

Local Content-Based Learning Source for Senior High Schools with Augmented Reality: What are Students and Teachers Need?

by Fauzul Etfita

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Local Content-Based Learning Source for Senior High Schools with Augmented Reality: What are Students' and Teachers' Needs?

Asnawi^{1*}, Sri Wahyuni², Fauzul Eftita², Muhammad Mukhlis²
^{1,4}Indonesian Language and Literature Education, ^{2,3}English Language Education,
¹⁰Faculty of Teacher Training and Education, Universitas Islam Riau
*Corresponding Author. Email: asnawi@edu.uir.ac.id

Abstract: This study aimed to analyze the needs of teachers and students in learning English with local content-based learning sources with augmented reality at the high school level in Riau Province. The research method was a survey with selected English teachers and students. Data collection was done by distributing questionnaires online with a google form. Quantitative data were analyzed using descriptive statistics. To confirm the validity of the quantitative data, an in-depth virtual interview was conducted with Google Meet. The results of the study showed that English teachers and students responded positively to developing these teaching materials with a mobile application. Specifically, from teachers' perspective, developing local content-based learning sources with augmented reality could be possible in the narrative learning. Further, students believed that the development of this source could help the learning attainment. In conclusion, developing local content-based learning sources with augmented reality should be conducted.

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Introduction

A vital component used to achieve learning objectives is teaching materials (Sukmawan et al., 2021). Teaching materials are a set of lessons designed to assist the learning process (Sakkir et al., 2021). Therefore, the designed teaching materials must meet the learners' demands and characteristics (Rizka & Hardiansyah, 2016); (Sari & Atmojo, 2021). Current learning demands focus on critical thinking and reflect on the ability to think wisely which needs to be integrated into learning materials (Asnawi et al., 2022). However, the current high school English teaching materials teachers use to have several weaknesses (Afrianni & Syahniar, 2019). These weaknesses include that the teacher has not integrated teaching materials based on local wisdom to students, following the demands for learning contained in the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System and also specifically mentioned in Article 77 of Government Regulation No. 32 of 2013 concerning Amendments to Government Regulation No. 19 of 2015 that explicitly states that learning materials should be integrated with local wisdom (Mulyadi, 2017; Septy, 2016; Sultoni & Hilmi, 2015; Yassi, 2017). Therefore, teaching materials in learning English should be oriented towards achieving systemic knowledge and schematic knowledge.

Based on the observations of researchers in several high schools in Riau during their involvement in the Lapanagan Practice Program activities as supervisors, teaching materials in learning English tend to emphasize systemic knowledge such as grammar, vocabulary, pronunciation, and so on. In addition, the texts used also emphasize the target western culture. In other words, learning English in Riau still focuses on systemic achievement, while



schematic knowledge needs to be addressed. As a result, students know more about Western texts than their local culture.

Regarding the problems described, to be able to raise *local wisdom* in Riau, such as the folklore of Yong Dollah (Mukhlis & Asnawi, 2019), which comes from Bukit Batu, Bengkalis Regency, through teaching materials for learning English, researchers will develop teaching materials through applications, *smartphone* namely *mobile augmented reality application*. As confirmed by several research results, assisted learning *mobile* can attract students' interest and motivation because of its exciting feature (Wahyuni & Etfiti, 2019). In particular, several research results have also revealed that the use of-based AR applications *mobile in learning* has been proven to be more effective than the use of conventional textbooks (Bitter & Corral, 2014) and has a positive impact, namely motivating students to learn (Diegmann et al., 2015; Vate-U-Lan, 2012). *Augmented reality* (AR) simultaneously provides learning information, text, video, audio, and three-dimensional learning contexts in real-time interactions. These features can provide students with ideas abstractly rather than just reading textbooks (Specht et al., 2011). In addition, it is confirmed by several other findings that through AR, students' experiences and understanding are increased in learning (Godwin-jones, 2016; Kose et al., 2013; Yip et al., 2019; Zhou & Zhang, 2014).

