

Learning Media Development of Beginner Written Receptions Based on Augmented Reality Applications

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ABSTRACT

This study aims to discuss the development process of augmented reality as a French language learning media which is applied in the *reception ecrite debutante* course; the augmented reality brings about a product, namely the new livgent red application, textbooks, and manuals for its use. This development process was carried out through material and media feasibilities by four validators, so that the results of this development were feasible to apply to students. Based on the needs analysis, students still need more varied media when studying and adapted to the times, namely the use of technology and communication tools. Therefore, this media is the solution we provide because it has several advantages such as: easy to use, colorful, interactive in 3D, attractive, among others. This media can accommodate text, video, 3D, images and audio and can be used online or offline. This research was adapted from Branch's ADDIE model (analysis, design, development, implementation, and evaluation), but this paper only reached the development stage. In the material validation process, an average value of 91.2% was obtained, so it was categorized as very good. Meanwhile, in the media validation process, an average value of 92.75% was gained, so it was categorized as very good. Thus, the development of media based on augmented reality applications is proved to be valid or feasible in the students' learning.

Keywords: Development, media, reception ecrite debutante, augmented reality, livgent

INTRODUCTION

In language, especially French, learning, there are four language skills, such as oral production, written production, oral reception and written reception. Language has particular characteristics that must be followed, so learners are required to master the characteristics of the language they are learning. French is a language having features such as: (1) gender (masculine and feminine), (2) number (singular and plural), (3) articles (definite, indefinite and partitive articles) among others.

With its uniqueness, French forces students to focus and deepen their learning, such as using more varied technology-based media to facilitate learning applied to this language. Based on the students' answers to the questionnaires, about 76.5% argued that beginner written reception was difficult due to several factors:

- (1) lack of French vocabulary which affected their language skills;
- (2) weak comprehension of monotonous reading, for example, the book used is less colorful, and lacks of images, even the writing is too small. The reading material also uses complete French without explanation in Indonesian, although the target for beginner written reception is addressed to first semester students with basic abilities in A1 level;
- (3) the limitations of learning materials accessible online and offline. Students admit that they still need more varied technology-

enabled teaching materials to increase their motivation and interest in learning.

According to questionnaire of needs analysis that we posed in February 2022, there is a picture of the implementation of learning in the classroom, we obtain that (1) students still need a variety of media to learning, (2) previously, students had not used the medium of augmented reality in learning the beginner written reception, (3) the media/platforms that were used during the learning is Zoom, Google Meet, WhatsApp, YouTube, PDF, Power point, Web, Instagram and a book called *tendences A1*, and (4) the learning methods used in class are discussions, exercises (drills) and the teachers' presentation of the material by online.

From the semester lesson plans, this course has 3 x 50 minutes per week on reading skills. Students argued the media play a very important role in the learning process and added that the media used was not enough and they still needed a variety of media to support their motivation to learn. From the results of the above analysis, it is concluded that the main factor explaining the low mastery of French in the beginning written reception course refers to the need for more varied media development.

Tissera argued on the use of media in foreign language learning which is a direct benefit because it contributes to the development of students' language skills, and always arouses their desire to learn what the author means^[1]. The use of learning media is very influential because it has an impact on the personal development of children and increases learning motivation.

One of the media deemed appropriate to overcome these issues is the development of augmented reality application-based media to support online and offline learning in the beginner written reception. Indeed, it is used to help visualize reading material for comprehension and object model. From the results of the research, the development of augmented reality application will give rise to an application and a small book entitled

"*livgent red*", a short form of intelligent book reception written beginner.

The augmented reality is software in the form of digital content applications that produce virtual blends with the real world that can display virtual objects in two or three dimensions to users using webcams, cameras and even objects specials. Thus, from the advantages that have been described by relevant research, the development of media based on augmented reality should be applied in French learning because this media has never been used during learning in the beginner written reception course. In this context, we examine the development of the learning medium of beginner written reception based on the application of augmented reality.

