



## “Basic English”: An Android-Based Teaching Media for Students in Grade 7th Built-in Construct 3

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<https://doi.org/10.37339/e-komtek.v7i2.1432>

Published by Politeknik Piksi Ganesha Indonesia

### Artikel Info

Submitted:

02-10-2023

Revised:

02-11-2023

Accepted:

02-11-2023

Online first :

12-12-2023

### Abstract

The use of technology and information in Indonesia is widely spread. Various groups have been reached with gadgets that are pretty sophisticated and can be used for multiple purposes, not only for sending messages or news, listening to music, watching videos or films, and playing online games but can also be used as learning media, especially after the COVID-19 outbreak hit Indonesia. For about two years, educational facilities in Indonesia have been running online. Unfortunately, the use of technology in education is still not optimal. This research aims to help teachers and students optimize technology use in supporting learning and teaching activities. Using Construct 3, an application to learn English for grade 7 students of SMP/MTs was successfully created. The Basic English game contains a summary of material and practice questions that can be accessed and operated using Android on students' cell phones anywhere and anytime.

**Keywords:** Learning Media, Construct 3, Android, Basic English

### Abstrak

Penggunaan teknologi dan informasi di Indonesia sudah sangat luas. Berbagai kalangan telah dijangkau dengan gadget yang cukup canggih dan dapat digunakan untuk berbagai keperluan, tidak hanya untuk berkiriman pesan atau berita, mendengarkan musik, menonton video atau film, dan bermain game online, tetapi juga dapat digunakan sebagai media pembelajaran, terutama setelah wabah COVID-19 melanda Indonesia. Selama kurang lebih dua tahun, fasilitas pendidikan di Indonesia telah berjalan secara online. Sayangnya, pemanfaatan teknologi dalam dunia pendidikan masih belum optimal. Penelitian ini bertujuan untuk membantu guru dan siswa mengoptimalkan penggunaan teknologi dalam mendukung kegiatan belajar dan mengajar. Dengan menggunakan Construct 3, sebuah aplikasi belajar bahasa Inggris untuk siswa kelas 7 SMP/MTs berhasil dibuat. Game Basic English berisi rangkuman materi dan latihan soal yang dapat diakses dan dioperasikan menggunakan Android di ponsel siswa di mana saja dan kapan saja.

**Kata-kata kunci:** Media Pembelajaran, Construct 3, Android, Bahasa Inggris Basic



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## 1. Introduction

The use of technology is becoming broader and more accessible to access. It is now a part of our necessities. Gadgets like phones, tablets, laptops, or even PCs are no longer luxury needs. They are our everyday primal needs. Moreover, ever since the outbreak of COVID-19, the influence of technology has widely spread and been used in many aspects of life. When we are sick and want to see a doctor, we need to make an appointment at the hospital using an application; in the shopping center, we purchase our things using m-banking or QRIS; and so does the education field.

The pandemic made us socially distance and work from home to suppress the number of patients. As a result of working from home or school from home, in this case, teachers and students are forced to study from home. Teachers must use technology such as Zoom, Google Meet, Skype, etc.

Though the pandemic has passed, the impact can still be seen and felt. Children are more into gadgets than into books. They are fond of gaming rather than reading and studying. It makes the teachers face more challenges in educating them. It happens in almost all areas of Indonesia, including in SMP Negeri 2 Rawalo. The teachers find it difficult to teach their pupils as they need more focus, get distracted by their phones quickly, and cannot finish their tasks and homework.

From the problems above, the first step to solving it is to gain students' interest in learning. While the students fancy their phones more than their books, teachers can use this phenomenon to make the students learn through their phones. Using technology, teachers can integrate the old-school type of learning into a modern one. There is a more innovative and effective way to learn. Instead of reading books, teachers can modify and move the materials from book to phone. Students can also do homework and exercise there. Teaching media is a medium or tool that helps learning and teaching activities and clarifies the meaning, message, and lessons conveyed to achieve the desired goals better [1]. Learning media is essential in Influencing students' motivation because it offers innovation and different learning variations in its presentation [2]. It is supported by many websites and web applications to help teachers modernize their teaching and learning processes, one of them being Construct 3 [3].

Construct 3 is a game maker based on HTML 5, focusing on making 2D games by Scirra. It is user-friendly, enabling us to operate it on many platforms, such as Windows, Linux, Mac, and Android [4]. Nowadays, along with the growth of technology in education, teachers can use

Construct 3 to make an interactive teaching medium to make learning more alive, amusing, and enjoyable.

