



STRENGTHENING LEARNER AUTONOMY THROUGH LINGUISTIC ADAPTATION IN TECHNICAL TUTORIAL MEDIA

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Abstract

Research has carried out linguistic adaptations to technical tutorial media as a solution to *language barriers*. Learning is an activity of communication and interaction between students and the learning environment. *Language barrier* is one of the obstacles to learner autonomy when students interact with the learning environment in the form of technical tutorial media. The ability of students to master a foreign language is in stark contrast to the availability of reputable technical tutorials in international languages, especially English. The research method uses the learning video development model. The results of the development of technical tutorial video media have succeeded in providing a solution to the *language barrier* problem. Material experts, media experts and students gave positive responses to the results of the development. The average result on the response questionnaire is 96% from material experts, 92% from media experts. In line with the experts, students of the Graphic Media course at the Department of Educational Technology, State University of Malang also gave a positive response to the development results of 83% after testing.

Keywords: Language barrier; Learner autonomy; Technical tutorial media

1. Introduction

Learner autonomy is a solution to learning loss in the context of communication and interaction between learners and the learning environment. During the pandemic, learners have experienced a shift in the way they learn. Learners are getting used to actively seeking learning resources independently. Coupled with the availability of open learning resources found on various websites and even social media. Learning Loss that is feared by education and learning managers requires a practical solution. The solution is to make learners easily find the tutorial materials they need. Although the whole article mentions the existence of learning loss, the strengthening of independent learning needs to be continued, because in the context of learning media cannot replace the role of the teacher in the classroom, but the role of the media is used as an intermediary for messages or materials that facilitate learners (Maulani et al., 2022).

Video-based learning media is very easy to use in the learning process independently and, it is very sufficient to assist learners when watching the learning videos used. The use of video as learning media can make a good contribution to student learning motivation in development (Maulani et al., 2022). The use of video as a tutorial learning media can make it easier for students to understand the material and make it easier for teachers to guide students in learning so that the time used in class can run effectively (Pritandhari & Ratnawuri, 2015). The development states that video as tutorial media is effectively used to improve students' lecturing skills, because video learning media can be repeated so that students who do not understand can repeat the material

The development of video tutorials was made because of the learning experience felt by students when watching learning videos that contain steps or a procedure. One of the experiences felt is the experience of learning difficulties when watching the video, difficulty when understanding a material or difficulty in digesting the language used when delivering the material. Video Tutorials or Screencast Tutorials, which are provided for learning support, are widely available on various platforms and many video tutorials have very good material using English in delivering the material. Screencast is a video recording of a monitor screen accompanied by an explanation in the form of audio narration (Soepriyanto, 2019).

Educational Technology students class of 2022 State University of Malang are taking Visual Graphic Media courses, in this course students learn to create 2-Dimensional and 3-Dimensional works for learning. The process of making 3D works in the course, requires them to learn independently to work on their projects, indirectly they are required to look for tutorial videos available on various digital platforms. Video tutorials that have good material are made by several content creators from abroad, so the video tutorials they make are mostly in English.

Video tutorials that use English can cause new problems in the learning process. In the case of many good materials delivered using English, but students do not understand the overall content of the material in the video. This happens because most students in Indonesia do not receive the same English education, and tend to dislike foreign languages, especially English as an international language. This problem is called the language barrier or often called the Language barrier, language barriers occur due to differences in the language used as the main language.

Based on observations, it was found that educational technology students experience learning barriers when using English video tutorials. This learning barrier is influenced by language barriers, therefore this development is needed to look deeper into the language barriers that occur when students learn to use learning media independently. The existence of this learning barrier can affect student learning performance due to the lack of learning facilities that support the learning abilities of each student.

According to Browaeys & Price language barrier occurs when the receiver and sender of the message have different cultures in communication, the communication process that takes place verbally or nonverbally can be hindered by misunderstanding between the two interlocutors. Students in Indonesia are accustomed to using Indonesian as a unified language, when there is a foreign language that they do not know or understand, that's when language barriers arise.

