



Designing Interactive Video in English Writing Materials for Seventh Graders

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Abstract. *Problems in learning writing did not seem to find a bright spot in education. Teachers tried to find solutions by evaluating learning materials and learning media. Recently, the solution of the writing problem had become a major concern. Thus, this research aimed to design technology-based learning materials referred to interactive videos with target learner seventh graders. This methodology used design development research (DDR). Data were sourced from junior high schools in Jabodetabek. The main data for designing were the results of the analysis learning materials, learning objectives, and interview result with teacher. The design of interactive video paid attention to the main aspects including the characteristics of interactive video, learning objectives, and students' needs. In addition, time efficiency was also important to maintain students' motivation in learning. Through interactive video, students' engagement in interacting with the learning content was the key to successful learning. Therefore, the result of this design showed this media has high potential to be implemented in writing class.*

Keywords: *Interactive video, Learning media, Seventh graders, Writing materials.*

Abstrak. Permasalahan dalam pelajaran bahasa Inggris utamanya dalam *writing* tidak kunjung menemukan titik terang dalam dunia Pendidikan. Guru mencoba menemukan solusi dengan melakukan evaluasi melalui materi pembelajaran dan media pembelajaran. Baru-baru ini, solusi dari permasalahan skill *writing* telah menjadi topik utama. Sehingga, Penelitian ini adalah untuk mendesain materi pembelajaran yang berbasis teknologi melalui interaktif video dengan target pelajar adalah siswa kelas tujuh. Metodologi Penelitian yang digunakan adalah *design development research (DDR)*. Data berasal dari SMP yang berada di Jabodetabek. Data utama untuk mendesain adalah hasil analisis materi pembelajaran, analisis tujuan pembelajaran, dan hasil wawancara dengan guru. Desain interaktif video difokuskan pada aspek utama berupa karakteristik dari interaktif video itu sendiri, tujuan pembelajaran, dan kebutuhan siswa. Selain itu, efisiensi waktu juga hal terpenting untuk membangun motivasi belajar siswa. Melalui interaktif video, keterlibatan untuk berinteraksi dengan konten pembelajaran adalah kunci keberhasilan pembelajaran. Maka dari itu, hasil dari desain ini menunjukkan media ini memiliki potensi untuk diterima dan diimplementasikan dalam skill *writing* di kelas.

Kata kunci: Interaktif video, Kelas tujuh, Materi *writing*, Media pembelajaran.

INTRODUCTION

In order to promote developing era in education, writing skill is still to be a concern for learners because writing has connected of any situation case beyond education. Writing is necessary because the demand for writing is increasing in this technological age (Nata et al., 2020). Writing is still considered difficult for students because they must know what to write, which words to use, which grammar and mechanics to use, and so on (Hidayati et al., 2022). Moreover, obstacles of writing have been growing fast and has not found any solutions. Students believed that writing was a difficult subject to master because they must concentrate on numerous factors such as idea, concept, vocabulary, and grammar (Purba et al., 2022). The solutions designed by teacher were explicit teaching English vocabulary, collaborative English writing activities, and exercises of English writing (Amalia et al., 2021). Grammar is one of the main problems in writing. Students were required to make sentences based on grammar rules. This standard became a significant challenge when English was studied as a foreign language after their mother tongue as first language and Bahasa Indonesia as official language (Susilawati et al., 2019). It became difficult for English second language because the grammar was different from their mother language. Moreover, writing had more standardized and socially acceptable forms (Javadi-Safa, 2018). In one research, Ningsih, (2021) said that some difficulties arise, English teachers must be able to find a solution so that the learning objectives could be met. One method for supporting the teaching process was to use teaching media. But, the problem was the majority of pedagogical systems continued to rely on an antiquated method of applying knowledge (Pentury et al., 2020).

Nowadays, educational institutions had used technology media as a means of education to improve educational institution quality (Saragih, 2021). Among all of the available media, digital media was the best option for use. In digital era, the materials of writing also have been growing to reduce the obstacles. Digital media was a type of media that was closely related to the students' life experiences as members of the millennial generation. The video was intriguing. It had a strong effect on stimulating the student's mind and interest (Ningsih, 2021). That statement would be interested because of target of learner. In this era, 5.0, pushes students to deal with any development technology. Thus, it can be said as native digital. Besides, any technology beyond video has been

engaged into writing materials. Student writing constrained and the role of technology in writing assistance were social media, Web Quests, toolkits, participatory gaming, MLERWS, digital games, and digital storytelling (Andestend et al., 2022).

