



Developing News Item Instructional Media with Authentic Material Using SAC to Enhance Students' Reading Ability

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Abstract

The rapid advancement of technology has led to the incorporation of technology in teaching and learning processes. One way to achieve this is through smartphone-based media, such as Smart Apps Creator (SAC), which creates simple mobile applications for improving teaching and learning activities. During learning process of EFL, researchers found problems especially in learning reading. The problems are students' lack of motivation in reading and students' difficulties in dealing with reading comprehension. This study aims to develop a simple mobile application as an instructional media for teaching News Item text with authentic materials for phase F students in grade 12th, and to test its effectiveness focusing on improving students' reading ability. The study also examines the potential of utilizing smartphones to support reading instruction, overcome students' problem in reading, and encourage a more lively and effective learning environment. The product specifications include a mobile app that performs as an instructional media, containing News Item text enriched with authentic materials and is user-friendly. The study applied Borg and Gall (1983) model of educational research and development since the model includes a methodical process that the researchers can follow to guarantee that the final product satisfies behaviorally defined goals and complies with appropriateness standards. Data collection was conducted in SMAN 1 Kradenan Kabupaten Grobogan, with 29 students from grade 12th participating in field testing to evaluate the usability and effectivity of the apps to be used in learning. The result showed that the apps being developed is highly feasible to be used in learning and is effective in enhancing students' reading ability.

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INTRODUCTION

In this digital era, the development of Information and Communication Technology (ICT) is highly increasing year by year. ICT is believed as one kind of supporting media that can help teachers teaching EFL students (Mustaqimah et al., 2023). ICT tools and techniques are used to enhance teaching and learning opportunities more specifically remote learning resources (Rodriguez-Arancon et.al., 2013; Leliani et.al., 2014; Sabiri, 2019; Gomez-Galan, 2020). Responding to the challenges in education where teaching learning process must be conducted differently, teachers should take some extra miles in order to reach the learners. The use of technology is believed to be a great help in bridging the teacher and students in remote learning.

Moreover, in this rapidly evolving landscape of educational technology, the integration of mobile learning platforms has emerged as a pivotal strategy to enhance students' engagement and academic performance. This study focuses on the development of an Android-based instructional media aimed at enhancing the reading ability of high school students in the topic of News Item with authentic material.

Smartphone is still one of the devices that both students and teachers use frequently. Wang et al. (2023) did a case study on the use of smartphones for learning among primary school students and the results show that smartphone is effective in facilitating learning. Alghazi et al. (2020) in their study also remarked that in the current era, mobile phones have become widely used and that developers of educational mobile applications now need to comprehend user requirements and how to meet them in light of the expansion of m-learning. Using Smartphone applications in English Language Teaching (ELT) is one way to incorporate the use of ICT based media in teaching and learning activity. Mobile applications (apps) are mainly the software which are developed to be used on smartphones and are abundantly provided through apps stores (Ahmed et al., 2015 as cited in Hossain, 2018, p. 1).

There are abundant of applications related to education that can be downloaded and installed in Smartphones. Smart Apps Creator (SAC) is one platform to help create simple Smartphone applications that can be used to improve teaching and learning activity. Qusthalani (2021) argued that the use of SAC can help ease students' boredom and increase students' learning creativity. With SAC, teachers can develop applications with attractive features such as video, audio, images, and animations, as well as take advantage of the various templates available. SAC can be easily downloaded by students via file sharing or Google Play, and the size of the file is relatively small. In this way, all students can have access to the application in their mobile phone. Once downloaded, SAC can be operated without using internet connection. Thus, students can use the application anytime, anywhere. Moreover, for students in relatively remote area with limited internet connection, they can still access the application for studying independently at home.

In the recent Emancipated Curriculum, News Item text is included in the learning outcomes and learning objectives of Phase F students, particularly grade 12th. While according to Indonesian 2013 curriculum (which is still implemented by some schools), twelfth graders of Senior High School are also subjected to learn News Item text. News Item text informs readers, listeners or viewers about events of the day which are considered newsworthy or important (Gerot & Wignell, 1995). However, one problem related to teaching News Item for EFL is the authenticity of the material. Sometimes, teachers use simplified material of News Item that might be easier for the students to learn, while on the other hand the use of simplified material can reduce students' chance to learn News Item material effectively compared to using authentic materials as a source of learning. The intricacy of language, sentence patterns, and discourse elements included in authentic texts is absent from non-authentic materials, which are frequently simplified or artificially created. Consequently, essential collocations, colloquial idioms, and a variety of syntactic patterns that are employed in

everyday speech might not be presented to students. Also, students might lose out on opportunities for higher-order thinking, which are essential for developing advanced reading skills.