Language barriers affect the process of delivering material in the student self-learning process. Students will find it difficult to learn independently when they are faced with video tutorials that use foreign languages, students will understand more about the meaning of the language in the video tutorial than the material to be conveyed in the video. The language barrier is also the cause of students not showing their interest in class participation and other work. International students at Universitas Airlangga miss some important information and they are not serious about doing their assignments in the right way compared to classmates who are from Indonesia and can participate in class (Ali et al., 2020). A development conducted by (Ibragimova & Tarasova, 2018). They found that the majority of international students showed their concerns facing stress due to the language barrier.

The video tutorials that use English eventually cause language barrier problems, this development aims to facilitate students who are hampered in learning because of obstacles when watching 3D colouring video tutorials using English Blender software. The development of Indonesian-language video tutorials is expected to solve the existing problems, so that students who are late to learn can understand the material presented in the 3D Colouring material.

Based on the results of the analysis of the needs of 2022 class of educational technology students, the focus of this development is the development of video tutorials. The video tutorials developed use everyday language, namely Indonesian, which is easy for students to understand, this is done so that the media developed can be implemented in classroom learning without experiencing language barriers when watching video tutorials. The developed media is expected to facilitate learning so that in its implementation in the classroom in improving student learning performance (Januszewski & Molenda, 2013)

2. Method

The process of developing this video tutorial media uses the Arief S. Sadiman development model. The reason the developer uses Sadiman's development model, because this model is very suitable for use in media development, especially video, which states that the sequence regarding script writing is very necessary in making a video as a learning medium. There are nine steps in the development model;

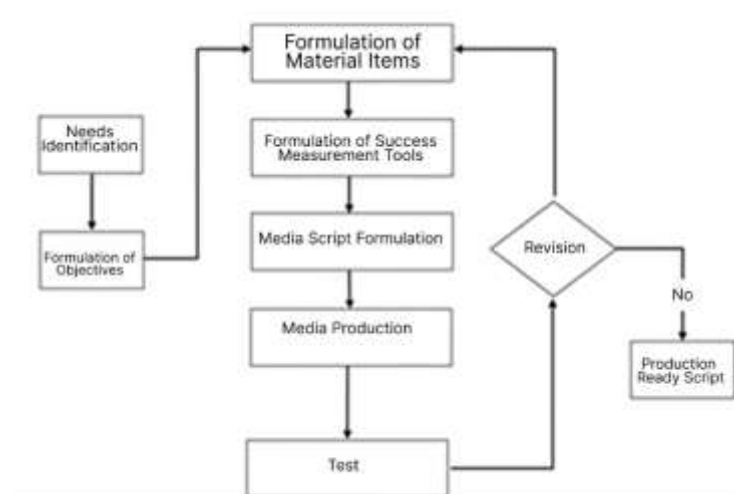


Figure 1. Flow-chart of Arief S. Sadiman's Development Model

The first thing the developer does is (1) Analyse Needs and Characteristics, after observing the situation in the field, it is found that no one has facilitated in 3D coloring video tutorials in the Visual Graphic Media / MGTV course in Indonesian so that, in the learning process there are still many 2022 Educational Technology students who are hampered, and do not know and use Coloring features in Blender software. This is because many video tutorials are good at delivering material but use English, the existence of this makes the Language Barrier process which makes students confused when learning from the video tutorial.

The second thing that is done is (2) Formulating Instructional Objectives, this development has the aim that Video Tutorials for Educational Technology Students class of 2022

who take Visual Graphic Media courses can make 3D Coloring and have good composition. The third step in this development is (3) Formulation of Material Items, Screencast material is made and adjusted from the results of the analysis of student needs as a video tutorial in making 3D Coloring in blender software.

The fourth thing that developers do is (4) Development of Measurement Tools, the development of evaluation tools in question is an instrument used to validate the screencast media developed, namely questionnaire instruments for media experts, and material experts. The purpose of preparing an evaluation tool is to measure the experience of using the 2022 Educational Technology student media against the Indonesian language tutorial video screencast that he saw. The fifth step in this development is (5) Writing Media Script, in designing this Screencast using a storyboard so that in the process of making video tutorials, because the storyboard contains an overview that explains the steps of developing video tutorials.