Several researchers who have researched developing AR based on Indonesian local wisdom, such as (Widiaty et al., 2015), developing AR to learn local Batik wisdom at Vocational Schools and (Yulianto et al., 2018) adopting a-based AR application *mobile* to provide Cirebon Mask Dance learning materials. It is also emphasized by (Savira & Tasrin, 2017) that local wisdom is essential to be involved in innovation for the benefit of society. In learning English, this innovation should be applied to build the character of students who have a close relationship with local wisdom and enrich language teaching materials (Shaleha & Purb, 2019).

Based on the explanation of the problem and the urgency of the research analyzed the needs of teachers and students in learning English with local content-based learning sources with augmented reality are at the high school level in Riau Province. This article presents the results of the pre-development stage related to the analysis of the needs of teachers and students in learning English at the high school level in Riau Province.

Research Method

The research method was a survey. Respondents in this analysis stage were representatives of teachers and Senior high school students in Riau Province. Respondents in this current study involved three English teachers and sixty-nine students from high schools in Riau Province. The object of study in this research was adapted from (Oktariyani & Juwita, 2020), which included: the implementation of teaching narrative text, the requirement of local-based learning resources, and the barriers to learning narrative text. The respondents were chosen because they needed to gain experience with local learning materials.

Data collection was done by distributing questionnaires online with a google form. Quantitative data were using a Likert scale from 1 to 5 (see table 1). To analyze the data, a descriptive statistics analysis was used. To confirm the validity of the quantitative data, an in-depth virtual interview was conducted with Google Meet. Then, qualitative data were analyzed utilizing a word cloud generator from a Google application.

Table 1. Likert Scale

No	Score	Need Analysis Categories
1	0-0.5	Not Needed



2	0:51 to 1:50	Needed Less
3	1:51 to 2:50	Quite Needed
4	2:51 to 3:50	Needed
5	3:51-4.0	Needed Significantly

Results and Discussion

1). Learning to Write Narrative Texts

Teaching materials certainly affect effective learning (Wulandari & Hustarna, 2020), (Sukmawan et al., 2021), and (Saufi & Rizka, 2021). This also applies to learning to write English narrative texts. To find out how the needs of teachers and students in this learning process are carried out, an analysis is carried out on the availability of teaching materials that represent student needs. The subcomponents found in learning to write narrative text in English have been related to how to use other sources in learning to write narrative text, the suitability of the material with competencies, the integration of digital tools, and the use of local culture. Digital integration of learning is the most important part that can support current learning because it can facilitate the learning process activities (Saufi & Rizka, 2021). At least the following three subcomponents namely described in detail regarding the intended findings.

a). Use of other resources in learning to write narrative texts

Based on the distribution of questionnaires, the conditions for using other sources in learning to write English narrative texts at the senior secondary education level can be seen. The data description shows the findings collected from the teacher's responses regarding applying the teaching materials used in learning narrative text. In Figure 1, it can be seen that 66.7% of English teachers answered that they used other learning sources in teaching narrative text. Based on this, there is a need for innovation in writing teaching materials for writing narrative texts in English learning at the high school level in Riau Province.

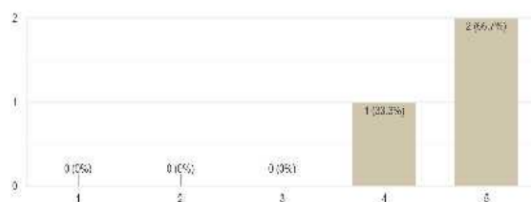


Figure 1. The use of other sources in teaching narrative text

From these data, learning to write English narrative texts requires innovation or renewal of existing teaching materials. This development can be done by making or writing teaching materials according to the needs and characteristics of students. Based on the results of quantitative analysis, 66.7% of the numbers are more significant than 3.51-4.0. Writing teaching materials for writing narrative texts in English at the high school level in Riau Province requires development. As an alternative solution to these problems, the development of teaching materials based on local culture was carried out according to the demands of the needs of teachers and students.

b). Material incompatibility with competence good

Teaching materials must also consider the suitability of the material with learning competencies. Based on the findings, many teaching materials still need to follow learning

competencies. Based on the teacher's responses, 66.7% of English teachers said many teaching materials still needed to follow learning competencies (see figure 2).