Some work has been done by researchers in the education field where they build applications or teaching media from Construct 2 or Construct 3 [5]. The first one is MaTriG: Mathematics Educational Game with Construct 3. This educational game was created by Shinta Permatasari, Mohammad Asikin, and Nuriana Rachmani Dewi in 2022 [6]. The method used in the research was Research and Development (RnD). MaTriG was developed using Construct 3 software with the help of Adobe Illustrator 2010 [7]. This educational game is in the platformer game genre, where the academic side that you want to display is Mathematics about Linear Equations in Two Variables (PLDV) for class VIII SMP/MTs [8].

Next is the design and development of Android-based educational games for children's brains using the Construct application. The following research was written by Muhamad Firdaus and Handang Wahyu Nugroho in 2016 [9]. Educational games are enjoyable for children, especially in remembering, counting, and recognizing the names of objects [10].

There is also an Adventure Game Application for Children as a Media for Learning about Flora and Fauna in Indonesia. This application was designed by Fendik Gunawan in 2015 using Construct 2. An adventure-based game that aims to help elementary school students understand the flora and fauna of Indonesia [11]. Making a Labyrinth Game Using the Online-Based Construct 2 Application. This maze game is the work of Apriyanto and Ishak Saputra Lasodi, who created it in 2016 [12]. This online game, developed with the help of Scirra Construct 2, can be played online on all web browsers that use HTML 5.

Designing a Math Adventure Game as an Android-Based Mathematics Learning Media. The research, written in 2016, aims to increase the efficiency of application-based learning on Android. The method used by Muhammad Rizky Rahadi, Kodrat Iman Satoto, and Ike Pertiwi Windasari is the Multimedia Development Life Cycle (MDLC) using the help of Unified Modeling Language (UML) and Construct 2 [13]. The aim is for children to stay energized and confident to learn Mathematics.

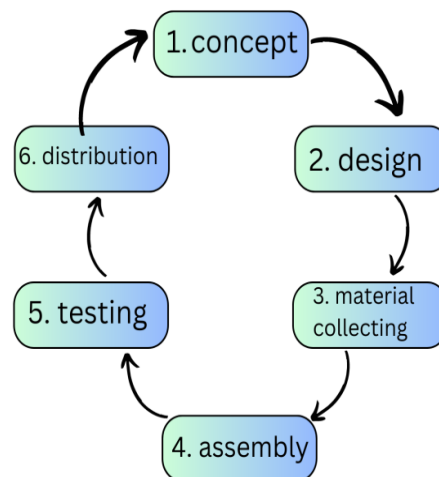
The latest one is the "Kebunku" Educational Game Using Construct 2. The educational game "Kebunku" was created by Donna Apriana Sari, Yulianto, and Nisa Rizqiya Fadhlina in 2020 [14]. This game was created for students at SD Negeri 001 Samarinda Seberang which contains a gardening simulation, starting from planting seeds, watering the shoots, and harvesting gardening products in the form of fruit such as apples, oranges and bananas [15].

Like several examples of the results of educational games mentioned above, this work also aims to design learning media, and educational games to help students, precisely grade 7 students at SMP Negeri 2 Rawalo, enhance the teaching and learning processes to be more practical, efficient, and modern. However, this Basic English game is designed to be more complex because it has a fun feel and is still educational. A 'Review' menu is provided, which contains a summary of the material and a mini quiz at the end of each material so that students can better understand and test their learning results. Apart from that, there is a 'Quiz' menu that is prepared for students to become more familiar with the types of questions related to the material being taught.

## 2. Method

This research adapts a method called Multimedia Development Life Cycle (MDLC). MDLC is the best method to develop multimedia applications such as interactive teaching media, e-learning, games, etc. Multimedia Development Life Cycle (MDLC) is a multimedia product development cycle that begins with product analysis, product development, and launch stages. Although it has the same development roots as the Software Development Life Cycle (SDLC), MDLC has unique characteristics related to the development and use of multimedia elements.

There are six steps in the MDLC method, as presented in [Figure 1](#).



**Figure 1.** MDLC Models

### 2.1 Concept

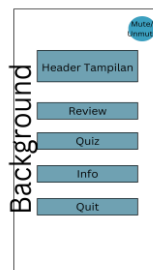
At the conceptualization stage, the author discussed the learning media design with the supervising teacher and lecturer. Several features must be present in this learning media: a part for repeating material taught (review) and a practice question feature (quiz).

## 2.2 Design

In designing the basic English learning media, the author used Canva. The many conveniences and options provided by Canva made the author decide to use it. The selection of backgrounds, images, buttons, image layouts, and text font types was all made using Canva, which was then downloaded in .png format. Here are the three stages of design:

### a. Design Layout

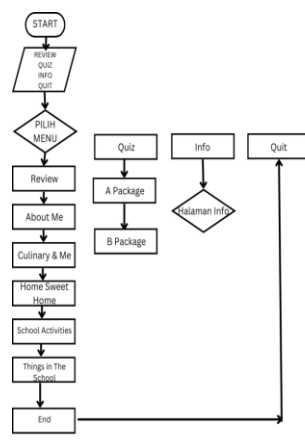
The main design of the initial display of learning media is as follows: four main menus and buttons to switch music, which are provided as back songs. It is shown in **Figure 2**.