Then, another problem raised in technology. Teacher believed students were less interactive with that content of learning. The technology only solved to time efficiency, attractive strategy, and learners' motivation. Using an internet-based blog in the classroom will become an appealing strategy capable of increasing students' motivation to write (Fadzli & Susilohadi, 2016). Hence, new developments and designs for technology-based learning media need to be reviewed. This needs to be based on the study of new problems that arise in the student environment. In addition, review the technology learning media that has been used for students is needed. Then, update it into a more student-friendly media.

Nowadays, trend of interactive video appeared as the solution for learner. Videos are inherently interactive because they can be paused, reminded, and sped up. Annotated interactive videos incorporate an additional layer of data and metadata that triggers additional types of interactions (Benkada & Mocozet, 2017). In brief, the interactive video was the development from video. Then, interactive video is concerned with cognitive interactivity, which includes requests for actions that initiate cognitive and metacognitive processes. A challenge to predict what will happen next in the video, for example, encourages students to select and organize information and incorporate it into their prior knowledge (Papadopoulou & Palaigeorgiou, 2016). Simply, learners can take action of what they want to do and they can freely to write. Moreover, interactive video has characteristics as able to annotate, tag an object on video, navigation support, and interaction with content (Papadopoulou & Palaigeorgiou, 2016).

In English education field, interactive video is still less for attention. But in other subjects of learning, interactive video has been growing until today. In previous research in 2022, Husna & Fajar, (2022) develop interactive video for physics materials for senior high school. On the subject of media ease of use, media experts stated that the media was easy for users to operate in the very good category, that the media can be used on various devices in the very good category, and that the media has the ability to repeat what was learned in the very good category (Husna & Fajar, 2022). The result of her study revealed that interactive video can be accepted as learning materials as easy way for understanding

learners. Then, in 2020 the design research about microlearning had undertaken in chemistry subject for undergraduate students (Pulukuri & Abrams, 2020). Interactive video was an user-friendly interface, unique student accountability features, and ability to incorporate active-learning components into videos make it an effective and appealing tool for improving how students learn from educational videos (Pulukuri & Abrams, 2020). In the result showed that interactive video pushed students to answer the integrated questions and receive immediate feedback on their answers (Pulukuri & Abrams, 2020). That means, interactive video engaged students' active with content.

From that previous study can be concluded that interactive video has been growing in science field. Interactive video was the solution for engaging active students. It also supported for students' learning independent. In English education, interactive video has less to be designed. There is rare research about interactive video for English education. Thus, interactive video has the potential to be designed as learning media in English materials. This study will conduct research about designing interactive video for English materials. This design will be more specific for one skill, writing. Then, this design is designed for seventh graders. Thus, the specific aspect of interactive video will be adjusted for that students. Hence, this research has aim to design interactive video in writing materials for seventh graders.

The design is to prepare students to get learning objectives. Learning through this method should be fully prepared as much as possible because learning success is determined by preparation (Gde & Agus Pramerta, 2018). Then, interactive video as the media to help students reach the goals. That is possible to conduct this research. Moreover, the research questions for this research are 1) how is the process of designing interactive video in writing materials? 2) how is the design result of interactive video in writing materials?

THEORITICAL

Interactive Video

Video learning is important in modern classrooms, but more improvements to the learning experience are required. Questions are frequently used in conjunction with videos to incorporate active-learning components into assignments (Pulukuri & Abrams, 2020). Thus, there is such a development on video that engaging students' active. Then,

in recent years, in order to increase interactivity, interactive video lectures are increasingly being used in digital learning contexts (Hung et al., 2018). More than that, that media also stimulates students in learning motivation, time learning, their interest on learning activity. Rohana, (2017) stated that visual media is used to stimulate students' interest and ability, as well as their motivation to learn English in a monotonous classroom setting.

For those supporting learning effectivities, interactive video should be combined vide the basic of video aspect. Gde & Agus Pramerta, (2018) argued the combination of video and interactivity makes ILV a highly effective tool for delivering educational materials and encouraging active classroom discussions, as well as learning and professional development environments. Added more, interaction between video clips is provided by interactive learning activities (ILAs), which are essential for creating an interactive video lecture (Hung et al., 2018). More interesting, this media is supporting for any device in online or offline learning because Husna & Fajar, (2022) said the output of this platform can include websites (html5), videos, learning management systems (LMS), programs (exe), and other online and offline applications.

