Digital Supplementary Future Tense Material Development Using Quizizz Application for First Year Students

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Abstract: This study aimed to determine how the procedures to develop digital supplementary future tense material through Quizizz for the first-year level promoted by Richey and Klein's (2005) Design and Development research (DnD) approach, as well as how the product's quality evolved. Design, development, and evaluation were the three primary steps of this study. A descriptive quantitative analysis was performed to analyze the data, that explained in the distribution of scores and categories of rating scales that were determined using instrument validations. Product validation scores for content evaluation are 98.1% and 96.3%, respectively, while media assessment results are 87.2% and 85.4%. Based on findings, the digital supplementary future tense material developed with Quizizz was designed to be used in the learning process at the freshman level.

Technological advancements in the sphere of education must be kept up with by incorporating them into the educational system. As mandated by the government, Indonesian educational institutions are supposed to assist the 4.0 revolution. Only if educational institutions and instructors care about technology will this be possible (Nugroho et al., 2019). This growth also occurs in the sphere of education, where ICT (Information, Communication, and Technology) aspects are used to create an effective learning environment by leveraging technology so that all students engage and passive learners are avoided. According to K. S. Dewi (2020), technology plays a significant part in this term. Learners' usage of smartphones has a huge impact on them, and some students are using them right now. It can also help students test their abilities by using learning media provided by the teacher and comparing the outcomes. Because of the rapid advancement of technology, teachers must adapt their teaching methods by developing ICT-based learning for the students they educate. As a result, teachers can employ technology to transfer material to students in addition to providing material through books. The importance of media in learning can be attributed to its ability to aid in the achievement of effective and efficient learning objectives.

One of the solutions utilized in distant learning is online media, also known as e-learning-based media, which allows students to better absorb the material presented by the teacher. Online learning offers the benefit of providing egalitarian instruction without the need for face-to-face meetings, can be accessed anywhere, at any time according to a predetermined schedule, and is backed by a good signal (Safarati & Rahma, 2020). Because of Indonesia's rapid technological development, teachers must not only impart material through books but also be able to use technology. In Indonesia, technology has a significant impact on student learning styles, which differs from prior generations (Rahayu & Purnawan, 2019). As a result, teachers must be able to incorporate digital materials into the classroom. Digital complementing materials can be designed to help students attain their learning objectives more successfully and efficiently.

Grammar teaching is considered tough for learners, it needs an effective technique. student's difficulties in grasping basic English grammar necessitate the use of appropriate tactics and media. This is because teachers' learning resources are few, and pupils' enthusiasm to learn is low (Ayu et al., 2021). Tenses are an important part of learning

English. In English, tenses are groupings of verbs that are linked to a description of an event, with each sentence containing a subject, a verb, and an object or description (Wulan Sari & Dwi Hartanto, 2016). Tenses are utilized to construct a decent sentence and can be employed in a variety of ways depending on the time and verb used (Nainggolan, 2021). Students get through future tense information, according to observations collected in one of University in North Bali. Because studying tenses is a basic material that has only been acquired at the first-year level in college, learners have difficulties determining the formula utilized in each formula in the future tense. As a result, the focus of this study will be on future tense material.

Quizizz is one tool that can be utilized to aid in the learning process. Quizizz is a program that facilitates online testing. Quizizz is a game-based learning application that provides classes with a variety of activities to improve the classroom ambiance (Zhao, 2019). The existence of the Quizizz app may motivate teachers to pay more attention to the use of technology in the classroom to aid teaching and learning (Rahmah et al., 2019). Quizizz is a technology-based learning tool that functions similarly to other learning aids. Because it incorporates the game concept into the learning process, this application can help to create a comfortable and enjoyable learning environment (Anwar et al., 2018). The use of game-based learning methodologies to make students more active and provide a more pleasant approach from the teacher to students in applying this media in the classroom when studying English has also increased students' interest in learning to utilize media (Yunus & Hua, 2021).

Distance learning limits student learning activities in face-to-face meetings. This makes teachers have to do creative learning by utilizing technology in teaching. Several media are used in providing material for students in distance learning such as the use of video conferencing added to PowerPoint media or using applications that support distance learning. but in using virtual meetings as a medium for teaching tenses, especially future tenses, students get bored quickly in receiving material coupled with the many formulas in understanding the use of these tenses. The application of the quiz after receiving the material takes a long time so it adds to the saturation of learning. Thus, researchers want to develop future tense material through digital supplementary material using the Quizizz application as a supporter in developing material so that students do not feel bored in answering quizzes supported by the features available in the Quizizz application.

