Media Smart Apps Creator Based on the SAS (Synthetic Structural Analytical) Method to Improve Phoneme Pronunciation for Lower Grade Students

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ABSTRAK

Pembelajaran bahasa Indonesia menjadikan siswa kurang tertarik dalam mengikuti pembelajaran karena penggunaan media dan metode pembelajaran yang kurang tepat. Hal itu menyebabkan siswa pasif dalam proses pembelajaran, sehingga berdampak pada rendahnya hasil belajar siswa. Guru disarankan menggunakan media yang menarik agar memotivasi siswa dalam meningkatkan hasil belajar. Penelitian ini bertujuan untuk menciptakan media smart apps creator berbasis metode struktural analitik sintetik untuk meningkatkan keterampilan pelafalan fonem siswa kelas rendah. Penelitian ini termasuk penelitian pengembangan dengan model Borg and Gall. Subjek penelitian yaitu siswa kelas I SD, guru kelas, dan tim ahli. Teknik analisis data menggunakan deskriptif kuantitatif dan kualitatif. Hasil penelitian yang diperoleh yaitu uji media 97,5%, ahli materi 90%. Keefektifan media media smart apps creator berbasis metode SAS untuk meningkatkan pelafalan fonem dapat dilihat dari peningkatan perolehan nilai pretest dan postes pada Uji N-Gain. Peningkatan keterampilan yang didapatkan dari rata-rata nilai pretest (67,22) dan posttest (88,56) pada uji skala kecil sebanyak 21,38. Uji skala besar juga mengalami peningkatan pada rata-rata nilai pretest (65,67) dan posttest (85,43) sebesar 19,76. Berdasarkan hal tersebut dapat disimpulkan bahwa media smart apps creator berbasis metode SAS mampu meningkatkan keterampilan siswa dalam melafalan fonem.

ABSTRACT

Learning Indonesian makes students less interested in participating in learning because of the use of inappropriate media and learning methods. This causes students to be passive in the learning process, resulting in low student learning outcomes. Teachers should use interesting media to motivate students to improve learning outcomes. This research aims to create a smart app creator media based on synthetic, analytical structural methods to improve the phoneme pronunciation skills of low-grade students. This research includes development research using the Borg and Gall model. The research subjects were first-grade elementary school students, class teachers, and a team of experts. Data analysis techniques use quantitative and qualitative descriptive. The research results obtained were a media test of 97.5% and a material expert of 90%. The effectiveness of the SAS method-based smart apps creator media for improving phoneme pronunciation can be seen from the increase in pretest and post-test scores on the N-Gain Test. The increase in skills obtained from the average pretest (67.22) and posttest (88.56) scores on the small-scale test was 21.38. The large-scale test also experienced an increase in the average pretest (65.67) and posttest (85.43) scores of 19.76. Based on this, it can be concluded that the smart media creator app based on the SAS method can improve students' skills in pronouncing phonemes.

1. INTRODUCTION

There are 4 components of Indonesian language skills that students must master in elementary school, namely writing skills, listening skills, reading skills, speaking skills. This research measures speaking skills, namely pronouncing phonemes in class I students. Students can be said to speak fluently if the student is able to read or listen. Different skills always reinforce each other (Pranata et al., 2018; O Suhartati, 2021;

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Zainuddin, 2018). Not much different from writing skills, it cannot be separated from reading, listening and speaking skills. Students can master the four existing aspects gradually (Aristhi & Manuaba, 2020; Nurcholis & Istiningsih, 2021). This ability starts from listening skills followed by the development of speaking skills. All these aspects are the scope of Indonesian language learning. Student learning should apply learning methods that are appropriate to the level of language skills and student needs. The stage of pronouncing phonemes and writing simple text prioritizes existing sounds and writing, clarity and fluency of sound, as well as understanding meaning and content (Wardiyati, 2019).

