

Development of Android Animate CC-Based Interactive Learning Media at SMAN 1 Barusjahe, North Sumatera

Meilitta Br Ginting¹, Jubliana Lamria Sitompul², Junita Friska²

¹Postgraduate Program, Department of France Language Education, State University of Medan, Medan, Indonesia

²Department of French Language Education, State University of Medan, Medan, Indonesia

Corresponding Author: Jubliana Lamria Sitompul (jublianasitompul58@gmail.com)

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ABSTRACT

This study aims to develop and comprehend the quality and the effectiveness of Android Animate CC as learning media in class XI at SMAN 1 Barusjahe. This study uses the research and development based on the ADDIE consisting of five stages, namely analysis, design, development, implementation, and evaluation. Before knowing the feasibility being tested on the students, there is a validation test on the teaching materials and media aspects. The average score of material validation reached 89.5% while the score of media value is noted to gain 92.4%; this gaining is included as the "very good" category. Then, to know its effectiveness, pre- and post-tests are carried out. The students' average score after pre-test is 46.7 and the average score after post-test gained 82.8. The result shows that the average score of N-Gain (g) is 0.71 which is classified in the "high" category. So, the result indicates that the efficiency of using Android Animate CC is effective in the learning process.

Keywords: learning media, android animate CC, French, development

INTRODUCTION

Education has a very crucial position to improve the quality of human resources, and, with the advancement of technology, education should be updated in accordance with the age demands. To achieve the demands, teachers must be careful in the

selection of application in the teaching and learning media that will be used. Media is very influential in the creation of a learning atmosphere and in the students' active learning process, so, they can develop their potentials and skills. With the precise selection of learning materials, teachers can also maximize the learning success by involving students' participation in the classroom. But, in reality, the selection of the precise learning materials has not been fully achieved, for example, at SMAN 1 Barusjahe, and based on the data, the students' average scores of class XI are low weak, meaning they are not able to reach the minimum completeness criteria (or KKM, *kriteria kelulusan minimum*). The KKM for French lesson is 75, while the students' average score for in class XI is 46,7; all this indicates that the learning outcomes have not reached the predetermined target.

One of the factors influencing the online learning is the unstructured arrangement of the learning materials taught in the class. Therefore, teachers are required to design materials before they are presented to achieve students' successful learning. Showing learning materials is able to stimulate students' attractiveness to and interest in participating in learning process either inside and outside the classroom.^[1] Learning materials are usually organized in a book according to the needs and

characteristics of the materials themselves. Until then, we use the book called “Bonjour” which contains a lot of dialogues. With textbooks, teachers are no longer the only source of learning in the classroom. In this case, they are more likely to act as a facilitator who helps and guides students in the learning process.

Students are also encouraged to be active learners, as they can read or study the course materials before participating in classroom learning. Thus, they are ready with the knowledge and information that has been previously read so that the time available is no longer used by teachers to explain the materials wholly. Students also have more opportunities to discuss with teachers and/or with other students some materials that they have not understood. However, in practice, students’ desire to learn materials in a textbook is low. Previously, we had data from questionnaires concerning students’ needs. The results revealed that more than 94.7% of students argued that they preferred textbooks equipped with texts, illustrations and audio, videos, and animations so that they felt easy to visualize and memorize the contents of the learning materials; such textbooks looked more real.

With the development of technology, educational materials available in books should be changed into communication tools like laptops and androids during learning process. Moreover, because they are small and light, androids are also more convenient to bring about everywhere than books are. Thus, students can re-access learning materials anywhere and anytime so that learning becomes more flexible and unrestricted.^[2] To make materials more structured, we need a medium that can be used to design a layout of the learning materials. In this study, we introduce android animate CC, a software used to create animated graphics because it has colouring features and various shapes to create animated contents. It can be used to add lines, images, and animations to the presentation of learning materials.^[3]

Android animate CC was originally designed by Future Splash Animator team in 2013, but it has been stable since 2017, and can be used for many systems such as Windows 10 and Mac OS.^[4] This software is widely used for creating animated graphics as it has colouring features and the resulting vector shapes are smooth for creating animated contents.^[5] Besides, the media is also possible to add audio and video to make it more attractive and it can be used both as computer and android.