Digital supplement material is content that is described in digital technology-based media and then developed by integrating numerous components such as graphics, text, video, or audio to make the media appealing and novel to users in the teaching and learning process. In the development of educational materials, digital supplementary might be said to be on the rise. This advancement is not restricted to the addition of text in a physical form. Because of their capacity to access numerous types of technology-based educational resources, smartphones have a significant impact on education.

Three related studies were used to support this research. The first study was conducted by Rahayu and Purnawarman (2019), who assessed 14 high school students in Bandung using Quizizz as an observation tool to see how they did a self-assessment as well as a test to see how their grammar improved. This test is designed to see how well students can use Quizizz questions to identify their strengths and limitations. The majority of students exhibited a considerable improvement in their grammatical understanding as evidenced by the increase in scores obtained from the researcher's assessments.

A study was done by Solikah (2020) about technology-based learning media can boost student motivation and learning results because Quizizz is built on game-based technology. The teacher used persuasive written material to examine 54 students at SMP Negeri 5 Sidoarjo in this study. The data is given in the form of numbers and examined using statistical formulas in this study, which takes a quantitative approach. Questionnaires, tests and interviews were used to gather information. The usage of game-based applications and technology has a good impact on students' learning motivation in persuasive text materials, according to the findings of the study.

Handoko et al., (2021), employ the Quizizz application as an assessment tool for the STMIK Royal midterm test. The sample for this study consists of 29 members of the information systems department. Quizizz, a gamification media in education, uses this technology to assist teachers in the learning process. In this study, gamification was used as a strategy to investigate activities in the project management information system issue. The use of Quizizz had a positive influence in this study, with 51 percent of students successfully answering the questions. In comparison to paper and Google

forms, 66 percent choose Quizizz as an assessment tool.

As a result of prior research on Quizizz as a digital media for grammar learning in the classroom during distance learning and also to apply 21st-century learning, the researcher focuses on developing a digital supplementary for assessing future tense material using Quizizz media for 1st-semester level students at one of the Universities in North Bali who use limited learning media applications. Researchers want to use game-based applications that make interactive learning easier for teachers to provide tenses material, especially future tense material, through the quizzes developed into this application according to the topic.

METHODS

Research Design

This research uses Design and Development research (DnD) promoted by Richey and Klein (2005) using the first category of product and tools research. There are three stages of this model namely design, development, and evaluation. The following is a figure of the stages of this research model.

Figure 1. Research Steps by Richey and Klein (2005)

These three stages which refer to Design and Development research by Richey and Klein (2005) are used as guidelines for developing digital supplementary material in future tense using the Quizizz application for assessing freshman level in the English Language Education study program.

Instruments

In this research, certain instruments were used. A research note is the first instrument. The significant points from the analysis of the freshman level English language education study program syllabus in the IEC course are summarized in a research note. Then, the researcher used a blueprint for creating some questions of future tense material as digital supplementary that transposed to the Quizizz application. Then, in evaluating the quality of the product using the Quizizz application as a digital supplementary in assessing the future tense of the material, the researcher adopted the research criteria promoted by Findawati and Suprianto (2014) as an assessment of content and media.

Instrument validation is the final instrument that adapts Gregory's (2000) formula to validate products carried out by experts.

Procedures

The expert judgment sheets were validated by the experts before analyzing the digital supplementary that had been prepared to ensure that the criteria in the instrument were adequate. The instruments did not need to be revised based on expert feedback. The instruments' criteria are adequate for judging the digital supplementary. They used expert judgment to judge the quality of the digital supplementary once it had been validated by the experts. There were two sheets in the expert judgment, one for content expert review and the other for media expert evaluation. The experts evaluated the product and added notes on the evaluation sheet.

Data Collection Techniques

The adaptation of the Design and Development model promoted by Richey and Klein (2005) was used as guidance in collecting the data for this research.

1) Design of digital supplementary

The design phase begins with understanding the syllabus of the IEC course for college students as the blueprint of development. The focus on identifying the document is to understand and relate to the topic that will be developed supported by the Quizizz application.