The current ability to pronounce phonemes of students at SDN Kuwaron 02, especially in first grade, is still not going as expected. The results of interviews conducted with the class teacher showed initial data that students were not yet able to pronounce phonemes well. This is proven by the daily scores for competence in pronouncing vowel and consonant sounds in Indonesian and regional language words for class 1 students at SDN Kuwaron 02 which have not yet reached the standard completion score. This is continuous with the speaking learning achievements in the Independent Curriculum. The standard score for completeness in phoneme pronunciation competency is 75, while the average score obtained by class I students is 65.43. This value shows that class I students have not reached the standard of completion. Looking at each student out of 30 class 1 students, there were 11 (36.67%) students who passed the completeness standard, while 19 students (63.33%) did not pass the completeness standard. Based on these data, it is known that there are serious problems in learning phoneme pronunciation. The learning carried out on phoneme pronunciation material was not optimal because the teacher only used reading books. Teachers have not utilized the use of media when delivering learning. Based on the results of the interview, this is because teachers do not have innovative learning media that suits students' characteristics and is not monotonous, resulting in a lack of student interest in participating in learning. The school has a projector facility that teachers can use in learning. Problems such as students feeling fed up and bored can be overcome, so that students can focus more on learning, especially on competence in pronouncing vowel and consonant sounds.

Solutions to overcome problems with learning media. Media is a tool that can be used to communicate learning goals and messages (Suryani, 2018). Learning media is a means of communication used to facilitate the transfer of messages during the learning process (Audia et al., 2021; Larashinta, 2018). Learning media has an important role in achieving elementary school student learning outcomes. Elementary school students are not yet able to think abstractly, they are still in the concrete operational stage. The use of concrete learning media can influence learning achievement. It is important to provide significant results between the use of learning media and learning achievement (Arimbawa, 2021; Mariyana, 2020; Moreira et al., 2018). Learning material needs to be visualized in a concrete form. The use of learning media can provide students with experiences they have never had before and are meaningful in learning (Oktaviani & Amini, 2023; Supriyono, 2018). The media is prepared based on the application of the SAS method. Synthetic Analytical Structural or what is usually called SAS is one of the many methods that can be used for learning to pronounce phonemes and write phonemes at the initial stage. The SAS method places sentences as the smallest linguistic element, so students are immediately introduced to text in the form of meaningful sentences (Faizatul Khoridah et al., 2019). The SAS method can be used in teaching initial phoneme pronunciation because with this method it is easier for students to recognize phonemes with the stages of displaying and introducing complete sentences, then the complete sentences are analyzed into words, followed by syllables, and letters then returned to the original sentence structure (Aida et al., 2018; Faizatul Khoridah et al., 2019).

Technological developments make it easier to carry out the learning process. The existence of technology will certainly bring changes from what was originally a presentation of knowledge that comes from learning to become more interactive where students are involved in the learning process, for example the use of SAC (smart apps creator) media as evidence of technological progress. Smart apps creator is a new interactive media that can be used easily for the learning process because this media does not require programming code and the resulting formats are diverse, namely producing .exe and HTML5 formats (Fahlevi & Aminatun, 2023; Mahuda et al., 2021). Media is needed to encourage students' interest in learning (Rachmavita, 2020). The Android-based flipped classroom model uses Smart apps creator software to improve the quality of learning in elementary schools because with SAC students can learn interesting content, so they don't feel bored, are more active and enthusiastic (Heliawati et al., 2022; Oktri Suhartati, 2021; Widiyatmoko et al., 2021). Smart apps creator media based on the SAS method is a learning media developed through the smart apps creator application that can be used offline. It is hoped that the smart apps creator media can make learning more interesting and enjoyable because the media is equipped with images, text, video, audio and function buttons that can be easily used like games on Android devices. The presence of function buttons makes the smart apps creator media interactive because students can operate it directly. Students become more interested in learning, by using smart apps creator media it is

hoped that they will be able to improve student learning outcomes in competence in pronouncing vowel and consonant sounds. Compared to other methods of learning to read, the SAS method makes it very easy for students to learn to read, especially beginning reading because this method can be used as a basis for analytical thinking.

