION

The application of the interactive website-based SAS method has been empirically proven to improve students' beginning reading skills. This is evident in the 43% jump in completion rates from the pre-cycle (45%) to the second cycle (88%). This improvement occurred not only in the technical aspects of reading (pronouncing letters and words), but also in aspects of reading comprehension and learning motivation. The results of this study have several important implications for learning practices, both at the teacher level, school level, and the education system in general. Teachers can utilize the interactive media-based SAS method as an alternative strategy for beginning reading learning. With this method, teachers no longer rely solely on textbooks but also integrate digital technology that is more engaging for today's generation of students. For students, implementing this method provides a fun and meaningful learning experience. Students no longer perceive reading as a boring activity, but as an interactive activity that combines text, images, and sound. Schools can integrate the use of interactive website-

based media into the digital literacy curriculum. This aligns with the Merdeka Belajar policy, which emphasizes the use of technology in learning. The implementation of the SAS method based on interactive media can be used as a model for early reading learning in elementary schools. This model supports SDGs 4 (Quality Education) and government programs to improve literacy culture from an early age.

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