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Improving Student Balinese Language Learning Outcomes through Interactive Animated Video Based on a Contextual Method

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ABSTRAK

Posisi bahasa Bali sebagai bahasa ibu atau bahasa daerah turut membentuk identitas masyarakatnya. Namun, penggunaan bahasa Bali semakin lama semakin berkurang, dan jumlah penuturnya semakin berkurang. Penelitian ini bertujuan untuk mengembangkan media video animasi interaktif berbasis metode kontekstual untuk meningkatkan hasil belajar Bahasa Bali siswa. Model Hannafin dan Peck yang terdiri dari tiga proses (analisis kebutuhan, desain, pengembangan, dan eksekusi) digunakan dalam proyek studi pengembangan ini. Informasi dikumpulkan dengan menggunakan tes, angket, observasi, dokumenter, dan survei. Teknik analisis data meliputi uji-t, analisis statistik inferensial, dan analisis deskriptif kuantitatif. Tiga siswa berpartisipasi dalam uji coba tunggal, sembilan dalam uji coba kelompok kecil, dan enam belas dalam uji luar ruangan dari penelitian ini. Pakar media pembelajaran, desain, dan konten dijadikan sebagai subjek. Hasil uji coba perorangan, uji coba kelompok kecil, uji coba lapangan, uji ahli isi pembelajaran, uji ahli desain pembelajaran, uji ahli media pembelajaran, dan uji ahli media pembelajaran semuanya sangat baik, dengan persentase skor 96,66%, 94,66%, 90,22 %, dan 98,125%, digunakan untuk menentukan validitas media video animasi interaktif. Uji-t menggambarkan keefektifan media video animasi interaktif dengan menunjukkan variasi hasil belajar siswa yang signifikan antara media sebelum dan sesudah digunakan. Karena hasil post-test anak-anak tersebut berada di atas KKM, maka jelaslah bahwa media video animasi interaktif merupakan sarana yang efektif untuk membantu proses pembelajaran Bahasa Bali.

ABSTRACT

The Balinese language's position as a mother tongue or regional language contributes to establishing the identity of its people. However, the use of Balinese is decreasing over time, and the quantity of speakers is decreasing. This study aims to develop interactive animated video media based on contextual method to improve students' Balinese Language learning outcomes. Hannafin and Peck's model which comprises three processes (needs analysis, design, development, and execution) was employed in this development study project. The information was gathered using tests, questionnaires, observations, documentaries, and surveys. Data analysis techniques include the t-test, inferential statistical analysis, and quantitative descriptive analysis. Three students participated in the solo trials, nine in the small group trials, and sixteen in the outdoor tests of this study. Experts in learning media, design, and content served as the subjects. The results of the individual trial, small group trial, field trial, learning content expert test, learning design expert test, learning media expert test, and the learning media expert test were all excellent, with percentage scores of 96.66%, 94.66%, 90.22%, and 98.125%, were used to determine the validity of the interactive animated video media. The t-test illustrates the effectiveness of interactive animated video media by showing significant variations in student learning outcomes between the pre-and post-use media. Since the post-test results of the children are above the National Minimum Completeness Criteria, it is clear that interactive animated video media is an effective tool to assist Balinese Language learning process.

1. INTRODUCTION

Indonesia has the second-greatest number of regional languages globally, with 718 regional languages, including one which is Balinese. The Balinese language's position as a mother tongue or regional language contributes to establishing the identity of its people. However, the use of Balinese is decreasing over time, and the quantity of speakers is decreasing. The decline in the overall number of Balinese speakers is due to various internal and external reasons. With language levels (coarse, middle, okay) and the rules for writing Balinese script, which is relatively challenging, many Balinese select to use a universal language, Indonesian. While external influences, especially globalization and international relations, have a considerable impact. As in the Bali tourism sector, community work in the tourism sector has increased the usage of foreign languages like English (Malini et al.,

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2017; Suandi & Mudana, 2020). One of the effects of globalization is the increase in technological development. It carries advantageous and adverse effects. Local languages are one component that has suffered due to the impact of information and technology (IT) development. Balinese language, script, and literature are progressively being ignored in the Balinese people's daily social arena; some even predict that the Balinese language as an ethnic language might become extinct in 2041 (Giri, 2017; Putri & Nurita, 2021). This phenomenon may be seen in the reduction in the usage of the Balinese language, both in language and script, as well as in the literary culture, which is rapidly being abandoned by children (Dewi, 2020; Mulyawan, 2021). In response to this situation, the government issued Bali Province Regional Regulation Number 1 of 2018 concerning Language, Script, and Literature, which requires that every stage of education in the Province of Bali consist of Balinese language subjects/courses in the local content to maintain, develop, and use Balinese language, script, and literature. With the implementation of this law, schools and educational institutions will be responsible for instructing Balinese pupils, ensuring that the Balinese language and culture are known and preserved from the generation following generation.