Previous research findings state that smart apps creator media is very important to use effectively in learning by implementing the Problem Based Learning (PBL) model (Fahlevi & Aminatun, 2023; Heliawati et al., 2022). The use of thematic learning media integrated with Smart Apps Creator based on a scientific approach for Class III Elementary School is effective and practical in the learning process (Oktaviani & Amini, 2023). Based on several research results, the development of SAS-based smart apps creator media is an effective medium for improving phoneme pronunciation using the SAS method. This research is different from previous research, because in previous research no one has used the smart apps creator application combined with the SAS method. This research aims to create a smart apps creator media based on the SAS (synthetic analytical structural) method to improve the phoneme pronunciation of grade 1 students at SD Negeri Kuwaron 02 Grobogan.

2. METHOD

This research applies the Research and Development (R&D) research method according to Borg and Gall (Sugiyono, 2017). The research was carried out at SDN Kuwaron 02 by carrying out 10 stages according to theory, namely potential and problems, data collection, product design, design validation, design revision, product trial, product revision, usage trial, product revision, mass product manufacture. Due to time and cost limitations, we can only use stages up to stage eight of the total stages. The stages of Borg and Gall's research model are presented in Figure 1.
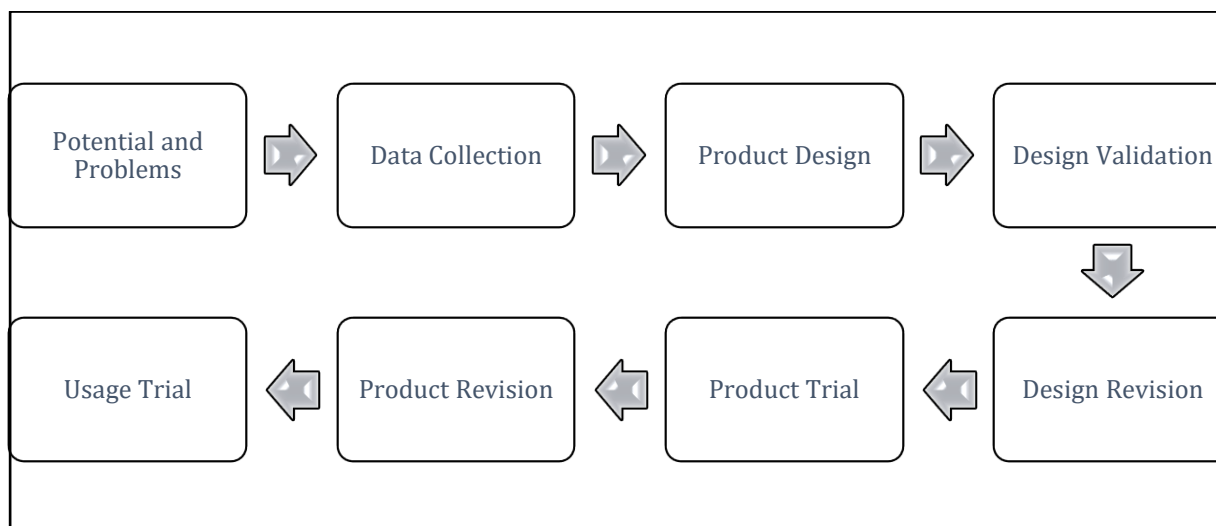
Figure 1. Borg and Gall Research Model

The technique used for data collection applies two techniques, namely qualitative data analysis techniques and quantitative data analysis techniques. Qualitative data was obtained from interviews, observations and questionnaires given to teachers and class I students at SD Negeri 02 Kuwaron. Quantitative data was obtained based on the results of media validation by expert lecturers in the material field and expert lecturers in the media field, as well as pretest and post test results using the developed media, teacher response questionnaire results after using the media, media suitability calculation results, normality test results, test results. t, as well as the n-gain test results. The material expert instrument grid is presented in Table 1, Table 2, and Table 3.