**Figure 2.** Main Layout

### b. Flowchart

The first step in creating a program is to create a flowchart. A flowchart or flow diagram is a chart that explains the sequence and relationship between processes and their interactions. Flowcharts are written in symbols to make executing orders easier. For the Basic English Learning application is **Figure 3**.



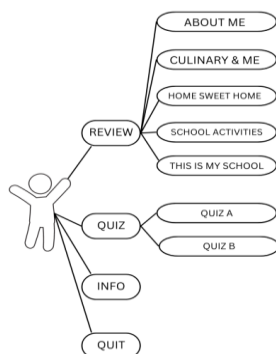
**Figure 3.** Flowchart

### c. Use Case

A use case diagram describes the interaction between the user and the system being created. This diagram makes it easy to see what components and functions are in the system. Use

cases can also show or present an interaction between an actor/user and the design presented

**Figure 4.**



**Figure 4.** Use Case

### 2.3 Material Collecting

Material was collected by summarizing and taking the book's essence in English for Nusantara. The author took the topics and material described in the book, summarized them, entered them into Canva Design, and then transferred them into Construct 3.

### 2.4 Assembly

The layout of the Basic English learning media follows the placement in the book. Namely, there are five significant chapters in each sub-chapter. After completing each sub-chapter, students will do practice questions/practice questions, and then they can move to the next chapter and get a score from the start of doing practice questions. Comprehensive practice questions are given in the Quiz menu option.

### 2.5 Testing

This test must be carried out to determine whether the application is running according to the function entered or whether there are still errors. To test the application, the author uses the alpha test. An alpha test is a test carried out by the application creator. This testing is called the black box method, which aims to test the application's functionality and whether it is as expected or not.

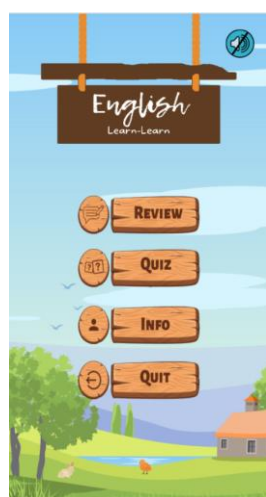
### 2.6 Distribution

Distribute the Basic English APK using the WhatsApp group. First, the author will send this APK file to the supervising teacher, and then the supervising teacher will distribute the APK because only the teacher has access to almost all students. If there are problems, a service will be provided to help download the APK.

### 3. Results and Discussion

This application presents several features to complement Basic English learning media, including the Review, Quiz, Quit, Info, Mute, and Unmute Button on the Main Menu page. On the Review page, the students will be asked to choose which materials (Greetings, Introducing Self, Introducing Others, Daily Activities, School Activities, Describing People, and Food) they want to explore. After brushing up on the materials, the students are expected to do the quiz.

The designs of the Basic English Application are shown in **Figures 5** and **Figure 6**. The figures are screenshots of the Main Menu and Review page. The difference is that on the Main Menu page, there is a mute and unmute button, whereas on the Review page, there is a home button.



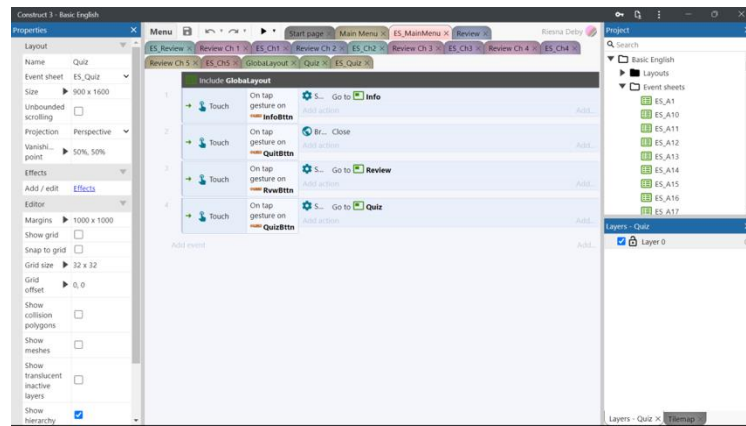
**Figure 5.** Main Menu Page



**Figure 6.** Review Page

The materials in this application are taken from the English for Nusantara book by *Kementrian Pendidikan, Kebudayaan, Riset, dan Teknologi* year 2022 for students in grade 7<sup>th</sup>. This book has five chapters: About Me, Culinary and Me, Home Sweet Home, School Activities, and This is My School.