The achievement of these restrictions is measured by pupils' mastery of the content in Balinese language studies. The simpler it is for pupils to comprehend and master the content, the more quickly they will attain their learning objectives. Students will readily master learning content if the learning experience involves learners actively. According to previous study contextual learning emphasizes full student involvement in finding the studied topic and connecting it to real everyday situations to enable students to apply it to their lives (Hidayati, 2022). A contextual method communicated through providing tales, instances, or dialogues relating to everyday life can promote students' motivation to comprehend the subject matter in Balinese language courses. According to previous study stories offer significant instances and memory connections that aid in learning, remembering, and problem-solving (Braad et al., 2022).

Since student characteristics are components of their experiences that affect the efficacy of the learning process, techniques for teaching students following these characteristics are necessary. Due to their early exposure to digital technology, elementary school students or learners today are categorized as part of the Alpha generation, with the most excellent familiarity (Fatimah & Santiana, 2017; Miles et al., 1994). One of the traits of the Alpha Generation, is that it cannot exist without a smartphone. Alpha generation students' learning will be efficiently facilitated by information and technology advancements that simplify accessing learning via cell phones. The technology used to support students must be able to make it simple for teachers to present knowledge regarding complex material, be able to use multiple combined media, which includes audio and visual, and be able to draw students' attention and focus on increasing motivation and achievement in learning, have interactive features that can facilitate students' responses, and have an independent nature that facilitates it more accessible for teachers to set up the technology independently (Novita & Jumadi, 2022; Rokhim et al., 2020).

Using interactive media to assist kids can help them learn freely and effectively. According to previous study, independent learning is a form of active learning that develops with the assistance of information or competencies that are already held and is motivated by intentions or reasons to master specific competencies to solve difficulties (Firmadani, 2020). It may be done flexibly because independent learning is not dependent on having the support of teachers, instructors, face-to-face class interactions, or schoolmates' attendance. It can adapt to students' cognitive capacities. It is vital to support learners' self-directed learning through facilitator of learning because it can foster accountability, maximize skills, identify solutions, make choices, think deeply and imaginatively, have high self-confidence, and demonstrate the capacity to become an educator for themselves (Cubukcu et al., 2020; Khaitova, 2021).

It has occurred at government public school number 2 Penglatan, although learning Balinese in school is not as intended. It is located on Jl. P Irian Penglatan, the village, Penglatan, Buleleng District, Buleleng Regency, Bali. This school is one of the elementary schools on the island. Based on the findings of these assessments, it has been determined that the lecture learning technique and the question-and-answer method, assignments, and groups are also used in class V learning, in particular regions using the Balinese language. Projectors have been made accessible for several classes at Elementary School 2 Penglatan under the assessments that have been made. Students in the fifth grade at the Secondary School Negeri 2 in Penglatan received questionnaires about using mobile phones. Six students (37.5%) have their smartphones, while ten learners (62.5%) continue to utilize the devices of their parent's smartphones, according to the results of a survey that was given to 16 students. By the findings of the document recorder, there were 16 students in class V. The PAS (End of Semester Assessment) findings for the Balinese language showed that 12 students (or 75% of the class of 16) still needed to meet the National Minimum Completeness Criteria, which is 75. Children found it challenging to comprehend the Balinese speaking rules and write Balinese scripts during the learning process.

Another innovative technique to more effectively package the current learning process is the development of learning media, a critical part of the learning process (Daryanes et al., 2023; Elmunsyah et al., 2019). As stated video is frequently used as a teaching tool at all educational levels. The video includes audiovisual media, one of which is presented as animation. Valuable observations indicate that digital learning resources, particularly

multimedia presentations or "dynamic visualizations" with animated content and narration, can be efficient teaching aids (Garcia et al., 2022; Tani et al., 2022). Animated videos can become interactive by incorporating or integrating quizzes; this engages students actively and raises their interest in learning. Interest in education is critical in enhancing autonomous learning skills and effectiveness (Chen et al., 2023; Zhang et al., 2023). Therefore, explaining facts is more effective so that students gain exciting learning experiences while utilizing interactive learning media. It allows students to learn independently or in small groups depending on their level of competence (Hayat et al., 2019; Nugroho & Surjono, 2019).