Writing

Writing is one of the most common language skills taught to ESL and EFL students at all educational levels, particularly junior high school students (Amalia et al., 2021). This skill requires a lot of practice, training for students, and effective instruction to reach the quality of students' writing and acceptable form of writing (Hidayati et al., 2022; Martin Marbun et al., 2022). Writing should have specific teaching strategy because it is related to cognitive activity. In brief, writing is a cognitive activity; thus, teachers can play an important role in assisting students in improving their writing skills by informing them about the importance of good writing skills for successful career advancement (Javadi-Safa, 2018).

From that teaching writing should engage comprehend and practice the structure of language, and the outcome of writing is reflected in the given pattern (Nabhan, 2019). Thus, many students produce texts ranging from the most basic to the most complex in everyday life because of the importance of writing and its social function, the government designated writing as one of the skills that students should be familiar with (Nata et al.,

2020). Then Nabhan, (2019) added writing stage as process writing approach, pre-writing, planning organizing, drafting, reflection, tutor review, revision, editing, and publishing. Clearly, writing stage can be concluded into pre-writing (planning organizing), while-writing (drafting, reflection), and post-writing (revision, editing, and publishing).

Learning Development

Developing materials has become a necessary thing that should be done by the teacher in order to achieve the learning objectives that can be achieved by suiting the learners' needs and the material provided (Kusuma & Apriyanto, 2018). Then, Tomlinson in Brown & Raza, (2020) said the study and practice of developing materials for language teaching, including the principles and processes of designing, implementing, and evaluating materials, is known as materials development. The material developed can be: 1) instructional material, which informs learners about the language, 2) experiential material, which exposes learners to the language in use, 3) elicitation material, which stimulates the use of the language, or 4) exploratory material, which allows learners to make discoveries about the use of language in natural settings (Kusuma & Apriyanto, 2018). Moreover, materials development will involve media in delivering learning materials. The media needs to be adapted to the current needs of students and educational issues. Educational Technology provides an opportunity to combine learning materials and technology.

Moreover, materials development steps or procedures include the design, implementation, and evaluation of language teaching materials. The steps for developing materials are as follows: 1) conduct a field survey, 2) analyze data and identify priority needs, and 3) create materials. 3) Theme selection, 4) Format selection, 5) Content selection 6) Material writing, illustration, and editing; 7) Draft material pre-testing; 8) Revision of draft material and printing preparation, 9) Printing, and 10) Evaluation (Kusuma & Apriyanto, 2018). In this research, the development will involve technology media and teaching materials by paying attention to the development steps.

RESEARCH METHOD

This research use research and development as the methodology of research. For specific, DDR is conducted for this research. DDR approachable is being used to develop measurement tools, products, and processes (Rejab et al., 2018). Richey & Klein, (2014) added step of DDR by analysis, design, development, implementation, evaluation. But then, for this research, the step of designing will modify some steps into analysis, design, and evaluation. In general, the graphic of research methodology of DDR can be referred to figure 1.

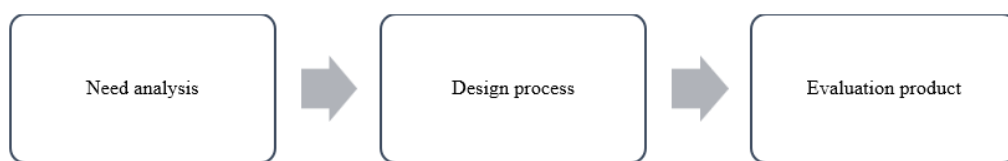


Figure 1. DDR Step for Designing Product

The data source came from junior high school in Jabodetabek area. The data was about analysis of learning objective and topic of learning to decide learning materials. It related to learning materials used at school. The learning objectives came from *Kurikulum Merdeka Belajar*. Then, the sample of learning materials were nine samples. The materials of interactive video were also adjusted with condition and situational of learning process.

Then the procedure of design was carried out using application of interactive video. The design was built with supporting tool in format output as HTML 5. Next, in the evaluation product, expert judgment will assess media and content of learning. The expert will be separated into two types expert media and expert content. In detail, the data can be seen through figure 2.