The sixth thing the developer does is (6) Media Production, this production process the developer uses a Laptop as hardware, and OBS Studio software as a screen recording tool, Adobe Premiere Pro as an editing tool. The seventh stage in this development is (7) Trial, this stage is carried out to see responses to the tutorial video screencast media that has been developed. Trial activities are generally carried out to measure the feasibility and success of the media that has been developed. Validation activities carried out by media experts and material experts go through stages; validators see the content of the media/material content presented, then provide responses through a questionnaire statement that has been made. Material Experts, who are lecturers of Visual Graphic Media Courses in the Department of Educational Technology, Media Experts who are teaching lecturers in the Department of Educational Technology. The success and experience of users can be seen from the percentage of student achievement results that have been filled in through questionnaires. The Large Group Trial involved 69 students of Educational Technology Class 2022 who had received 3D Modelling material.

The eighth thing the developer does is (8) Revision, at this stage improvements are made as a refinement of the video tutorial after being validated by material experts, media experts and user experience. When the results of the questionnaire given to material experts, media, and (user experience) user experience show the results are not so fulfilling as a benchmark. So, the learning media developed is not yet said to be suitable for use and needs to be revised to determine its effectiveness and efficiency, as well as the ease of use of the media.

In this ninth stage (9) Production Ready Manuscript, the final stage after the developed media has gone through a revision process, and has been said to be feasible based on the results of validation conducted by material experts and media experts as well as user experience trials to be implemented into the classroom.

2.1. Types of Data

The type of data in development research is collected with descriptive data and numerical data. Numerical data is obtained from the percentage data of questionnaire calculations from material experts, media, and media user experience, namely students. while descriptive data is data on responses and suggestions from media experts, materials, and media user experience (user experience students).

2.1.1. Data Collections Instrument

The data used in this video tutorial media developer uses an instrument in the form of a questionnaire. This questionnaire is used to validate media experts, material experts, and see user experience from students used as the validity of video tutorial media. In the scoring used in this development questionnaire using the Likert Scale Technique. The Likert technique is used to measure responses to a matter that is revealed in the form of a statement about asking respondents to give a response, then summed up in the form of numbers (Setyosari, 2016)

2.1.2. Methods

Analysis of questionnaire data in this development was carried out by calculating the average, with the following formula;

$$P = \frac{\Sigma x}{\Sigma x_i} \times 100\%$$

Description:

P = Results

Σx = Total Score

X_i = Total of all maximum score

3. Results and Discussion

3.1 Result

In the application of the media product trial of video tutorials for texturing using blender 3D in Indonesian, several processed results of response questionnaire data given to one material expert, one media expert, and 69 students were obtained:

3.1.1 Expert Validation

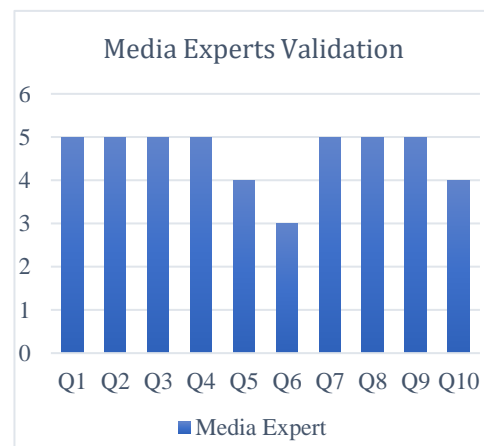
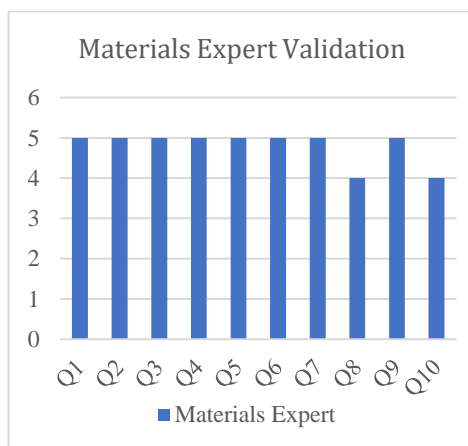