As a result, to assist teachers in conveying Balinese material, an interactive animated film is required to be founded on the contextual approach and built using message design theory. With the help of this media, students can actively participate in their education, which increases motivation and interest in learning as well as student independence, all of which contribute to better learning outcomes. In line with previous study that using interactive animated movies (Werdiningsih et al., 2019). This study applied social studies integration to integrated learning for class VII pupils at SMP Negeri 1 Mlarak Ponorogo for the 2020–2021 academic year. The findings of this study suggest that interactive animated video content can enhance educational outcomes for students. Similar study conducted the use of online interactive animated videos for fourth-grade pupils at Elementary School Tulung 03 studying theme eight during semester 2 of the 2020–2021 academic year (Purwati, 2021). This study revealed that animated internet video content could improve student engagement and learning outcomes.

Thus, using advanced learning media, namely interactive animated media, which can capture students' attention and help them focus on learning, is one of the attempts to combat learning that needs to be more diversified and efficient in class V Elementary School 2 Penglatan. The writer is interested in carrying out a study titled "Improving Student Balinese Language Learning Outcomes through Interactive Animated Video Based on a Contextual Method" based on the above rationale. This study aims to develop media, learn the outcomes of media validity tests, and evaluate the efficiency of contextually-based interactive animated video media for fifth-grade Balinese language learners.

2. METHOD

The kind of research and development is applied in this work. Hannafin and Pack models, which have three main phases—the needs assessment phase, the design phase, and the development and implementation phase—are utilized while doing development research (Hannafin & Peck, 1988). According to this concept, there should be an evaluation and adjustment after each significant phase. A focus on products learning design model, this one. These are the model development steps listed as show in Figure 1.

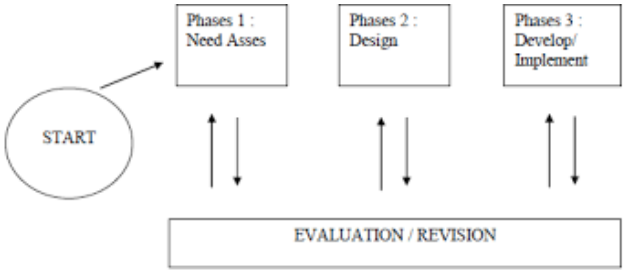

Figure 1. Development Stages *Hannafin and Peck*

Analyzing client preferences is the first fundamental step in creating a product. As a result of the needs analysis, learning materials suitable for the context and the characteristics of the pupils were found. The following are included in the needs analysis stage: (a) needs analysis, (b) material analysis, (c) curriculum analysis, (d) student analysis (e) instructional setting analysis. The next step is to build learning material following the findings of the research that was already done. Making designs for (a) flowcharts and storyboards, (b) lesson plans and related collections, (c) media objects, and (d) product instruments of evaluation are all part of the design phase. Drafts of a product in the form of flowcharts and storyboards can be referred to as product development. Design elements are created in physical or fundamental form, merged into one frame, and used to create interactive animated video media as the end product. Then, with the aid of the H5P web, animated video media is combined with interactive components in a series of quizzes. Interactive animated video content that has been created, put into use, evaluated and approved by specialists, and tasted by students.

The validity test was performed to assess the media's validity and to gather feedback and suggestions for enhancing the instructional media. Each primary phase in the Hannafin & Peck approach has an associated evaluation and revision that must be completed. The needs analysis step is conducted to identify the order of importance of concerns recognized in the field. Storyboard assessment and modification will be carried performed

during the design phase. Expert and student product evaluation continues during the development and implementation, and modifications are made in response to expert advice. Additionally, the impact of interactive animated video media development on student learning outcomes was examined.

The validity and efficacy of the generated interactive animated video media are then examined through expert evaluations and student field tests. A one-group pretest-posttest design was employed for the effectiveness test, conducted in a single class to evaluate the media's efficacy. Surveys, tests, observations, interviews, and document recordings gathered data. Finding problems to study involves using questionnaires, observation, document recording, and interviews. Experts and students are surveyed to gather data for one-on-one, small-group, and field studies. Making matrix tables and stationery was an attempt to test the accuracy of the questionnaire. The product verification instrument's lattice looks like this in Table 2.