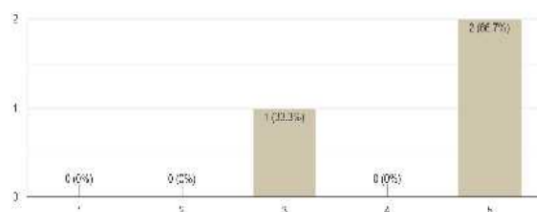


Figure 2. The suitability of the material with the competence

Based on this data quantitatively, it is necessary to develop teaching materials for writing narrative text in English following learning competencies. Quantitatively 66.7% is a number that is greater than 3.51-4.0. Thus, significant development is needed on the suitability of the material to the learning competence in writing narrative text in English with Malay culture at the high school level in Riau Province.

c). Integration of digital devices

There is a need for other digital devices. English teachers answered 100% that they need other digital devices (see figure 3). From these findings, many teaching materials for writing narrative text in English still need to be integrated with technology. The following figure can describe more clearly related to the following data.

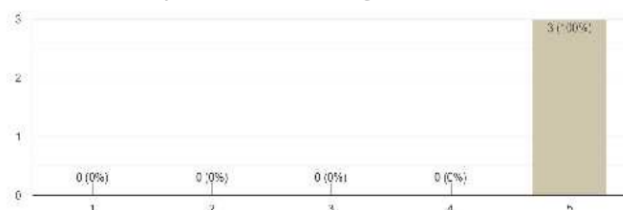


Figure 3. Integration of other digital tools

Figure 3 shows that the percentage of the need for technology integration in learning to write narrative text in English is 100%. This figure shows that the teaching materials for writing narrative text have yet to be combined with various digital media. Therefore, developing teaching material for writing narrative text based on Augmented Reality from these data is necessary.

d). Utilization of local culture good

Teaching materials must also pay attention to the characteristics of their users. As a people of Riau, Malay culture becomes a culture close to students. Based on the findings, the teaching materials for writing English narrative texts have not played a role in the local Malay culture. In addition, most English teachers have yet to use local-based content, especially the Riau folklore, in learning narrative text. It can be seen that 66.7% of English teachers answered that they have yet to use local learning sources. More clearly, this data can be seen in Figure 4.

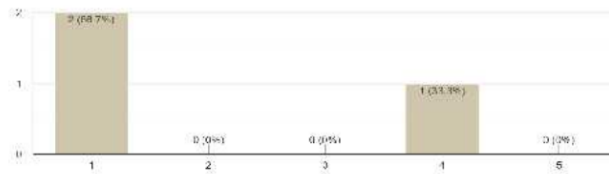


Figure 4. Utilization of local culture

From this data, 66.7% of teachers have not utilized Malay culture in teaching materials for writing narrative text. To solve these problems, it is necessary to make a very significant development of Riau Malay culture, especially the Riau folklore, as a learning material for writing narrative texts.

2). The Need for Local-Based Learning

Resources The learning resources used in learning to write English narrative texts at the high school level in Riau have yet to use local culture (Mantasiah et al., 2021) and (Tahang et al., 2021). Furthermore, from this case, it can be stated that learning to write narrative text in English requires local-based learning resources (Malay culture). In order to ascertain whether the development of local content-based teaching materials is required in teaching writing narrative texts, related statements were also distributed to English teachers. The responses are visualized in Figure 5 and Figure 6. It can be seen that 66.7% of English teachers need local-based learning resources in teaching writing narrative text (see Figure 5).



Figure 5. The need for locally-based learning resources

In line with the research results on locally-based learning resources, English teachers believe that locally-based learning resources are also needed to support the learning process. This can be seen in 100% of English teachers responding positively. These data indicate that significant development is needed for teaching materials to write English narrative texts based on local culture (Malay culture). More clearly can be described in Figure 6.