Basic English learning media was created using Construct 3. The first thing to prepare were assets such as the right arrow button, left arrow button, home button, and others. Next, the prepared material is arranged in the layout on the Construct 3 page. To execute the command, we must create a function in the event sheet, as shown in **Figure 7**.



**Figure 7.** Event Sheet Main Menu

Three tests are used in making the Basic English Application: the Alpha test, the Black Box test, and the Betha test, which is tested on 10 (ten) students. The results of the tests are presented in the tables below. Table 1 shows the development of the Alpha test. The result of the Black Box test is presented in Table 2. In addition, Table 3 presents the impact of the Betha test, which is distributed using Google Forms through this link: <https://forms.gle/HFpmPp7dJvpo2JcKA>. The Betha test is in the form of a questionnaire with five questions. Alpha test is presented on **Table 1**.

**Table 1.** Alpha Test

No	Testing	Testing Detail	Expected Result
1	Main Menu	Muting backsound	Muting backsound
		Unmuting backsound	Unmuting backsound
		Choosing menu Review	Showing menu Review
		Choosing menu Quiz	Showing menu Quiz
		Choosing menu Info	Showing menu Info
		Choosing menu Quit	Showing menu Quit
2	Menu Review	Choosing menu About Me	Showing menu About Me
		Choosing menu: Culinary and Me	Showing menu Culinary and Me
		Choosing menu Home Sweet Home	Showing menu Home Sweet Home
		Choosing menu School Activities	Showing menu School Activities
		Choosing menu This is Me	Showing menu This is Me



Black box test is presented on **Table 2**.

**Table 2.** Black Box Test

No	Testing	Testing Details	Expected Result	Result
1	<i>Main Menu</i>	Muting <i>backsound</i>	Muting <i>backsound</i>	Successful
		Unmuting <i>backsound</i>	Unmuting <i>backsound</i>	Successful
		Choosing menu <i>Review</i>	Showing menu <i>Review</i>	Successful
		Choosing menu <i>Quiz</i>	Showing menu <i>Quiz</i>	Successful
		Choosing menu <i>Info</i>	Showing menu <i>Info</i>	Successful
		Choosing menu <i>Quit</i>	Showing menu <i>Quit</i>	Successful
2	<i>Menu Review</i>	Choosing menu <i>About Me</i>	Showing menu <i>About Me</i>	Successful
		Choosing menu <i>Culinary and Me</i>	Showing menu <i>Culinary and Me</i>	Successful
		Choosing menu <i>Home Sweet Home</i>	Showing menu <i>Home Sweet Home</i>	Successful
		Choosing menu <i>School Activities</i>	Showing menu <i>School Activities</i>	Successful
		Choosing menu <i>This is Me</i>	Showing menu <i>This is Me</i>	Successful

The result of questionnaire is presented on **Table 3**.

**Table 3.** The Result of The Questionnaire

No.	Statement	Response				
		AA	A	N	DA	ADA
1.	The layout of Basic English is interesting	10	0	0	0	0
2.	Basic English is easy to use.	8	2	0	0	0
3.	The materials included in Basic English are suitable for students in grade 7 <sup>th</sup> .	7	3	0	0	0
4.	Studying using Basic English is more interesting than studying using the book.	10	0	0	0	0

No.	Statement	Response				
		AA	A	N	DA	ADA
5.	Basic English is easy to access and install.	6	4	0	0	0

**Table 4.** The Result of Betha test

Question	Result	Category
1	100%	Absolutely Agree
2	96%	Absolutely Agree
3	94%	Absolutely Agree
4	100%	Absolutely Agree
5	92%	Absolutely Agree

**Table 4** shows the final results of testing the Basic English learning media application so that the average index value obtained is  $(100\% + 96\% + 94\% + 100\% + 92\%) / 5 = 96.4\%$ , which is in the Strongly Agree category. Therefore, it can be concluded that the testing of the Basic English learning media application was successful.

#### 4. Conclusion

Using Construct 3 to create learning media or educational games is quite easy. In this case, it is recommended that other teachers learn and use Construct 3 or other software applications to support learning and teaching activities so that they can increase student learning motivation. Combining technology with learning activities also makes the learning atmosphere more colorful and fun. Basically, students will learn more easily and absorb what they learn in a pleasant atmosphere.

#### 5. Acknowledgements

The authors would like to thank the Directorate General of Higher Education, the Ministry of Education and Culture of the Republic of Indonesia, and the Research and Community Service Bureau (LPPM) at Institut Teknologi PLN (ITPLN) for providing support that made this research possible.

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