It's possible that students won't work hard enough to get better at reading and due to a lack of engaging, significant input, their reading comprehension and fluency may stagnate. As Hsiao – Chen (2006) stated many researchers point out that materials correlate with learner motivation and that authentic materials motivate learners. They claim that authentic materials are more interesting, vivid and stimulating than artificial, non-authentic materials.

Throughout this research, the focus is on how the development of News Item instructional media with authentic material using Smart Apps Creator (SAC) can enhance students' reading ability. The problems underlying this research are: (1) how is the usability of News Item instructional media with authentic materials using SAC? (2) how effective is the use of News Item instructional media with authentic materials using SAC in enhancing students' reading comprehension ability?

By developing and evaluating a customized educational app, this research seeks to provide insights into the design, implementation, and impact of mobile learning tools on students' reading proficiency.

METHOD

This study concerns in developing News Item instructional media with authentic material using Smart Apps Creator (SAC) and observe its effectiveness in promoting students' reading ability. This research is conducted using Borg & Gall Research and Development. Borg and Gall (1983) stated that educational R&D is an industry-based development model in which the findings of research are used to design new product and procedures, which then are systematically field-tested, evaluated, and refined until they meet specified criteria of effectiveness, quality or similar.

There are ten implementation steps in Borg & Gall development model, including (1) research and data collection, (2) planning, (3) developing preliminary form of product, (4) preliminary field testing, (5) main product revision, (6) main field testing, (7) operational product revision, (8) operational field testing, (9) final product revision, and (10) dissemination and implementation.

1. *Research and data collection*

The researchers did some preliminary research in the targeted school (SMAN 1 Kradenan, Kab. Grobogan). They conducted class observation to get the data on class's condition, teaching media that the teacher used in classroom, and students' motivation during the lesson. The researchers also studied some documents related to learning sources and students' achievement in the previous semester, especially regarding their reading skill, that include students' final score and teacher's lesson plan. Some informal interviews were also done with the teacher and some of the students, digging into their perspective on the lesson, what things that were already good and what things that they wanted to be added up that'll make them more motivated in studying.

2. *Planning*

The researchers planned to develop a News Item instructional media using authentic materials that can help improve students' reading ability. First, they decided which material that will be developed into an instructional media. Next, they decided which learning objectives to develop. Then, they examined the rationale of the development.

3. *Developing preliminary form of product*

In this particular research, there are 4 stages of preparing the preliminary form of product, they are: (a) Designing the Flowchart, (b) Making the Storyboard, (c) Creating and collecting content from various resources, and (d) Developing the instructional media using Smart Apps Creator (SAC).

4. Preliminary field testing

In this step, the preliminary form of product was assessed by one material expert and one media expert to validate the appropriateness and suitability of the product to be used in the teaching learning process. It is also tested on 9 students and 1 teacher to find out the users' responses on the product. Suggestions and recommendations are taken into account as feedback to revise the product.

5. Main product revision

Namely making improvements to the initial product produced based on the results of the initial trial. Some revision and improvements were made based on the suggestions and recommendations from the validators and users.

6. Main field testing

It is the step when the researchers conducted the main product test involving 29 students and 5 teachers. The researchers conducted a pre – test before the implementation of the instructional media and a post – test after the implementation. Questionnaires distributed after the implementation to dig into users and teachers' responses on the use of the instructional media.

7. Operational product revision

Namely making improvements to the product based on the revision and suggestions, so that the product developed is already an operational model design that is ready to be validated.

8. Operational field testing

It is a validation test step on the operational model that has been generated.

9. Final product revision

Making final improvements to the developed model in order to produce a final product.

10. Dissemination and implementation

This step aims to Disseminate the product/model developed and apply it in the field.

In this study, the writer uses three kinds of instrument to collect the data, they are: Observation guide, Questionnaires and Pre – Test/Post – Test.

First, observation was done during the preliminary study to identify the problems in the learning and the needs of instructional media.

Next, questionnaires were distributed to media expert, material expert, targeted users (students) and learning experts (teachers). Questionnaire was distributed to media expert to find out the usability and media quality of the media developed. Another questionnaire was also distributed to material expert to find out the appropriateness and suitability of the media developed with the current curriculum and the learning objectives. These instruments are used to validate the product before being tested to the users. The instruments used in this research was adapted from previous research on the instructional media development using Smart Apps Creator 3 on physical education and health sciences lesson during covid 19 pandemic by Adhiono (2021). The results of experts' validation then were used to determine the feasibility of the app being developed in terms of media and material, so that the next stage of testing, feasibility test by users, can be carried out. Other questionnaires were distributed to the targeted students and learning experts to find out their responses on the media developed in terms of their satisfactory in using the apps and how effective the apps in helping them cope with the material and to learning experts to find out the usability and applicability of the media used in the classroom. The questionnaire format is taken from Computer System Usability Questionnaire by J.R Lewis, while the questions in the instruments are written in Bahasa Indonesia so as to enable respondents to understand the point and give more accurate responses.