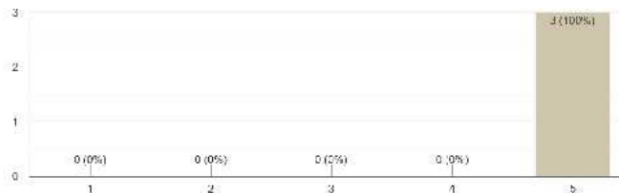


Figure 6. Development of locally-based learning resources



Additionally, to validate the results of the responses found and support the quantitative data presented, data reflection was carried out by conducting interviews with teachers who were learning to write narrative text in English at the high school level in Riau Province. Interviews were conducted virtually using google meet. The following are some excerpts from interviews with high school teachers in Riau.

"There aren't that many books, in fact there aren't too many that have an element of Riau because the average is local, so for English lessons, mam k-link, it's usually in the Java area, right? I'm probably making the book not in Riau either, right? So, in my opinion, teachers need to have textbooks or other handbooks for learning that have Riau province content, so our local content."

"It's necessary, because many children in the current era don't know folklore anymore, in fact, most don't know folklore at all, and with the current rapid developments, we can use an application via smartphone as a bridge for children to get to know stories. the people even deeper." (#Teacher 1-00:02:00.000)

"The goal is also to help understand materials promoting local culture, so according to Tania 7, the additional teaching material is not for English language learning based on local content or local content, for example, folk stories like that. Oh, that's that, that's why maybe it will bother Sania again, okay? (#Teacher 2-00:02:54.400)

"The development of teaching materials based on Riau Folklore can be an alternative for teachers/students in developing material using the story method and making teaching materials interesting, so that students can learn and relearn local Folktales that have been almost forgotten. Because in this modern era, students are more likely to be confronted with stories through gadgets such as Webtoons, etc."

"I think it's great mam, so that children can use their smartphones with clearer goals and benefits, we present the story in an interesting style, such as through visuals, so that children are more interested in learning it and combining literacy and visual learning because since there In this smartphone, the literacy level of Indonesian children is lacking, so we provide interesting lessons about this folklore through interesting literacy and visuals, mam." (#Teacher 3-00:01:54.000)

¹³ Based on the results of interviews that have been conducted, it is found that currently, learning to write narrative text requires teaching materials that utilize Riau folklore. This becomes a form of effort to make learning more interesting regarding how close the students are to the material presented in the teaching materials. The closer and more familiar to students the material in the teaching, the material will make students more enthusiastic their motivation. This is because, psychologically, students are exploring the knowledge, experiences, and observations that students have so far. From this data, developing teaching materials for writing narrative text using the local culture of Riau folklore needs to be done to create more engaging, innovative, and creative learning. The results of the interview are visualized in Figure 7, and some keywords are based on the results of the interview based on the frequency of words that appear the most, such as [bahan ajar], [materi lokal], [cerita rakyat], and [smartphone].



Figure 7. The frequency of words in the interview

3). Barriers to Learning to Write Narrative Texts

In the learning process, students experience obstacles. This obstacle is used for teacher reflection on all learning components, materials, teaching materials, and student characteristics (Setyowati & Sukmawan, 2019) and (Akmaliyah et al., 2021). Based on the results of students' responses in writing narrative text, there are still many students who experience obstacles. This indicates the need to develop some barriers to minimize existing obstacles. Based on the results of students' responses to the distribution of the questionnaires presented, the following will explain students' obstacles in learning to write English narrative tests for high school in Riau Province. Obstacles in learning to write narrative text are classified into five subcomponents, namely the level of mastery of the narrative text, the frequency of use of local-based learning resources, students' needs for locally-based learning resources, student needs for other digital tools, and student needs for developing based learning resources locally. In detail, the five subcomponents can be described below.

a). **Mastery of narrative text**

In the learning process, students need help understanding the narrative text. This indicates that the material presented in writing teaching materials for writing narrative text still needs to be more authentic and closer to students. This is a challenge for educators to develop a learning process that can take advantage of local culture following students' character. The distribution of questionnaires shows that the constraints on writing narrative text are still low. Students responding to learning to write narrative text takes much work. The student response of 36.3% evidenced this. More clearly can be seen in the following figure.