LITERATURE REVIEW

According to Umar, learning media are tools, methods and techniques used as communication intermediaries between teachers and students in order to make communication and interaction between them more effective in the teaching and learning process in schools^[2]. Umar also added that there are 6 functions of learning materials, namely, a) help facilitate student learning to facilitate teaching for teachers, b) provide a more real experience, c) this attracts more students' attention, d) all student senses can be activated, e) more student attention and interest in learning, and f) can juggle between the world of theory and reality^[2]. Furthermore, Arsyad also stated that there are criteria in the choice of media such as, a) in accordance with the objectives to be achieved, b) appropriate to support lesson content, c) convenient, flexible and durable, d) teachers know how to use it, e) target grouping, and f) technical quality^[3]. Referring to the Common European Framework of Reference for Languages (CEFR), the common European terms of reference were created to respond to the communication difficulties that people face when learning modern languages and those caused by differences in education systems^[4]. The CEFR is a standard or

reference for language learning programs established by Europe and regulates the certification and division (competence) of language learning, namely, listening, listening, speaking and writing.

Based on the above explanation, in the CEFR there is no clear indication that there is beginner written reception, but there is an implied word that is discussed, namely beginner written reception, to know "reading comprehension". Scheduled to the teaching of the French language, the Universitas Negeri Medan decided on the use of the beginner written reception course which took on the additional meaning of *debutante* (beginner). Augmented reality is an application that will be used in this development research as a medium to support online and offline learning of beginner written reception.

According to Mustaqim, augmented reality is "the application of merging the real world with the virtual world in two-dimensional and three-dimensional forms that are projected into a real environment at the same time"^[5]. Mustaqim mentioned six advantages of augmented reality, such as, 1) more interactive, 2) efficient in terms of use, 3) can be widely implemented in various media, 4) simple object models, as they only show a few objects, 5) a production that does not cost too much, and 6) easy to use. While three disadvantages include 1) sensitive to changes in point of view, 2) the manufacturer are not too many, and 3) requires a lot of memory on the installed equipment^[5].

MATERIALS AND METHODS

With reference to ADDIE model, Branch (2009; 2) argued "ADDIE development means to analyze, design, develop, implement, evaluate". The ADDIE concept is used to build active learning and development or results. Only the third stage, development, is used. The population of the study were students from the French Language Program, Faculty of Language and Arts, Unimed. The samples were 73 students taken from semester 1 enrolled in 2021 and

from classes A, B and C. This research uses both qualitative and quantitative approaches. Figure 1 shows the ADDIE scheme developed by Branch^[6].

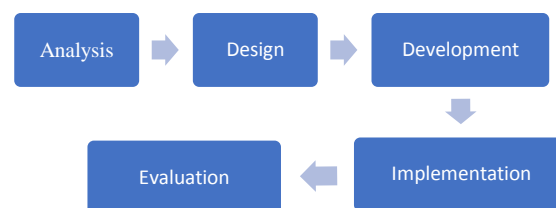


Figure 1. ADDIE concept by Robert Maribe Branch

Data collection technique

In this study, we applied several instruments and techniques, such as, a) questionnaire, b) literature study, and c) test in the data collection.

Data analysis technique

Questionnaire and validation data analysis techniques employed a Likert scale with answers to a feasibility questionnaire with five types of gradations for each question according to Sugiyono^[7] as shown in Table 1.

Table 1. Evaluation de l'échelle de Likert selon by Sugiyono

No	Criteria	Score
1	Absolutely agree (SS)	5
2	Agree (ST)	4
3	Doubt (RR)	3
4	Disagree (TS)	2
5	Absolutely disagree (STS)	1

The instrument to analyze the material and media validation data is written in the following formula:

$$P = \frac{\Sigma}{N} \times 100\%$$

Description:

P = presentation of the category

Σ = total answer score

N = total score

In this study, the media feasibility value was determined in the categories of SS (lit. Indonesian *sangat setuju* 'absolutely agree'), ST (*setuju* 'agree'), RR (*ragu-ragu* 'doubt') TS (*tidak setuju* 'disagree'), and STS (*sangat tidak setuju* 'absolutely disagree') as a result

of research conducted by both material experts and media experts. If the final rating is found to be above the minimum value, the developed medium is considered suitable for use.

The evaluation questionnaire given to the validator is organized according to the quality of the media including several indicators: the use of grammar, the accuracy of the media in relation to the material, and the appearance of the media. In this test, there are several parts such as: 1) feasibility test instrument for learning media experts, 2) feasibility test instrument for learning material experts.