Finally, Pre – test was assigned to the targeted students before the treatment with the application to find out students' prior understanding toward the topic while Post – test was assigned to the targeted students after the treatment with the media developed to find out the effectivity of the use of the apps in helping students achieving the learning objectives. The questions are constructed to specifically test students' reading comprehension ability. Before conducting pre – test, the questions were first

tested for their validity and reliability. There were 40 questions tested to 34 respondents which later on extracted into 25 valid and reliable questions for pre-test and post-test. The results of this test were then used to compare students' learning outcomes before and after using News Item instructional media. If there were significant differences on the students' test results, then the learning carried out using the developed instructional media can be said to be effective in improving student learning outcomes.

RESULTS AND DISCUSSIONS

This unit presents the results of developing News Item instructional media with authentic materials using Smart Apps Creator (SAC) to enhance students' reading abilities, employing the Borg and Gall (1983) model. The instructional media is shared to students via WhatsApp chat group when teacher is reviewing the material. This implementation is in accordance with Al-Jarf (2022). She suggested that mobile apps can be utilized as extension activities or as a supplement to in-class reading instruction. They are free to download, update, and remove, and can be utilized anywhere, at any time, and as many times as the students require. This instructional media is also aimed to give students some more time to practice their reading outside the classroom. The results of the study are presented below:

1. The material expert validation result shows in the following table.

Table 1. Result of Material Expert Validation

No.	Material Expert	Real Score	Maximum Score	Percentage	Category
1.	Material Expert 1	120	150	80.00%	Feasible

The result of material expert validation stated that the preliminary product of News Item instructional media with authentic material using Smart Apps Creator is considered "feasible". The material expert also added some comments and revision for the preliminary form of product.

2. The media expert validation result shows in the following table

Table 2. Result of Media Expert Validation

No.	Media Expert	Real Score	Maximum Score	Percentage	Category
1.	Media Expert 1	145	150	96.66 %	Highly Feasible

The result of media expert validation stated that the preliminary product of News Item instructional media with authentic material using Smart Apps Creator is considered "highly feasible". The media expert added some comments about the application and its advantages but he didn't give any revision on the product and suggested that the product could be operated without revision (in terms of media quality).

3. Learning Experts validation (during main field testing)

In the main field testing, there were 5 learning experts (English teachers) involved in the research. Below is the result of the assessment from the learning experts.

Table 3. Result of learning experts' validation in Main Field Testing

No.	Range	Interpretation	Frequency	Percentage
1.	84.00% - 100%	Highly Feasible	5	100%
2.	68.00% - 83.00%	Feasible	0	0
3.	52.00% - 67.00%	Quite Feasible	0	0
4.	37.00% - 51.00%	Infeasible	0	0
5.	20.00% - 36.00%	Very Infeasible	0	0

Table 3 shows learning experts' assessment toward News Item instructional media with authentic material using Smart Apps Creator namely "very infeasible" by 0.00% (0 user), "infeasible" by 0.00% (0 user), "quite feasible" by 0.00% (0 user), "feasible" by 0.00% (0 user), and "highly feasible" by 100% (5 users). The result of assessment of News Item instructional media with authentic material using Smart Apps Creator is 94% in average which means that the

main product of media developed is categorized as highly feasible.

4. Targeted Users (Students) validation

The result of targeted users' assessment on News Item instructional media with authentic material using Smart Apps Creator is presented on the table below.

Table 4. Result of Targeted Users Validation in Main Field Testing

No.	Range	Interpretation	Frequency	Percentage
1.	84.00% - 100%	Highly Feasible	23	79,31
2.	68.00% - 83.00%	Feasible	5	17,24
3.	52.00% - 67.00%	Quite Feasible	1	3,45
4.	37.00% - 51.00%	Infeasible	0	0
5.	20.00% - 36.00%	Very Infeasible	0	0

Table 4 shows users' assessment toward News Item instructional media with authentic material using Smart Apps Creator namely "very infeasible" by 0.00% (0 user), "infeasible" by 0.00% (0 user), "quite feasible" by 3.45% (1 user), "feasible" by 17.24% (5 users), and "highly feasible" by 79.31% (23 users). The result of assessment of News Item instructional media with authentic material using Smart Apps Creator is 88.69% in average which means that the main product of media developed is categorized as highly feasible.