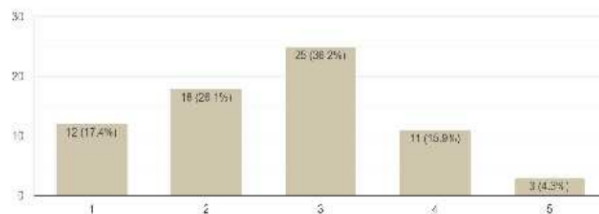


Figure 8. Barriers to mastery of narrative text

Based on the figure, it can be seen that 12 students (17.4%) stated that it was difficult, 18 students (26.1%) stated that it was less complex, 25 students (36.2%) stated that it was quite difficult, 11 students (15.9%) said it was difficult, and three students (4.3%) said it was challenging. Based on this information, students still experience obstacles in mastering learning material to write narrative text. Thus, teachers need to develop teaching materials to write the narrative text so that the percentage of students' difficulties can be minimized.

b). Frequency of use of locally based learning sources

In addition to experiencing difficulties in mastering learning materials to write narrative text in English, students also need help using other sources. The percentage of Frequency used from other sources shows that it is sufficient. It is necessary to do an in-depth study of why this is so. Therefore, it is necessary to provide learning resources containing local culture to solve these problems.

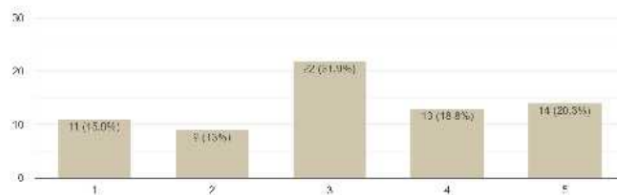


Figure 9. Frequency of use of locally-based learning resources

Based on figure 9, it can be seen that 11 students (15.9%) stated that they did not use locally based learning sources, nine students (13%) stated that they were not using locally-based learning sources, 22 students with (31.9%) stated that it was sufficient to use locally-based learning sources, 13 students (18.8%) stated that they used locally-based learning sources, and 14 students (20.3%) stated that they powerfully used locally-based learning sources. Students still need help using local-based learning resources to write narrative text based on this information. Thus, it is necessary to state that educators must develop teaching materials to write narrative texts by utilizing more local-based learning resources, especially the Riau folklore.

c). Students' needs for local-based learning resources teaching

Students need materials for writing narrative text based on local culture. This is because students understand local cultural material more efficiently than western culture in writing narrative text in English. This can be seen based on students' responses to the need for local culture to be used as material in learning to write narrative text. This data can be clarified through the following figure.

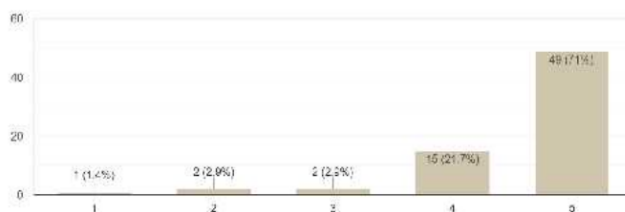


Figure 10. Student needs for locally-based learning resources

Based on figure 10, it can be seen that one student (1.4%) stated that they did not need locally-based learning resources, two students (2.9%) stated that they did not need locally-based learning resources, two students (2.9%) stated that they needed locally-based learning sources, 15 students (21.7%) stated that they needed locally-based learning sources, and 49 students (71%) stated that they needed locally-based learning sources. Based on this information, teachers must develop teaching materials to write narrative text using local-based learning resources.

d). Student needs for other digital tools

In the learning process of writing narrative text based on local culture, an educator is also expected to take advantage of technology. The Integration of multiple digital tools can make learning more enjoyable. Based on student response data, it is known that students need to develop teaching materials to write narrative text based on local culture integrated with technology. The following finding is visualized in Figure 11.