2) Development of digital supplementary

The development phase begins with developing the media by adding designs that have been created in Canva. The designs are made following the syllabus in the IEC course which discusses the future tense material. There are twenty quizzes designed as additional material in learning future tense material and Quizizz can also be used to assess students' ability to understand the material. To access the quiz, the teacher can share the code with students provided on Quizizz's web page.

3) Evaluation of digital supplementary

This phase is aimed to assess the quality of digital supplementary. Two experts gave their points of view about the products that were made and developed in the context of learning. instruments on content and media are used as guidelines in assessing the product. The instruments used in this study were researcher notes, blueprints for developing material, and expert judgment. To examine and study the IEC syllabus, a researcher's note was created. The syllabus is being used as a

guideline for developing a media development plan. Expert judgment is a product used to evaluate the quality of digital supplemental materials used in English classrooms. This study's expert judgment is made up of expert judgment and media expert judgment, both of which are adapted from Findawati and Suprianto (2014).

Data Analysis

Expert judgment from two specialists was used to examine the media quality outcomes qualitatively. The researcher uses Tegeh and Kirna's (2010) formula to calculate the findings of expert judgment. The results will then be compared to Agung's (2010) level of accomplishment. If the results are higher than 75% and the media does not need to be revised, it will be rated as good media. In contrast, if the media's results are less than 75%, the media must be updated.

RESULTS AND DISCUSSION

The Development of Digital Supplementary Design

Several steps are carried out in this phase. First, starting from understanding the syllabus in the IEC course, then understanding the difficulties of students in learning grammar supported by related studies that were carried out previously. Then create a blueprint that is used as a guide in designing future tense quizzes on the Quizizz application.

Development

In the development stage, the researcher started by designing some images that were used as a digital supplementary in Canva. Then, it is continued by entering all the content that has been created into the Quizizz application. There are twenty quizzes prepared according to the future tense material in the IEC course syllabus. After the process of making the digital supplementary product is reviewed, it is ready to be assessed by content and media experts.
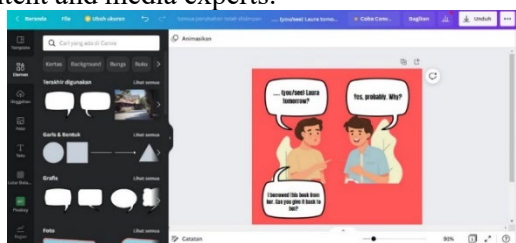

Figure 2. The Sample Design of Digital Supplementary

The figure above is an example of the digital supplementary design using Canva. Then, the idea of the design will be inserted into Quizizz

as a medium for learning future tense material that is presented attractively.

The Quality of Digital Supplementary

To prove the quality of the digital supplementary, two instruments were used as a guide in assessing the product. The assessment was carried out by two experts in assessing the content and media aspects using the instrument validation sheet. Digital supplementary products are assessed using the formula promoted by Tegeh and Kirna (2010) which can be seen in figure 3 below.

$$Percentage = \frac{Actual\ Score}{SMI} \times 100\%$$

Figure 3. Categorization of the data (Tegeh & Kirna, 2010)

Note   :
Actual Score   : total answer x weight of each selection
SMI   : a total of questionnaire items x the highest weight

The results of the data obtained from the formula promoted by Tegeh and Kirna (2010) are then combined with the level of accomplishment from Agung (2010). The accomplishment level table can be seen in Table 1 as follows.

Table 1. Level of accomplishment (Agung, 2013)

No.	Level of Accomplishment (%)	Qualification	Information
1	85-100	Very good	No need revision
2	75-84	Good	No need revision
3	64-74	Enough	Need revision
4	55-67	Bad	Need revision
5	0-54	Very bad	Need revision

Table 2. The result of the evaluation sheet

No.		Judge 1	Judge 2
1	Content evaluation sheet	98, 1%	87, 2 %
2	Media evaluation sheet	96, 3%	85, 4%

Table 2 shows that the product is categorized as a very good product through the assessment of two content and media experts from

the data validation sheet instrument. The first expert gave 98.1% and the second expert gave 96.1% for content, in addition to the media rating the first expert gave 87.2% and the second expert gave 85.4%. Based on the results of the assessment obtained, the product does not need to be revised according to the level of accomplishment from Agung (2010) and the product can be used to support the learning process in the classroom.