Table 1. Material Expert Instrument Grid

Assessment Aspects	Assessment Indicators	Item
Presentation Aspects	The material is presented coherently.	2
	Encourage students' curiosity.	3
Content Aspect	Appropriate to support the material being taught.	4
	Make students active.	2

Assessment Aspects	Assessment Indicators	Item
	Able to increase students' knowledge.	2
Technical Quality	Visual images and text are clear.	2
Language Aspects	The language used is short and clear.	2
	Suitability of language to students' level of thinking.	1
Amount		**18**

(Arsyad, 2017; Suryani, 2018)

Table 2. Media Expert Instrument Grid

Assessment Aspects	Assessment Indicators	Item
Language	The language used is short and clear.	2
	Suitability of language to students' level of thinking.	1
Display Aspects	Media displays emphasize targeted information.	3
	The choice of font type and font size is correct.	2
	Interesting.	3
Usage Aspects	Easy to use.	3
	Instructions for use.	2
	According to the student's level of development.	3
	Practical.	3
Beneficial Aspect	Make it easier for students to understand the material.	1
Aspects of effectiveness	Makes it easier for teachers to convey material.	1
Amount		**24**

(Arsyad, 2017; Suryani, 2018)

Table 3. Teacher Response Questionnaire Grid

Aspect	Indicator	Item
Technical quality and presentation of material	Media display	1
	Display images, text and colors	3
	Instructions for use	2
Presentation of material content	Presentation of material	6
	Presentation of practice questions	2
Language and readability of material	Use of language in the media	3
Amount		**17**

Product feasibility analysis is obtained from the product feasibility test assessment which is taken from the assessment of the smart apps creator product feasibility instrument using the SAS method by media experts and material experts. The data is then analysed using a descriptive percentage test, the percent value sought can be calculated by the raw score obtained from the expert divided by the maximum score from the product feasibility instrument and multiplied by 100% (Purwanto, 2013). The percentage data results are converted based on predetermined eligibility criteria, namely very feasible, feasible, quite feasible, and not feasible. Media eligibility criteria are presented in Table 4.

Table 4. Media Eligibility Criteria

Percentage	Criteria
76% - 100%	Very Worth It
51% - 75%	Worthy
26% - 50%	Decent Enough
0% - 25%	Not feasible

(Purwanto & Ngalim, 2017)

The normality test is used to determine value data from the pretest and posttest. The normality test uses the formula used, namely the Liliefors Test formula. The application of the Liliefors Test can be calculated with the help of SPSS Statistics 23 for the analysis used is Shapiro-Wilk.The real level α chosen is 0.05. With the following criteria. (1) Data is normally distributed if Sig > 0.05. (2)Data is not normally distributed if Sig < 0.05. The t-test was carried out to determine the results of the pretest and posttest on the use of smart apps creator media using the SAS method, whether there were significant differences or

not with other means in order to test the hypothesis. Decisions can be made on student learning outcomes based on the results of the t-test, as follows. (1) $t_{count} > t_{table}$, H_a is accepted. (2) $t_{count} < t_{table}$, H_o is accepted. The results of the pretest and posttest before and after using the smart apps creator media using the SAS method are calculated using the gain index. The N-gain test calculation aims to find out how much influence the product developed by the researcher has on student learning outcomes. The results of the calculations are then categorized according to the criteria for the N-Gain test results presented in Table 5.

Table 5. N-Gain Test Results Criteria

Coefficient Interval	Criteria
N-gain < 0.3	Low
0.3 ≤ N-gain < 0.7	Currently
N-gain ≥ 0.7	Tall