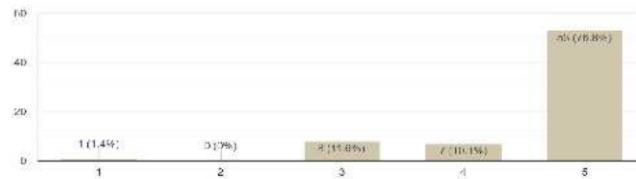


Figure 11. Student needs for other digital tools

Based on Figure 11, it can be seen that one student (1.4%) stated that they did not need the development of digital-based teaching materials, eight students with (11.6%) stated that they needed development of digital-based teaching materials, seven students (10.1%) said they needed the development of digital-based teaching materials, and 53 students (76.8%) said they needed the development of digital-based teaching materials digital. Based on this information, teachers need to develop teaching materials to write narrative text by utilizing digital technology as a means used to streamline learning.

e). Student needs for the development of locally-based learning resources teaching

Materials designed should also consider the characteristics of students, local culture, and geographical conditions. Suitable teaching materials should take into account the characteristics of their users. As a people of Riau, Malay culture becomes a culture close to students. Based on the findings, the teaching materials for writing English narrative texts have not played a role in the local Malay culture. From the results of students' responses to students' needs for developing local-based learning resources, it is essential. This can be illustrated in the following figure.

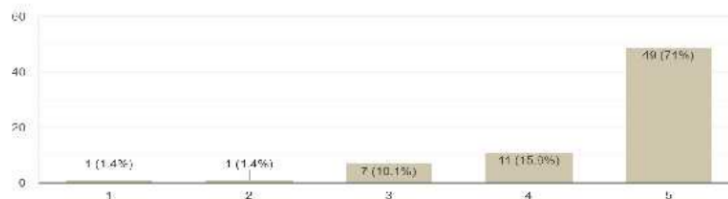


Figure 12. Student needs to develop locally-based learning resources



Figure 12 shows that one student (1.4%) states that they do not need the development of locally-based learning resources, and one student (1.4%) requires less development of based learning resources. Local, seven students (10.1%) stated that they needed the development of locally-based learning resources, 11 students (15.9%) stated that they needed the development of locally-based learning resources, and 49 students (71%) stated that they needed the development of sources of local-based learning. Based on this information, educators must develop teaching materials to write narrative text using local-based learning resources.

Based on the data, developing teaching materials to write narrative text based on local culture and utilize technology is necessary. Teaching materials integrated with technology and containing local cultural materials can motivate students in the learning process of writing teaching materials for writing narrative text. The Integration of local culture in writing narrative text in English can match the components and learning tools (Kadek Mustika, 2018; Margana, 2016). Therefore, educators need to be creative and innovative in creating interesting learning. Achieving goals in learning to write narrative text in English can be done by designing and developing teaching materials that can display materials that follow local wisdom (Fitriani, 2012). Thus, learning to write narrative text will create high enthusiasm for students to understand the reading material (Mulyati & Soetopo, 2016).

Furthermore, in addition to local culture, technology is an essential means of learning to write narrative text in English. This has been proven by several research results, which state that technological developments in learning practices are wider than space and time (Arigusman et al., 2018; Suherdi, 2019a). This change in the learning atmosphere also creates challenges and demands to innovate in teaching (Suherdi & Mian, 2017). For example, technological improvements commonly associated with language learning are augmented reality (Suherdi, 2019b). This study aims to package teaching materials with local material from folklore by integrating it with technology, because technology is an important point in today's learning (Wulandari & Hustarna, 2020), (Asnawi et al., 2021), (Sakkir et al., 2021), and (Arifani & Rosyid, 2016). Researchers use mobile-augmented reality applications. Thus, it is hoped that some of the obstacles in learning to write narrative texts can be minimized.

Conclusion

The conclusion obtained based on the findings of this study that English teachers and students responded positively to developing these teaching materials with a mobile application. Specifically, from teachers' perspective, developing this local content-based learning source with augmented reality could be possible in the teaching-learning narrative. Further, students believed that the development of this source could help learning attainment. In conclusion, developing local content-based learning sources with augmented reality should be conducted.

Recommendation

The results of this study are recommended to the next researcher to develop AR-based teaching materials. AR is able to create authentic student learning experiences "from abstract to concrete". Teaching materials that are designed should pay attention to the authenticity of the material presented in order to create a learning atmosphere that supports learning objectives. Furthermore, teachers are also expected to be able to design materials according to the needs or characteristics of students in Riau Province. Besides, the results of this study are also recommended for teachers to carry out interesting learning by utilizing local material or learning based on blended culture.



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