Evaluation

Several feedbacks are inserted in the evaluation phase. Avoiding the use of ungrammatical choices in multiple-choice becomes the first feedback on the product being developed. The size of the designed image also needs to be taken into account so that the image display on Quizizz is visible when playing. Despite all the inputs given by the two experts, digital supplementary material media can be used to support learning in the classroom.

Discussion

Design and Development research (DnD) promoted by Richey and Klein (2005) is adapted to develop digital supplementary for assessing future tense material using Quizizz for first-year college students. There are several phrases used to develop digital supplementary that have been carried out in this research. Started by analyzing the syllabus and the difficulty of college students in studying English tenses. Creating some designs using Canva also to make the display of Quizizz more attractive to increase students' motivation in grammar learning.

Teachers and students face numerous challenges while using learning material. These limitations include the lack of smartphone learning optimization, the display of less appealing learning media, and the unavailability of media (Novaliendry et al., 2020). Furthermore, when conducting distant learning, teacher supervision of students during the learning process is a challenge. Teachers cannot immediately observe students see if they are paying attention in class or if they are lacking motivation due to boredom during the learning process. ICT is used for more than just disseminating information swiftly. It can, however, be utilized as a tool or medium to assist teachers in disseminating learning content. In this case, ICT emphasizes the delivery of information in the form of materials as a tool that can enhance the value of traditional learning using books by switching to a digital version to provide a more varied learning environment and better results by developing digital supplementary materials through Quizizz, teachers can increase students'

motivation in learning, particularly future tense material (Saud et al., 2019).

The Quizizz program can also assist teachers in being more efficient in their classrooms. Game-based learning via online interactive games is a modern, relevant, and effective technique of transmitting key knowledge and skills required to adapt student learning styles in this period where the use of Information and Communication Technologies (ICT) is significantly influenced (Yunus & Hua, 2021). Teachers are being 'forced' to change their educational techniques these days, according to Yunus and Azman (2019), because ever-changing technology has a substantial impact on these activities. Students' academic achievement and motivation to learn can be influenced by well-designed interactive design. It can also assist teachers in comprehending how students interact and think; nevertheless, if the design of a learning media is not following the student's totality, students will be confused. As a result, the media might be regarded as a failure because it is ineffective in motivating kids to learn (Idres et al., 2019).

The Quizizz program has been widely used in the field of education due to its usefulness. The numerous studies conducted by researchers in the field of education and development demonstrate this. Quizizz as a learning medium has a long way to go before it is a good medium that can be used by a large number of students and teachers. Quizizz offers benefits that can be used in addition to traditional learning sources. This application can be used as a formative assessment and a measurement tool for evaluating student learning as a whole, including statistics and statistical computations of student performance that represent students' grasp of the content being taught (Salsabila et al., 2020).

The second research issue concerns the quality of digital supplements, which was assessed by two experts following the product creation process. To validate the content and media output, the researcher used two instruments. The research instrument adapts the validity demonstrated by Gregory (2000) and Arikunto (2003) to find content validity results. The results obtained by researchers from all instruments are relevant. There are two stages in assessing digital supplementary future tense material using Quizizz, namely the content and media stages. This result is calculated using the formula proposed by Tegeh and Kirna (2010) and then compared with the level of achievement of Agung (2010). Based on this process, the researcher found a percentage result of 98, 1% from expert 1

and 96, 3% from expert 2 for content evaluation. Then, the researcher found the results of 87, 2% from expert 1 and 85, 4% from expert 2 for media evaluation. Based on the results obtained by the researcher, the digital supplementary material developed with the Quizizz application is stated to be very good in terms of media and content, so there is no need for revision. In addition, digital supplementary material using the Quizizz application has qualified as an excellent medium to be applied by teachers as a learning medium in the classroom in teaching future tense material.

CONCLUSION

The development of digital supplementary materials is carried out through nine stages, adapted to the research model promoted by Richey and Klein (2005) with the first category Design and Development model on research tools and products. The focus of this research is on developing digital material on future tense material for new college students. Development is assisted by using the Quizizz application in assessing students' ability to understand the material with the aim of product innovation and being able to build a more active and attractive classroom atmosphere with several features of the Quizizz application. This application is also effective in supporting distance learning which is carried out depending on the situation and condition of the class. The results of product development were assessed by two experts on the content and media of the product with a very good product category. Judging from the results of the assessment of experts, the product does not need to be revised. However, improvements to the product still need to be made to better support innovative learning.

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