3. RESULT AND DISCUSSION

Results

The results of this learning media are discussed in two main ways, namely expert validation and media effectiveness results smart apps creator with the SAS method. Development is carried out in stages according to Borg and Gall (Sugiyono, 2017) by carrying out up to stage eight. The first stage is the potential problem. To find out this, the researcher makes observations. Observations were carried out in order to collect data. Observation activities were carried out in class I at SDN Kuwaron 02. The results of the observations obtained were that students were less interested in learning Indonesian. The second stage of data collection used teacher interviews and observations of learning outcomes and class I students at SD N Kuwaron 02. Interviews were conducted with class 1 teachers where the focus was on learning content that had low standard proficiency scores, material that was difficult for students to understand, and then focused on learning media that is not yet optimal. The conclusion from this data collection is that phoneme pronunciation learning is less than optimal for lower class students due to a lack of optimizing learning media. The third stage is product design which is designed according to needs analysis. Starting from the framework for media smart apps creator with the SAS method. Compile a script to be included in the media, namely learning outcomes, learning objectives, media button descriptions, materials and close with an evaluation. The media design was created based on user input, namely needs analysis to increase students' interest in learning to pronounce phonemes using the smart apps creator application with HTML5 output format and .exe format.

The fourth stage is design validation by media experts and material experts. Product usage trials have been validated by experts. The value calculation to determine the suitability of the media is done by dividing the score obtained by the maximum score then multiplying by 100. The assessment is carried out by two experts, namely media and material experts. The value obtained after calculation is 97.5%. Based on the value obtained, the media falls into the very appropriate criteria. The assessment stage in the material expert validation obtained the value obtained in accordance with the calculations, getting a final score of 90.00%, which was included in the very feasible category with several suggestions for improvement. A recapitulation of the validation results from media experts and material experts is presented in Table 6.

Table 6. Recapitulation of Validation Results from Media Experts and Material Experts

Expert or Validator	Total score	Percentage	Criteria
Media	117	97.5%	Very Worth It
Material	72	90.0%	Very Worth It

The fifth stage was design revision carried out after receiving suggestions from media experts and material experts. The recommended revision is to add evaluation to the smart apps creator learning media and display a sound icon to make it easier for students to use this learning media. The media appearance after revision is presented in Table 7.

The sixth stage of product testing was carried out on a small scale with a total of 9 students with different abilities. Based on input from the teacher, the media needs to be refined in the story section, information needs to be added to make it easier for students to use the media. The results obtained from small-scale trials then enter the sixth stage, namely product revisions carried out after seeing the shortcomings of the media. Media views before and after the small-scale trial revision are presented in Table 8.

Table 7. Product Design View After Revision

| Initial View | Button Instructions |

Table 8. Media Before and After Revision of Small Scale Trials

| Before revision | After revision |

The final stage of use trials was carried out after small scale trials which experienced an increase in the average number of pretest and post test scores. Usage trials were carried out after undergoing revisions from small-scale trials. This trial was carried out with 21 students. This research uses prerequisite test data analysis which consists of a normality test. The normality test is used to determine whether the research data is normally distributed or not. Data can be said to be normally distributed if the significance value is > 0.05, and vice versa if the significance value is < 0.05 the data is not normally distributed. The results of the normality test using SPSS 24 for Windows using the Shapiro-Wilk technique are shown in Table 9.

Table 9. Normality Test Results

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	Df	Sig.
Pretest-Small Scale	0.228	9	0.196	0.900	9	0.249
Posttest-Small Scale	0.232	9	0.177	0.853	9	0.080
Pretest-Large Scale	0.149	21	0.200	0.926	21	0.114
Posttest-Grand	0.145	21	0.200	0.912	21	0.060

Based on the data in Table 9, it is known that the pretest and posttest calculations show that both groups, both small scale and large scale, have a normal distribution. It is said to be normal because the significance value obtained in the Shapiro-Wilk table is > 0.05. Followed by the t-test (average difference between pretest and posttest) which aims to find the difference between pretest and posttest. In this study, improving phoneme pronunciation was said to be effective if there was a difference in the average pretest and posttest. Calculations were carried out with the help of SPSS 24 for Windows. If the significance value of the paired sample t test is <0.05 then the data is accepted or can be said to have increased and conversely, if it is >0.05 then the data is considered not accepted or can be said to have no increase. The t-test results are shown in Table 10.