Figure 2. Data from Material Expert and Media Expert Validation

Based on the results of the questionnaire from the material expert, the overall questionnaire 80% of the material experts responded Strongly Agree, and the material expert responded Agree as much as 20%, obtained the total answer score with the number obtained 48 from the total expected answer score of 50. Thus the material expert gave a positive response to the video tutorial product, then the analysis of the calculation score for all aspects obtained the percentage of media validity with the average calculation formula. The results of the responses from the material expert questionnaire were obtained with a percentage of 96%, so that the media was categorised as feasible to implement.

Meanwhile, based on the results of the media experts, based on the results of the questionnaire from the media experts, the entire questionnaire 70% of the media experts responded Strongly Agree, the media experts responded Agree as much as 20%, and 10% of the media experts responded Disagree, obtained the number of answer scores with the number obtained 46 of the total expected answer score of 50. Thus the material experts gave a positive response to the video tutorial product, then the analysis of the calculation score for all aspects obtained the percentage of validity of the material on the media developed with the average calculation formula. The results of the responses from the material expert questionnaire were obtained with a percentage of 92%, so that the media developed were categorised as feasible to implement.

3.1.2 Large Group Trial

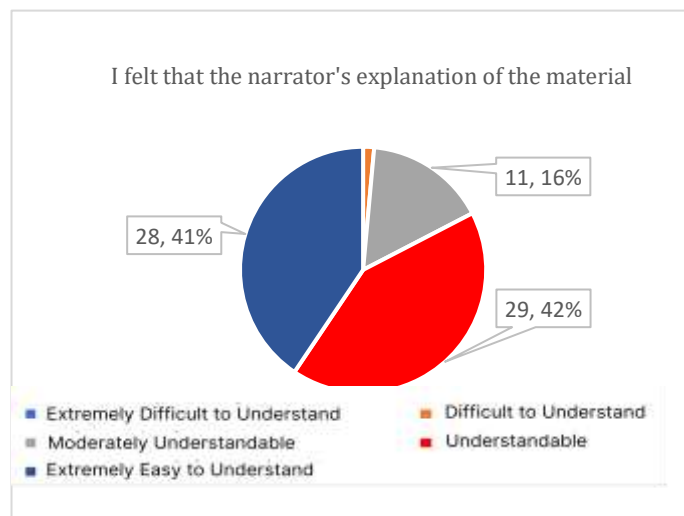


Figure 3. Diagram of Effectiveness of Video Tutorial Media

The results obtained were that 28 students found it very easy to understand, 29 students found it easy to understand the material and 11 students found it sufficient to understand the material presented by the narrator presented in the Indonesian video tutorial. If the data is processed, a percentage of 84% is obtained that the explanation of the material conveyed by the narrator is very easy to understand when using Indonesian language tutorials.