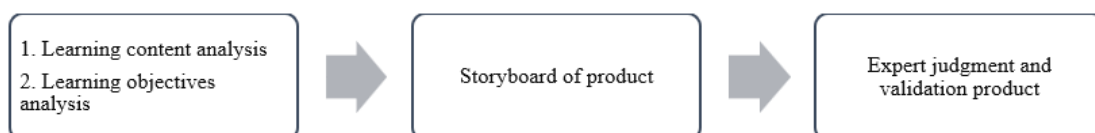


Figure 2. Data Procedure of Design

RESULT AND DISCUSSION

Learning Materials and Learning Objectives Analysis

At the first stage, analysis learning objective was gathered form Kurikulum Merdeka Belajar. The objective focused on junior high school. Students communicate their ideas and experiences through simple, organized paragraphs by the end of Phase D, demonstrating a developing use of specific vocabulary and simple sentence structures. They structure arguments and explain or justify a position by using models to plan, create, and present informative, imaginative, and persuasive texts in simple and compound sentences. They include basic information and detail in their writing, as well as vary their sentence construction. Students express themselves verbally in the present, future, and past tenses. They connect ideas by using time markers, frequency adverbs, and common conjunctions. Their attempts to spell new words are based on known English letter-sound relationships, and they consistently use punctuation and capitalization. (Kemendikbudristek, 2022). The objective showed writing for junior high school focused on arranging simple structure of sentence. Moreover, researcher also conducted interview regarding materials used and learning objective. The result showed that learning media used module. The media had not used any technology support. Then, the objective of learning was focused on making descriptive text. But then, the difficulty had faced because of lack of vocabulary. Teachers assumed that students should be given basic materials. Thus, specific learning process was needed.

In addition, students were less for intention to process of learning. Thus, students did not master on writing concept. According to teachers, learning materials could be friendly materials if time of learning no more than 10 minutes. Learning materials had to cover all the detail object of learning. Learning through example was easier to be adopted by students. More than that, materials' packaging was the important one. It supported for learning motivation. Thus, learning was not stagnant. The analysis of learning objective and learning materials could be referred to table 1.

Table 1. Learning Objectives and Learning Materials Analysis

Objectives	Type of Media	Learning Materials
1. Understanding of descriptive text	Module	Descriptive text for daily routine
2. Understanding vocabulary on descriptive text	Module	Descriptive text for house interior
3. Understanding the use of present tense on descriptive text	Module	Descriptive text about hobby
4. Creating vocabulary words on descriptive text	Module	Descriptive text about job
5. Creating simple present tense for descriptive text	Module	Descriptive text about animal
6. Creating descriptive text in full version	Module	Descriptive text about self
	Module	Descriptive text about place
	Module	Descriptive text about job
	Module	Descriptive text about favorite thing

From objective and materials analysis, learning materials were focused on descriptive text related to students' interest. A descriptive text is one that describes the characteristics of a specific thing (Br Karo et al., 2019). Besides, learning materials commonly used are job topic. That was in line with the definition of descriptive text, to describe such a thing. Moreover, the interior living topic is rare to used. Thus, it makes interesting one to be a topic of interactive video. for more deeper, learning objective would be coded to make easy access for analysis. The code can be seen into Table 2.

Table 2. Learning Objectives Code

Objectives	Code
Understanding of descriptive text	LO1
Understanding vocabulary on descriptive text	LO2
Understanding the use of present tense on descriptive text	LO3
Creating vocabulary words on descriptive text	LO4
Creating simple present tense for descriptive text	LO5
Creating descriptive text in full version	LO6

This code will be used to make design interactive videos easier to recognize the learning objective. Learning objectives are the base for creating content material. Thus, the material will be in line with the learning outcomes. Then, it is also adjusted to the results of interviews with teachers. Aspects that need to be considered are student conditions, student backgrounds, and student abilities. Broadly, the interactive video will be adjusted by dividing the learning into smaller sub-materials. Thus, that learning will be more specific to improve student understanding. Therefore, the interactive video is divided into six sub learning materials.

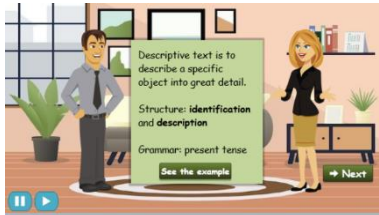
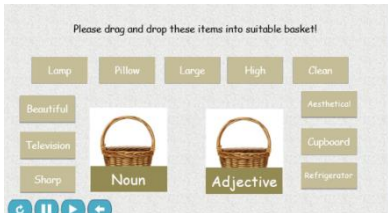
Design of Product

Next was design product. After analyzing the objectives and learning materials, the design had to be undertaken. The design was also adjusted students' need. The researcher designed was according to need analysis and contextual approach for seventh graders. Product design was supported using the Articulate Storyline application. To support the design, the first step was to select audio that was suitable for the learning material. The audio consisted of main audio and supporting audio or back sound. Then, the selection of images or characters in the video needed to be considered carefully to avoid image obscurity. Font sorting also became very important as a student instruction in interacting with the learning content.

The next step was to ensure that the characteristics of interactive video were embedded with the learning content. The main characteristics built into interactive video were hover effect, annotate, draft and drop, and answer questions directly. In addition, navigation buttons such as home, rewind, and replay needed to be displayed on each page to control the video easier.