Table 2. Product Validity Test Instrument Grid

No	Formative Test	Aspect	Number of Items
1	Validation of Learning Content Aspects	1. Curriculum 2. Method 3. Language 4. Evaluation	12
2	Validation of Learning Design Aspects	1.View 2. Material 3. Strategy 4. Evaluation	15
3	Media Aspect Validation	1. Text 2. Fig 3. Animation 4. Audio 5. Peckaging 6. Accessibility	17

The descriptive statistical analysis of the data obtained using the questionnaire approach is then performed. The rules for the scoring criteria shown in Table 3.

Table 3. Scoring Criteria Guidelines

No	Percentage Rate	Qualification	Information
1	81-100	Very Well	Very decent, no need to repair
2	61-80	Good	Decent, no need to repair
3	41-60	Enough	Not feasible, needs to be repaid
4	21-40	Less	Not feasible, needs to be repaid
5	< 21	Less than once	Very unfit, needs to be repaid

Table 3 is serve as the foundation for meaning and decision-making. Prerequisite tests are performed on the pretest and posttest values first, including the normality test to see whether the data have a normal distribution and the homogeneity test to confirm that the data are evenly distributed. After fulfilment of the prerequisites, inference statistics, namely the t-test, were used to examine the data.

3. RESULT AND DISCUSSION

Result

The research findings concerned the three phases of development (needs analysis, design, development, and implementation) of the Hannafin and Peck model. The material, curriculum, characteristics of learners, and learning environment are all examined during the needs analysis phase. The scrutiny and selection of the material to be developed for interactive animated video media occur during the material analysis. The items chosen include Speak Balinese language, Balinese Dialogue, and Write Balinese Script. Based on a curriculum analysis, three sources of information were selected and determined according to the following mapping as show in Table 4 to analyze the capabilities that will guide learning media creation.

Table 4. Material Analysis Results

No	Material	Basic competencies	Learning objectives
1	Speak Balinese language	Identify and care for *the language* in Balinese texts by selecting and sorting standard vocabulary.	After watching this video, the students expressed good taste in Balinese.
2	Balinese Dialogue	Analyzing the contents of Balinese dialog texts, both spoken and written, as well as selecting and sorting standard vocabulary	After watching this video, the students tried to taste Balinese meat.
3	Write Balinese Script	It understands how to write Balinese script.	After watching this video, the students write the Balinese alphabet as hanging, hanging, and fitting.

A study of student characteristics was also conducted, and it turned out that students belonged to the Alpha generation (2012–present), which is the generation of students that are most accustomed to digital technology due to its birth during this time frame of rapid technological advancement. One of the attributes of the Alpha Generation. Aside from the fact that video games can enhance eye-hand coordination and the capacity to switch jobs effortlessly, the alpha generation also prefers knowledge presented in visual formats, such as movies. According to a study of the learning environment, schools currently have the necessary LCD projectors, speakers, HDMI cables, wifi, and power sources to support interactive animated video learning. Cell phones are another tool available to students for independent study at home.

The needs analysis findings are a blueprint for creating interactive animated video content. Making flowcharts and storyboards, creating lesson plans, creating interactive animated video media objects, and assembling product evaluation tools are all part of the design stage. The media object assets required for the animation are currently being designed and gathered. Images, text, and sound are all integrated into interactive animated video media. The object options are selected in tandem with the topic and learning objective. Storyboards appear in the correct ratio of images, text, and music during the development and execution stages. Media usage is changed to follow a flowchart. PowerPoint, Canva, CorelDRAW, Audacity, Animate, Fillmora, and H5P are programs that create animated video content. The equipment includes a laptop, microphone, and cellphone. The graphic related to several examples of interactive animated video media is shows in Figure 2, Figure 3, Figure 4, and Figure 5.