Three benefits of android animate CC include that it can be used in various forms, it is one of the most popular web animation technologies, and it can be displayed on various media such as DVD, CD-ROM, Web, TV, and smartphone. However, android animate CC has two disadvantages, such as, it does not have many templates, so to create an attractive design online requires other applications such as Canva, and it does not also have Adobe Animate of the latest version of Adobe Flash, so some features can only be used on high-end devices. The materials presented in the media are *Se situer dans l’espace*, *Raconter un événement actuel ou des habitudes*, and *Raconter un événement passé*. We are going to discuss them because they become the most difficult to teach in the class.

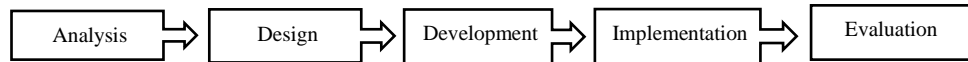
Learning materials used by teachers are designed in the computer and are distributed to students prior to learning, so, students can learn first and mark the parts they do not understand. The design in the android animate CC can be accessed offline via Android, so, students who do not have internet quota can access learning although they are outside the classroom. The results of questionnaire for needs analysis showed that they were interested in using the android animate CC for learning materials.

MATERIALS & METHODS

This research method uses Dick and Carry’s Research and Development that is called ADDIE which has five steps, such as, analysis, design, development, implementation, and evaluation (see

diagram below). This method emphasizes the product development to be applied in a wider context. Therefore, the process is described in details and the results can be

evaluated. This research was located in the SMAN 1 Barusjahe (north Sumatera, Indonesia) and had 30 active students in class XI as the research population.



RESULTS

The development processes for the learning media using android animate CC in this study are divided into five stages.

This is the initial stage which is aimed at determining students' needs related to the use of digital images in the classroom. The results of the needs analysis can be seen in Table 1 below.

1. Analysis stage

Table 1. Results of needs analysis from questionnaire

Questions	The "Yes" answer	The "No" answer
Do you often use android?	100%	0
Apart from social media and communication purposes, do you also use android in learning activities?	89,5%	10,5%
Do you think android is a tool for accessing lessons that are more practical than printed books?	100%	0
Do you think android is more practical because it can be accessed anytime and anywhere?	94,7%	5,3%
Are you interested in using android animate CC as an alternative learning medium?	94,7%	5,3%

2. Design stage

Having done the analysis stage, the next one is designing. Firstly, students must collect reference sources that support the contents for the learning medium. Data from several sources, such as books entitled *Bonjour, Le*

mag, and *Super français*, are modified. Then, we learned them from websites to get the images so that the media can be more interesting. The opening is displayed in Fig. 1.



Figure 1. The opening display

In the main menu, we can find the title of the media, namely *français pour la classe XI au lycée*. There are several images, namely the Eiffel tower, the louvre museum, and the Elysée field as the background.

Click button to enter and the main menus can be seen (see Fig. 1). In the main menus, click the menu of *avant propos*, *matériaux*, *exercices*, and *profil* (see Fig. 2).



Figure 2. The *avant propos* menu



Figure 3. Button '*matériaux*'

Next, materials containing *Se situer dans l'espace* in Chapter I, *Raconter un événement actuel ou des habitudes* in Chapter II, and *Raconter un événement passé* in Chapter III (see Fig. 3). In each chapter there are skills, indicators, description, and definition of the materials,

text source, grammatical explanation, summary, and bibliography, that the students must achieve (see Fig. 4). Then there is the exercise menu that the students should try, and after that they can correct their answers too (see Fig. 5). Finally, there is the author profile (see Fig. 6).



Figure 4. Content '*matériaux*'



Figure 5. content 'exercices'



Figure 6. Profile

3. Development stage

After creating the learning media using android animate CC, then the product is validated by experts. Before the materials are feasible, several revisions are made based on the opinions of experts. This step is useful for correcting errors found and adding if something is not in line with expert judgment. The validation is carried out in order to obtain information on the quality of the learning medium developed. The validation result given by the experts is shown in Table 2.

Table 2. Validation results

Validator	Score	Categori
Material expert	89,5%	Very good
Media expert	92,4%	Very good
Average	90,9%	Very good

4. Implementation stage

This stage tries to test the media that is already declared valid or feasible by experts and that can be applied to the students. There were 30 students participating and the

evaluation process was carried out from May to June 2023. This stage contains four sessions from pre-test to post-test.

A. Pre test

During this test, students' preliminary competence on the prepositions of place, the past tense, and everyday life were obtained from 20 questions. The pre-test session took place on May 19, 2023 and started from 9:00 a.m. until 10:00 a.m. Students had one hour to answer this test and the average rating was 47.6. Then, to improve students' skills in French language, learning media was applied in the learning process.