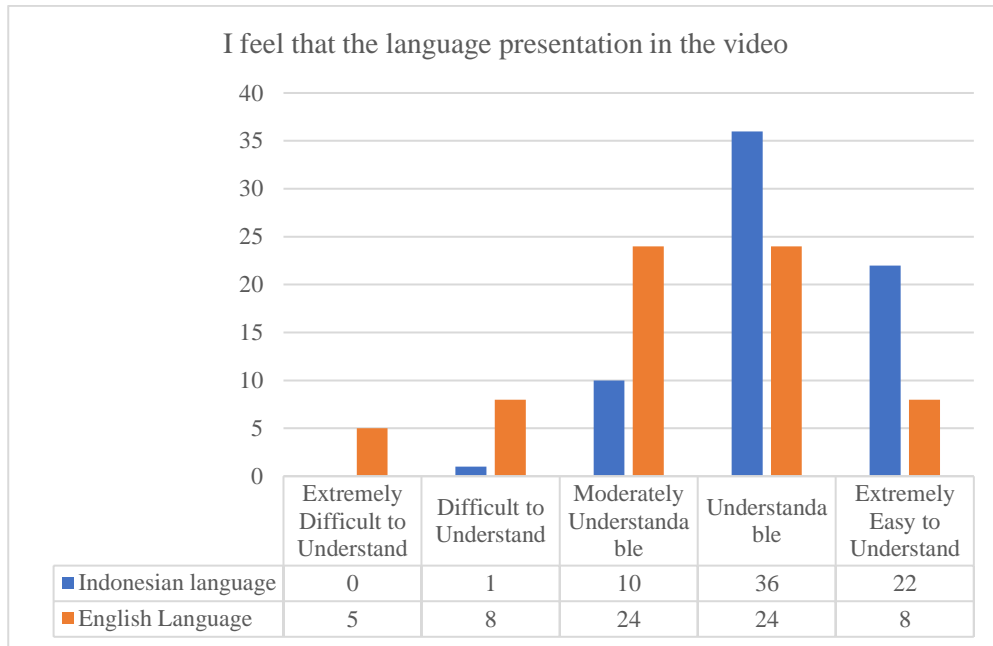


Figure 4. Language barrier comparison diagram 1

Of the 69 students who filled out the questionnaire on the user experience of video tutorial media using Indonesian and using English, it was found that 22 students found it very easy to understand and 36 students found it easy to understand the Indonesian language presented in the Indonesian-language video tutorial. If the data is processed, a percentage of 83% is obtained that the language presented in the video is easy to understand. Whereas in the English video tutorial 8 students found it very easy to understand, 24 students found it easy to understand, 24 students found it quite easy to understand, 8 students found it difficult to understand, and 5 students found it very difficult to understand the English language presented in the English video tutorial. If the data is processed, a percentage of 66% is obtained which is smaller than the video tutorials that use Indonesian.