RESULTS AND DISCUSSION

This section describes the results and process of developing augmented reality-based media with products such as the new "Livgent RED" application, textbooks, and guidebooks. This development process is described in three stages, namely, analysis, design and development.

Analysis

The analysis phase was carried out on the basis of the results of the needs analysis shared by students, with the following notes: 1) 76.5% of beginner French learners said that learning in the *Reception Ecrite Debutante* course was difficult, 2) the book that is fully used in French is *Tendances A1*, while there are students who have never studied French, 3) during teaching and learning activities, lecturers use media in delivering material in the *Reception Ecrite Debutante* course. The media are in the form of: PPT, books, E-books, PDF, Youtube, web, audio, and Instagram, and 4) by referring to the results of the highest material questionnaire, namely *Se presenter and recontrer les member d'une famille* (introduce yourself, meet family members), the researcher used these two materials which were integrated into the development of augmented reality-based applications.

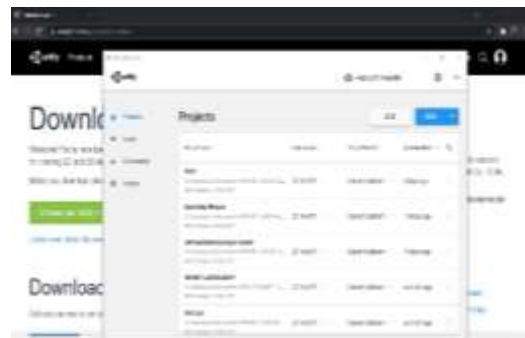
Design

Researchers first design the material through several stages, then design other supporting media. The design and manufacture of augmented reality application-based designs are conceptual in nature, meaning that they are carried out in detail and planned and are based on a clear theoretical basis, context, objectives and benefits. The following is the design process that the researcher 1) designed the material using relevant sources, namely *tendance A1, precis de grammaire*, etc., 2) insert material into an auxiliary media, namely "Canva" to form it like a book, 3) design pictures or illustrations related to existing material to be synchronized with the augmented reality application, and 4) prepare audio, video, and unity to enter into the development process.

Development

The followings are the stages of media development bringing about products, namely textbooks, "Livgent RED" applications and guidebooks. There are eleven steps in the development stage.

1) Installing unity on Google



2) Setting up the Vuforia database



3) Importing the unity that was created earlier



7) Changing the introduction part to some of the features



4) Adding a license key



8) Change the description of 3 Dimensional Augmented Reality



5) Changing the target image



9) Change the application model, in terms of the appearance of the application icon, content, etc.



6) Converting an inanimate image to a 3-dimensional model



10) Change the quiz to questions in French
To add questions to the application, you can use the Questions folder in the project section at the bottom. Then we only need to change the questions and also the answers to the questions.



11) Change the video player that was made previously using the helper application "inshot", then used as an AR section that produces sound, images, and writing.



From the results of the media development above, we then distributed questionnaires to four experts (2 material experts and 2 media experts). The results show that the questionnaire was given to one material expert who made three revisions: the first was not suitable for use, the second was feasible but had to be revised, and the third was suitable for use without revision with a final score of 91.5%. Furthermore, the questionnaire was given to the other material expert who suggested revision, such as, the first was feasible to use but had to be revised, the second was feasible to use without revision with a final score of 94%.

The questionnaire was also given to the first media expert who gave value of of 92% with a note that it was feasible to use but there was a slight revision. Furthermore, the second media expert gave the score of 90.4% with a note that it was suitable for use but there was a slight revision by adding only the big title.

CONCLUSION

From the results of the media development process based on augmented reality applications, the use of auxiliary applications to support such development is badly needed, for example, unity should be installed and other additional applications such as Canva must be elaborated to produce related images or illustrations so that they remain original without taking/annexing from Google. In addition, using the additional application can be directed to create videos that would be integrated with the resulting media, namely Livgent RED with several features developed relating to *se presenter, rencontrer les membres d'une famille* (introduce yourself, meet family members), camera AR, video, evaluation, and exit menu. For the feasibility results section, the material gets an average score of 91.2% which is classified as very feasible category. The media feasibility results get an average value of 92.75% showing a very decent category and thus, the development of *Reception Ecrite Debutante* learning media based on augmented reality media applications is feasible to use or implement in class.

Declaration by Authors

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