B. First treatment

During this treatment, the theme of the course is "locating oneself in space and recounting a current event or habits". The class began by asking students what prepositions of place they knew and what verbs they did regularly. For clarity, a

location, preposition, video, and daily activities were also displayed via YouTube. After listening to the video which was played several times, they were prompted to open the android animate CC app and to find information about location, prepositions, and daily activities in the video. This treatment took place on June 5, 2023 and started from 8:00 a.m. until 9:30 a.m.

C. The second treatment

The lesson theme in the second treatment is *Raconter un événement passé*. The class began when teachers started explaining to the students the change of the verb forms from present to past tense, and their examples using android animate CC media. This treatment took place on June 13, 2023 and was held from 8:30 a.m. to 9:30 a.m.

D. Post-test

The post-test as the last session was distributed to the students to know the contribution of the android animate CC as the learning media and to improve their skills. There were 20 questions that they had to answer. The post-test took place on June

23, 2023 from 8:00 a.m. to 9:00 a.m. so students had one hour to answer the test.

Based on the questionnaire results from 30 students, the score of the learning media which was applied is 91.5%; this score means that it is considered "very good" category, so, the learning media is feasible and satisfactory.

5. Evaluation stage

In this phase, the discussion follows the summaries of the results presented in the previous sections. The result of students' proficiency is measured based on the pre-test and post-test assessment. The pre-test is done before the students use the learning medium to be developed. The posttest is given to determine the media effectiveness results.

DISCUSSION

Then the descriptive statistics of the pre-and post-tests given to students in the intermediate written production course are shown in Table 3 below. The normality test consists of H_0 : the data is normally distributed and H_1 : data is not distributed normally.

Table 3. Normality tests

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Pre-test	.147	30	.200*	.945	30	.448
Post-test	.289	30	.001	.788	30	.003

*. Il s'agit d'une limite inférieure de la véritable signification.

Based on the SPSS output for the normality tests using Kolmogorv Smirnov, the results show that, for the pre-test, the value is $\text{sig.}=0.200$ where $0.200 > 0.05$ meaning that H_0 is accepted but H_1 is rejected, thus, the pre-test variables are normally distributed, and for the post-test, the value is $\text{sig.}=0.001$ where $0.001 < 0.05$ meaning that H_0 is rejected and H_1 is accepted. The post-test variable is therefore not normally distributed.

Wilcoxon's non-parametric rank correlation test is then used to verify whether the teaching materials to be developed has impacts on students' learning outcomes. The criteria of the data test are said to be

significant or there are differences in the students' level of skills in the French hotel and restaurant course between, before, and after the use of the digital dictionary if the value of p-value or $\text{sig.} < 0.05$. From the N-Gain test result, the average N-Gain score (g) is 0.71. Based on gain index criteria by Meltzer where $(g) < 0.3$ it is considered low, the $0.7 > (g) > 0.3$ is included as medium, and the $(g) \geq 0.7$ is determined as high. So, all this indicates that the efficiency of using android animate CC is in the "high" category.

CONCLUSION

Based on the data from the assessment and changes above, the following conclusions are drawn:

1. The android animate CC as the learning media, the development process involves five stages; at the analysis stage, students find struggles to understand the materials because the presentation is less systematic. Then, in the drawing phase, content, and design of the media from several sources is based on the students' needs.
2. The average rating from hardware experts is 89.5% (very good) and from media experts is 92.4% (very good), so, this media is valid or feasible to use. Finally, for the evaluation phase, four sessions exist: pre-test, treatment 1, treatment 2, and post-test. Results from before and after the treatments show that android animate CC contributes and improves students' competence.
3. The results of the students' pre-test and post-test assessment show that their average score is 47.6 in the pre-test and 82.8 in the post-test; all this means that students' proficiency after using the android animate CC media increases significantly. This proposition agrees to the result of the Wilcoxon test, where p-value or sig. amounts to 0.001 or lower than the threshold $\alpha < 0.05$, meaning that impacts on students' learning outcomes exist. The N-Gain Test result shows that the average score of N-Gain (g) is 0.71, explaining that the score is in the "very high" category, thus, the effectiveness of android animate CC learning media is effective and is classified "very

practical" category as shown by the users' satisfaction questionnaire amounting to 91.5%.

Declaration by Authors

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