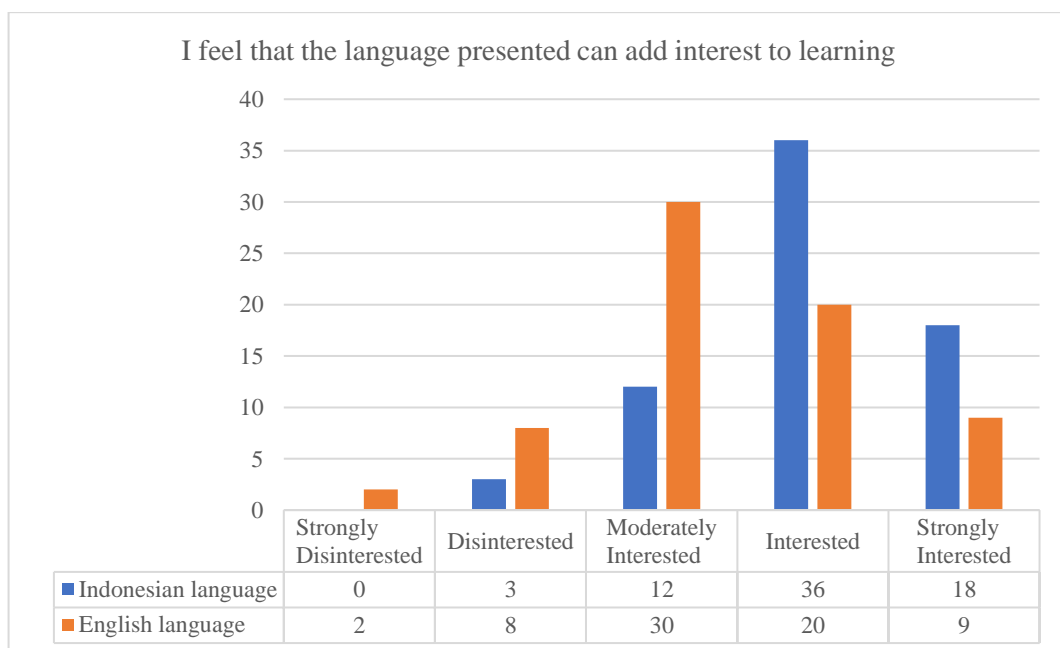


Figure 5. Language barrier comparison chart 2

The results of the diagram above state that 18 students feel very interested and 36 students feel interest in learning using video tutorials using Indonesian. If the data is processed, a percentage of 80% is obtained that the language presented in the video can add to the learning interest of students who use the learning media. Meanwhile, in the English video tutorial, 9 students felt very interested, 20 students felt interested, 30 students felt quite interested, 8 students were not interested, and 2 students felt very uninterested in adding interest in learning when using video tutorials using English. After the data is processed, a percentage of 68% is obtained which is smaller than the video tutorials that use Indonesian.

Based on the overall results of data processing from respondents' questionnaires regarding media user experience, it is found that video tutorial media can help students in explaining material from narrators (84%), students feel that the presentation of material can clarify and facilitate the delivery of messages for learning (84%), students feel that the presentation of language in videos (83%), students feel that the language presented can add interest in learning (80%), students can operate this learning media easily by (77%).

In addition to the statements in the questionnaire, comments and input from media users were also obtained regarding the development of video tutorials on how to create multiple textures in one object using 3D Blender software. Some of the comments and suggestions obtained include: (1) When there is an explanation of the tools, it is better to zoom the tool section on the laptop. (2) The position of the mic is slightly away so that the sound of his breathing or blowing air is not heard because the audience can be disturbed. (3) The video presented is easy for beginners to understand and has clear signalisation

3.2 Discussion

This development research produces the main product in the form of a video tutorial on how to create multiple textures in one object using 3D Blender software. The results of the validation of material experts and media experts state that the learning media made are suitable for use for learning. The results of questionnaire data obtained from media experts on a scale of 1-5, media experts gave an average score of the number of scores with the maximum score obtained results worthy of implementation according to the material in the course of 92%, on the Q1 - Q10 statement, namely about the tutorial video developed has clear quality, explanation of material from the narrator, tutorial videos developed have audio quality, resolution in tutorial videos, presentation in videos, rhythm of the voice delivered by the narrator, presentation of material can clarify and facilitate the delivery of messages for learning, presentation of language in videos, this media can be operated easily, duration in tutorial videos.

The results of the questionnaire data obtained from the material expert on a scale of 1-5, the material expert gave an average score of the number of scores with the maximum score obtained results worth using by 96%, on the Q1 - Q10 statement, namely about the video tutorial developed has explained all the features used, the title with the material used, the material with the media developed, the language used in the video tutorial, the accuracy of using language, the selection of material selected in the video tutorial, the features discussed in the video tutorial, the language used in the delivery of material, the material presented in learning, this media can be operated easily.

Language barrier can be interpreted as a very negative phenomenon and difficult to overcome without expert assistance (Kozar, 2014). Language differences can make it difficult for local employees to communicate with foreign employees, coupled with foreign employees using English as the language of foreign employee communication. The existence of language barriers results in frequent misunderstandings and miscommunications, this makes business activities hampered (Mandalika & Syahril, 2020). Similarly, if this language barrier occurs in the student learning process, then the message conveyed by the teacher through the media intermediary or vice versa is not fully conveyed and makes it difficult for students to learn and digest the material message conveyed.

From Figure 4 user experience response data about the use of language presented in the video tutorial, it can be found that when students watch video tutorials in Indonesian they find it easier to understand the language presented and the data obtained is 83%, while when they watch the same tutorial but using English, it is found that some students find it difficult to understand the language conveyed so that they get a percentage of 66%, the percentage obtained is smaller than those watching video tutorials in Indonesian, from these results it can be concluded that students find it easier to understand the language conveyed when watching video tutorials using Indonesian than watching video tutorials using English.

The data results in Figure 5 regarding the language presented can add interest in learning when using the video tutorial media. The data that has been processed produces a percentage of 80% stating that students who watch video tutorials that use Indonesian feel that the video tutorials can increase their interest in learning in following lecture material. Meanwhile, the data obtained with a percentage of 68% when they watched video tutorials that used English, this shows that the video tutorials were less interesting for students to learn. It can be concluded that students are more interested in learning when using Indonesian tutorials than when they watch video tutorials that use English.