Figure 2. Media Prep

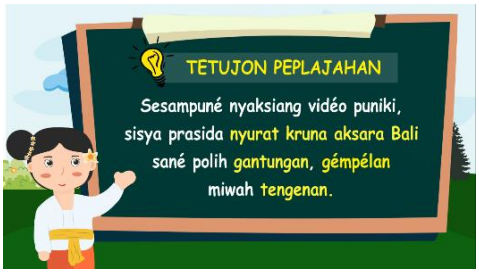

Figure 3. Display Learning Objectives

Figure 4. Animation Display

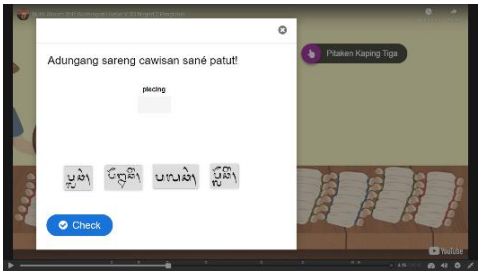

Figure 5. Quiz on Video Animation

Presentation of subjects using appealing illustrations to pique students' curiosity in learning and improve their retention of the details. After delivering various material conversations, the quiz on the video's animation is displayed. It ensures that the students comprehend the content they have been studying. Testing of the product on experts in learning media, learning design, and learning content was performed before preparing for implementation. According to expert reviews, the learning content component received a score of 96.66% in the excellent category, the learning design component received 94.66%, and the learning media component received 95.29%. According to student evaluations, the field exam with 16 students in class V received a score of 98.125%, the individual test with three students in class VI received a score of 91.33%, and the small group test with nine students in class VI received a score of 90.22%. Overall, the student-conducted product review exam falls into the very excellent category. The quizzes and the interactive animated video media received positive feedback from students.

Elementary School 2 Penglatan researched animated interactive video content offline. Student learning outcomes are variable that requires attention. Sixteen students from a single class V served as the study's sample. The following Table 5 shows data on student learning results before and after utilizing the media.

Table 5. T-test Results

Statistics	Pre-test	Post-test
N	16	16
Reach		
Minimum	25	60
Maximum	65	90
Average	42.5	79.06
Deviation Variance	106.667	74.06
Std. Average	10.32	8.6

However, before evaluating the hypothesis with the t-test, the pre-test and post-test data were reviewed. The two tests that make up the requirement are the normalcy and homogeneity tests. The findings of the normalcy test calculated using the method Shapiro Wilk was aware that the sample came from a population with a customarily distributed distribution because the pre-test scores T_3 of 0.946 >T_t of 0.887 with a significance level of 5%. As evidence that the data is normally distributed, the post-test score was 0.913 > T_t of 0.887. When the numerator and denominator of the homogeneity test are both 16 (DB), the value of F is achieved at a significance level of 5%, meaning it is equal to 2.403. F_{count} = 1.44 is the outcome of the computations that have been executed. It means that known data is homogeneous since $F_{count} < F_{table}$.

The data was determined to be homogenous and customarily distributed based on the outcomes of the preconditioning test, allowing the t-test to be applied to assess the validity of the hypothesis. By considering the sample t-test that was connected with the formula product moment, the research hypothesis was put to the test. According to the t-test results, count = 28,833, and the table for db 30 is 1.6973 with a 5% significance level (= 0.05). Therefore, until H0 is rejected and H1 is accepted, $T_{count} > T_{table}$. Accepting H1 demonstrates a significant difference (5%) in the learning results for the Balinese language in fifth-grade students at Elementary School 2 Penglatan in the 2022–2023 academic year before and after using interactive animated video media based on a contextual approach.

The research findings related to the Hannafin and Peck model's three phases of advancement (needs analysis, design, development, and implementation). The content, curriculum, learner characteristics, and learning environment are reviewed during the needs analysis phase. The material used for interactive animated video media is examined and chosen during the material analysis. The objects included include works in the Balinese language and dialogues, scripts, and materials. Three types of knowledge chosen to comply with the following mapping were deployed to examine the capacities that will guide the building of learning media.

Discussion

Learning objective serve as a guide for learners to know what is required of student learning so that discovering occurs effectively. From the perspective of the method, the material offered is in keeping with the educational goals that need to achieve because students can acquire the material effectively by enjoying interactive animated videos (Abduh & Istiqomah, 2021; Hapsari et al., 2019). Learning motivation will naturally rise when learning materials are connected to real-world situations and tailored to student needs. It will also make instructional activities more effective, efficient, and enjoyable. While in the assessment aspect, the questions' degree of difficulty is consistent with the learning goals because they help students develop skills based on fundamental knowledge of the subject. According to previous study practice is required by working on problems that contain topics under fundamental skills and learning objectives to increase students' abilities (Abduh &

Istiqomah, 2021). According to the ratings and remarks made by content specialists on themes involving the Balinese language, there is no requirement for the media's material to be revised.

The reliability of instructional design experts on the issue of presentation, delivery, feedback, or feedback suitably applied in passing quizzes. It is consistent with the findings who found that providing features feedback can encourage students to participate more actively in providing feedback and responses (Alfiansyah et al., 2022). Students can also gauge how much of the stuff they have learned they have understood. The examples supplied match the tests given to the students so they can research material and validate what they have learned through independent study. If the answers to example questions are straightforward, students might repeat information they do not fully grasp. It could assist students in learning independently (Shebastian et al., 2020; Winaldi et al., 2019).