Once all aspects were met, the interactive video needed to be converted into HTML 5 and tested on laptop or smartphone. This ensured that the interactive video was visible on various desktops. It also ensured that the learning media could be accessed wherever and whenever students needed. Thus, students' interaction and motivation towards the learning content would increase. The results of the interactive video design could be clearly illustrated through table 3.

Table 3. Interactive Video for Writing Materials

Media	Objective Code	Sub-Materials	Descriptor
	LO1	Understanding descriptive text	This session would explain about the introduction of descriptive text and the supporting component to create descriptive text
	LO2	Understanding vocabulary	This session would explain about the differences between noun and adjective as base vocabulary on descriptive text.



LO3 Understanding simple present tense This session would explain about the differences between verbal and nominal sentence on present tense. Moreover, it would introduce the language feature of descriptive text.



LO4 Creating Vocabulary This session would ask for students to create adjective and noun about their house. This would be their first draft to complete next exercise.



LO5 Creating simple present tense This session would ask for students to create simple present tense about the picture. This would be their second draft to complete next exercise.



LO6 Creating descriptive text This session would ask for students to paragraph about describing their house that referred to their draft in previous.

The results of this design had referred to the learning objectives and student needs. Interactive between student and content was also a consideration that had been involved in the media. Then, in writing, the media was used in the pre-writing and while-writing stages or referred to as the introduction and implementation stages. Learning materials were divided into bite-sized with consideration to create an easy mindset in students. Thus, that the impression conveyed by students was “easy learning”.

The content of learning brought topics of students' environment related to the students' living. In simple terms, the learning material was delivered in stages from the smallest material to the broad material. This was done to prevent confusion in students in understanding the learning material. In addition, the learning duration was limited to no more than 10 minutes to maintain student concentration. Moreover, the material in the interactive video was made in one chapter that can be used at the beginning of the semester or the end of the semester. Broadly, this media is adjusted to the standard curriculum in Indonesia

Expert Validation

Expert validation was divided into several stages, namely validation of learning media and validation of learning content. Media validation involved people as media creator or in the field of informatics. As for the expert content, it involved English teachers who had long experience in educating students. Media assessment referred to the quality of the media such as, overlay elements, side media, highlighting, caption, and embedded question (Palaiageorgiou et al., 2019). Then, the validation content referred to learning objectives (Kemendikbudristek, 2022), learning time and bite sized learning (Allela, 2021), and learning materials (Major & Calandrino, 2018). If summarized, the assessment aspects can be arranged as follows in table 4.

Table 4. Expert Validation Grid

Aspects	Descriptors
Media	Content interaction with students
	Problem in media
	Audio and picture quality
	Navigation
Content	Curriculum objective
	Learning materials
	Time of learning
	Bite sized learning

Expert media who validate the product were involving public engagement, IT experts, and lecturer who had more than three years of experience and content creators for five years. They gave an assessment that this media had qualified as a learning media for seventh grade students. The quality aspects consisted of sound clarity, images, navigation functions, and readability of the writing in the video. In the likert scale, this media was at the stage of good quality. All the media component was consistent. But

there was a note that should be improvement. The volume of back sound should be decrease when main audio play. Moreover, the overall media quality was qualified to standard learning media. Thus, it can be implemented in writing class.

Next was the content expert. The content expert involved teachers from an English education background who work as English teacher with more than three years of experience. The assessment results were in line with the media expert. The content experts also gave the same assessment as the media expert. They believed that the learning materials were in line with national learning objectives. Then, the learning time did not take a long time in the learning process. Thus, it supported the efficiency of learning time. Then, the suitability of learning was in accordance with the current condition of students. Broadly, in likert scale, this media is rated good. Hence, the media could be used in learning writing at school.

CONCLUSIONS AND RECOMMENDATIONS

The problems in writing has been increasing every year. It needed significant and quick prevention to overcome. Interactive video appeared to support students' need in writing lessons. Interactive video was specifically designed to meet students' needs and learning objectives. It also supported the sustainability of the digital era. Hence, that learning media undergoes significant updates and supports the utilization of technology.

The interactive video design was presented by utilizing the use of mobile phone and laptop. Learning time and specific content were also one of the keys in designing interactive video. Expert validation showed that interactive video had the potential to be used in teaching at school. In addition, the flexibility of using interactive video made it easy for students to access learning materials. Furthermore, in-depth research on interactive video in other skills can be conducted to enrich solutions to problems experienced by teachers and students.

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