Table 10. T-Test Results

	Mean	Std. Deviation	Std. Error	Lower	Upper	t	df	Sig. (-2tailed)
Scale Small	-21.333	10.210	3.403	-29.182	-13.485	-6.268	8	0.000
Scale Big	-26.143	11.087	2.419	-31.190	-21.096	-10.805	20	0.000

Based on the data in Table 10, the significance value of the paired sample t-test is 0.000, which is smaller than the significance level of 0.05. The conclusion is that both groups experienced an increase

during the posttest. The next data analysis uses the N-Gain test to determine the increase in phoneme pronunciation competence. The N-Gain test is shown in Table 11.

Table 11. N-Gain Test Results

Class	Average Pretest	Posttest Average	N-Gain	Criteria
Small Scale	67.2	88.56	0.67	Currently
Large Scale	65.67	85.43	0.65	Currently

Based on Table 11, it can be concluded that the test results of the average increase in pretest and posttest (N-Gain) scores from the small scale and large scale both increased. The N-Gain results obtained were 0.65% on a small scale test and 0.67% on a large scale, which is included in the medium criteria so it can be said that the media used was effective. The results show that the smart apps creator learning media based on the SAS method has obtained effective qualifications and is suitable for use.

Discussion

The results of research analysis carried out by SAS method-based smart apps creator learning media obtained effective and suitable qualifications for use. This is caused by several factors, among others. The results obtained from the expert assessment show that this media is suitable for use because media experts and material experts are in the very suitable category. Using the SAS method-based smart apps creator learning media learning model can improve student learning outcomes. Improved student learning outcomes can occur if a teacher is able to choose and use the right learning media (Pane et al., 2020). The choice of media must be adjusted to various factors, namely students, material, learning objectives and affordable costs. Increased learning outcomes can be seen from the average pretest and posttest scores on the N-Gain test. The difference in average scores before using the SAS method-based smart apps creator learning media and after using the media. The implementation of learning using the SAS method in initial reading learning can be carried out well, the students' reading results are good starting from voice intonation, reading fluency and good pronunciation accuracy. There is an influence of the application of the SAS method on students' initial reading (Larashinta, 2018; Silfiyah et al., 2021).

The smart apps creator media based on the SAS method is attractive and adapted to the development of student characteristics so that students are helped in learning and motivated to understand the material being taught in the form of more effective and efficient message delivery communication (Hartati, 2018; O Suhartati, 2021; Widiyatmoko et al., 2021). The application of the SAS (Synthetic Structural Analytical) method in learning to write is very influential in the learning process, students will be more enthusiastic about learning, more motivated to learn to write, and can reduce boredom if the learning process is equipped with learning media (F Khoridah et al., 2019; Wardiyati, 2019). The SAS method helps students understand reading better and is able to improve students' reading abilities (Silfiyah et al., 2021; Wardiyati, 2019). The findings of this research are strengthened by previous research findings stating that smart apps creator media is very important to use effectively in learning by implementing the Problem Based Learning (PBL) model (Fahlevi & Aminatun, 2023; Heliawati et al., 2022). The use of thematic learning media integrated with Smart Apps Creator based on a scientific approach for Class III Elementary School is effective and practical in the learning process (Oktaviani & Amini, 2023). The use of smart apps creator learning media based on the SAS method in students' initial reading skills has a positive impact on students' reading skills and the final grades obtained (Anwar et al., 2022). Thus, the smart apps creator learning media based on the SAS method means that it can be the right choice for learning for lower class students. The limitation in this research is that it can only use stages up to the eighth stage of the total stages due to time and cost limitations. The implication of this research is that smart apps creator media based on the SAS method can improve the phoneme pronunciation of low-grade students.

4. CONCLUSION

The smart apps creator media is based on the SAS method for phoneme pronunciation using the type of research and development research that suits your needs. This is proven by validation results from media experts and material experts which show that this media is suitable for use. The smart apps creator media based on the SAS method is effective for phoneme pronunciation as seen from the N-Gain test. In this way, the resulting product can be used as an appropriate learning medium to improve low grade students' phoneme pronunciation.

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