5. Test of Media Effectivity

To measure the effectiveness of the instructional media developed, the researchers used normality test and t-test. The writer didn't conduct homogeneity test since there was only one group participated in the research without any control group.

a. Normality Test

The data normality test in this study was conducted using the Shapiro Wilk method. The result of the data normality test carried out was then analyzed using the SPSS for Windows software program with a significance level of 5% or 0.05. The summary of data analysis is presented in figure below.

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Hasil Pre Test	.196	29	.006	.923	29	.036
Hasil PostTest	.186	29	.012	.904	29	.012

a. Lilliefors Significance Correction

Figure 1. Tests of Normality result

Based on the statistical analysis of the normality test that has been carried out using the Shapiro-Wilk test as can be seen in figure 1 above, the result shows that the pretest data has a significance value of 0.36 and the posttest data has a significance value of 0.12, which means that the pretest and posttest data are normally distributed since the p value is > 0.05 .

b. T-Test

The t test was used to find out whether there was an increase in students' reading ability after the implementation of News Item instructional media with authentic material using Smart Apps Creator. The effectiveness test was carried out using a t-test with a significance level of 5%. The research conclusion is declared significant if the calculated t value $>$ t table and the sig value is smaller than 0.05 ($\text{Sig} < 0.05$). The result of the t-test is presented below:

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Hasil Pre Test	67.31	29	22.579	4.193
	Hasil PostTest	78.90	29	14.458	2.685

Figure 2. Paired Samples Statistics

The paired samples statistics show that the average score of pre- test is 67.31 and the average score of posttest is 78.90 which indicate that there is an increase in students' achievement in reading. To verify whether the increase is significant or not, the researchers analyzed the paired samples correlation and the result is shown on the figure below.

Paired Samples Correlations					
Pair 1	Hasil Pre Test & Hasil Post Test	N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	Hasil Pre Test & Hasil Post Test	29	.836	<.001	<.001

Figure 3. Paired Samples Correlation

Figure 3 shows the correlation between pre-test score and post-test score. Based on the figure, the sig value is < 0.001 which is below probability value of 0.05, which means that there is a significant correlation between pre-test score and post-test score.

Paired Samples Test										
		Paired Differences					Significance			
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
Pair 1	Hasil Pre Test - Hasil Post Test	-11.586	13.152	2.442	Lower	Upper	t	df	One-Sided p	Two-Sided p
					-16.589	-6.584	-4.744	29	<.001	<.001

Figure 4. Paired Samples Test result

Before analyzing the result of paired samples test, first the researchers defined the formulation of research hypotheses and the guidelines for decision making in the paired samples t test. The formulation of research hypotheses is:

- H_0 (null hypothesis): There's no effect or no correlation between variables of pretest score and posttest score which means that there is no effect of using the instructional media in improving learning outcomes.
- H_a (alternative hypothesis): There's a correlation between variables of pretest score and posttest score which means that there is a significant effect on the use of instructional media in improving learning outcomes.

The guidelines for decision making in the paired samples t test is stated as follow:

- If $t_{\text{count}} > t_{\text{table}}$ and probability $\alpha < 0.05$, then H_0 is rejected and H_a is accepted.
- If $t_{\text{count}} < t_{\text{table}}$ and probability $\alpha > 0.05$, then H_0 is accepted and H_a is rejected.

The data from the paired samples t test shows that the value of t count is 4.744, which is higher than the t table value, 1.70113 as we can see from the following t figure.