Regarding strategy, interactive animated videos provide flexible learning because they may be accessible through student-owned smartphones. So that learners can study whenever and wherever they want, using interactive learning devices, pupils can learn independently anywhere and at any time without relying on the instructor, and the teacher's delivery of material to the students will be more appealing. According to previous study students can complete summaries or comments on the material offered in the evaluation component to remember and assess the subject they studied (Dasmo et al., 2020). Increasing these students' metacognitive awareness by fostering reflection on their learning strategies is an effective technique to enhance their learning (Braad et al., 2022; Ibrahem & Alamro, 2020). The outcomes that have been described show that interactive animated video media can offer significant and produce the best learning outcomes.

Since students can read writing clearly and readily, selecting font type and backdrop colour for text supports the validity of learning media specialists. It is essential to pay attention to font selection while creating learning multimedia, specifically the usage of sans serif fonts. The font colour must stand out against the background to make the content easier to read and see. The appropriateness of the images and colours on interactive animated video media screens is intriguing from an aesthetic standpoint because it encourages students' interest in learning and simplifies comprehending the message's intended meaning (Ibrahem & Alamro, 2020; Setyorini et al., 2019). It is consistent with what previous study stated about the purpose of illustrations or images, which is to concretize the message, draw attention to it, interest learners in the entire subject matter of the lesson, create a distinctive atmosphere, and highlight a particular aspect of the message (Sudarma, I. K, 2015). Music and sound effects in the media are suitable, and the narrator's voice can be heard in the audio section. Interactive animated video media helps pupils focus and sustain attention while studying. Audio media can also be used to train several other skills, such as focusing on paying attention, following instructions, honing analytical skills, deciding significance and context, sorting out information, and summarizing, in addition to improving listening skills when learning a language (Cavanagh & Kiersch, 2022; Kumar & Nanda, 2019; Purba et al., 2020). Because the film is not too long and the discussion of the subject is separated into numerous sections, the time of playing interactive animated videos is adequate and effective for learning. The segmentation principle, which divides considerable and full content into manageable chunks to make it easier to understand, should be considered when creating digital content.

Based on this study's findings, animation video media can improve learning motivation, particularly when it concerns honing listening skills (Agustini et al., 2020; Ariani & Ujianti, 2021). According to previous study assessments, quizzes, and other interactive media are helpful learning tools for pupils (Nadzif et al., 2022). Instantaneous feedback from interactive media also aids kids in getting excellent test scores. Many of these elements are consistent throughout the interactive animated video media created, which can improve learning effectiveness and boost pupil motivation. The average pre-test scores are 42.5, while the post-test grade point average is 79.06. It is understood there are significant variances between the results of learning Balinese before and after using interactive animated video media based on the average or mean value post-test that is higher rather than the average value pre-test and referring to the results of the t-test calculations. It suggests that interactive animated video media impact the learners' fifth-grade learning results at Elementary School 2 Penglatan. The average post-test student score of 79.06 is higher than the Balinese language National Minimum Completeness Criteria score of 75. From this evaluation, it can infer that interactive animated video content using a contextual approach improves Balinese language learning results for Elementary School 2 Penglatan fifth-grade students.

The following are some recommendations for the creation of interactive animated video content: (1) It is advised that students use interactive animated video content to continue their education because it can improve learning efficiency and boost motivation. (2) Recommendations for teachers include expanding the usage of interactive animated video materials to diversify the learning process and boost students' interest and comprehension of the subject matter. (3) Recommendations for school administrators include managing interactive animated video media responsibly and sustainably so that both instructors and students can use a broader variety of learning tools available in schools. (4) Suggestions for other researchers, the results of this study can be used as a source of reference, literature, or essential reference in carrying out similar development research.

4. CONCLUSION

The Hannafin and Peck methodology is applied to create interactive animated video content. The three steps of the Hannafin and Peck development model are need analysis, design, development, and implementation. Each primary phase of this development model has a required review and change linked to it. Expert tests (learning content, learning design, and learning media specialists) and student testing (individual examinations, small group trials, and field trials) by highly qualified students were utilized to assess the viability of interactive animated video media. Following the feasibility test phase, it concluded that interactive animated video based on a contextual method improved Balinese learning outcomes for class V Elementary School 2 Penglatan.

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