The results of data analysis from Figure 4 and Figure 5 state that there are learning barriers for students when they want to understand the material presented when watching video tutorials using English without the help of Indonesian subtitles, this learning barrier is caused by language barriers or commonly called language barriers, some 2022 generation of educational technology students who are Indonesian citizens are accustomed to using the unified language, namely Indonesian, experiencing language barriers when they are faced with video tutorials that use English. This language barrier can affect student learning performance and make students disinterested when learning independently.

Research conducted (Ibragimova & Tarasova, 2018), found that students who have attended foreign language courses, it is not enough to understand the material provided in classroom learning. Difficulty in following the material presented by the professor in classroom learning activities because they do not understand the language used, this makes students fail to understand in doing classroom practice. Research conducted by Gardner, the difficulty of learning the language learning process occurs due to students who have instrumental motivation. Students who have this motivation see foreign languages only as a means to fulfil practical needs, so they learn only enough (Kholid, 2017)

In the process of learning English, students have obviously experienced an obstacle in the learning process. Students' learning outcomes decrease because of these barriers. As a result of

Megawati's research, there are students who find it difficult to follow the speed of the narrator's voice when watching videos that use English. The lack of vocabulary and understanding of English accents made them not understand the content of the conversation in the video (Megawati, 2016). Training conducted as a form of community service conducted shows that students are always constrained in pronunciation, vocabulary and language structure (grammar) when learning English (Susanthi, 2020).

The advancement of technological developments also makes video tutorials used as learning media also widely available on various platforms, (Khoiriah et al., 2022) in their research, the learning motivation of students who use video tutorials is better than using images. Video tutorials are widely developed because the media is practical and suitable for practical learning and can improve students' learning abilities in learning. The use of screencasts as teaching materials in the learning process is important, especially in learning the use of application software, because the ability to deliver material delivered using screencasts is the same as effective classroom learning (Abdul Razak & Mohamad Ali, 2016). The development carried out (Mandalika & Syahril, 2020) has the results of effective video tutorial learning media so that it can be used to improve understanding of material and skills in practice, video tutorials can also increase the effectiveness and efficiency of the use of time in the learning process.

Some research on screencasts, among which Wakefield et al found that the benefits of developing screencasts can improve final exam performance, especially for students who have low performance (Wakefield et al., 2019). The role of screencasts in facilitating learning is related to the creation process, requiring additional skills of learners or teachers in developing and using screencasts in learning (Soepriyanto, 2019). The results of the analysis in research on the effectiveness of using screencasts show that there are differences in the learning outcomes of students who learn to use screencasts independently have better learning outcomes than students who follow demonstrations (Soepriyanto et al., 2021)

The results of the research conducted (Mandalika & Syahril, 2020) (Soepriyanto et al., 2021) are in line with research conducted that video tutorials can be played repeatedly making students who do not understand the learning material can follow the video, so that the video tutorial is effective for use in the learning process. Similar research also states that the use of learning videos as media is feasible and effective. The use of videos as learning media can attract attention and students enjoy using videos as learning media (Arif et al., 2019).

4. Conclusion

The development of a video tutorial on how to create multiple textures in one object using Blender 3D software in Indonesian is an adaptation of the character or content and also the style of the English video tutorial, which is given to overcome the learning obstacles of students who study independently due to language barriers or language barriers in watching video tutorials that have been provided but using English. This developed video tutorial product can be accessed through the YouTube platform, so that it can make it easier for students when they want to operate the media using available devices such as smartphones and laptops and can maximise independent learning. Based on data . This is evidenced by the acquisition of positive responses with a percentage of the validator's response questionnaire and also the user experience, namely Educational Technology students in the Class of 2022 who are taking Graphic and Visual Media courses, the average obtained is 96% from material experts, 92% from media experts, and 83% from the results of trials to users. The development of this video tutorial

learning media is feasible to be used as a learning tool in Graphic and Visual Media courses for majors in Educational Technology.

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