Pr	0.25	0.10	0.05	0.025	0.01	0.005	0.001
df	0.50	0.20	0.10	0.050	0.02	0.010	0.002
1	1.00000	3.07768	6.31375	12.70620	31.82052	63.65674	318.30884
2	0.81650	1.88562	2.91999	4.30265	6.96456	9.92484	22.32712
3	0.76489	1.63774	2.35336	3.18245	4.54070	5.84091	10.21453
4	0.74070	1.53321	2.13185	2.77645	3.74695	4.60409	7.17318
5	0.72669	1.47588	2.01505	2.57058	3.36493	4.03214	5.89343
6	0.71756	1.43976	1.94318	2.44691	3.14267	3.70743	5.20763
7	0.71114	1.41492	1.89458	2.36462	2.99795	3.49948	4.78529
8	0.70639	1.39882	1.85955	2.30600	2.89646	3.35539	4.50079
9	0.70272	1.38303	1.83311	2.26216	2.82144	3.24984	4.29681
10	0.69981	1.37218	1.81246	2.22814	2.76377	3.16927	4.14370
11	0.69745	1.36343	1.79588	2.20099	2.71808	3.10581	4.02470
12	0.69548	1.35622	1.78229	2.17881	2.68100	3.05454	3.92963
13	0.69383	1.35017	1.77093	2.16037	2.65031	3.01228	3.85196
14	0.69242	1.34503	1.76131	2.14479	2.62449	2.97684	3.78739
15	0.69120	1.34061	1.75305	2.13145	2.60248	2.94671	3.73283
16	0.69013	1.33676	1.74588	2.11991	2.58349	2.92078	3.68615
17	0.68920	1.33338	1.73961	2.10982	2.56693	2.89823	3.64577
18	0.68836	1.33039	1.73406	2.10092	2.55238	2.87944	3.61048
19	0.68762	1.32773	1.72913	2.09302	2.53948	2.86093	3.57940
20	0.68695	1.32534	1.72472	2.08596	2.52798	2.84534	3.55181
21	0.68635	1.32319	1.72074	2.07961	2.51765	2.83136	3.52715
22	0.68581	1.32124	1.71714	2.07387	2.50832	2.81876	3.50499
23	0.68531	1.31946	1.71387	2.06866	2.49987	2.80734	3.48496
24	0.68485	1.31784	1.71088	2.06390	2.49216	2.79694	3.46678
25	0.68443	1.31635	1.70814	2.05954	2.48511	2.78744	3.45019
26	0.68404	1.31497	1.70562	2.05553	2.47863	2.77871	3.43500
27	0.68368	1.31370	1.70329	2.05183	2.47266	2.77068	3.42103
28	0.68335	1.31253	1.70113	2.04841	2.46714	2.76326	3.40816
29	0.68304	1.31143	1.69913	2.04523	2.46202	2.75639	3.39624
30	0.68276	1.31042	1.69726	2.04227	2.45726	2.75000	3.38518

Figure 5. T-Test Table

The paired samples t test shows that Sig. (2 sided) value p is < 0.001 , so Sig. (2 sided) value < 0.05 .

Based on the information, the researchers interpreted that: $t_{\text{count}} > t_{\text{table}}$ and probability $\alpha < 0.05$, then H_0 is rejected and H_a is accepted. This means that there's a correlation between variables of pretest score and posttest score and that there is a significant effect on the use of News Item instructional media with authentic material using Smart Apps Creator in improving students' learning outcomes.

The results and findings of the study are in accordance with previously conducted studies. Studies conducted by Chung et al. (2014), Hita and Arancón (2014), and Hazea and Alzubi (2016) also suggested that mobile apps can be helpful addition to self-study materials or more conventional classroom education, providing students more practice opportunities and in the

end can help learners boosting their continued language development. The researchers expected that the instructional media developed can enrich the learning activity and support more qualified instructional media creation for learning. Another study conducted by Jannah et al. (2019) also stated that learning media using Smart Apps Creator are effective in the learning process. In addition, Khoirudin et al. (2021) and Suhartati (2021) agreed that SAC application has improved students' learning outcomes. Furthermore, Rahmi and Sari (2021) also argued that SAC can serve as a guide to help students improve their reading comprehension, and that it's effective and practical for learning process and can be used in online or offline learning

The implementation of News Item instructional media with authentic material using Smart Apps Creator is done by incorporating the instructional media into reading session of a lesson on News Item. The instructional media is used to enrich learning activity, providing additional media for students to practice and improved their reading ability. During the research, the instructional media developed has gone through several stages of validations and tests. One important stage of validation is the t-test. The t-test is conducted to measure the effectivity of the instructional media used in learning to improve students' achievement in reading. The result of the t-test shows that the instructional media developed is proven to be effective and has significant impact on students' reading ability.

CONCLUSION

Based on the results of the research, the News Item instructional media with authentic material using Smart Apps Creator is considered feasible to use. Students and teachers participated in the research also have positive responses regarding the instructional media. The instructional media developed is also proven to be effective in promoting students' reading ability as shown in the t-test results. The t-test results implies that the instructional media is effective and has significant impact on students'

achievement in reading. Despite all of its benefits, mobile apps should be utilized in conjunction with suitable teaching methods and human interaction. This instructional media is expected to fill in the need of an interesting and interactive instructional media to help students learning reading with the assistance of teachers and qualified lesson plan. The end result of this research is a media that can help teachers to motivate students to study and enjoy the learning process.

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