

CHAPTER I

PRELIMINARY

1.1 Background

The standard of education in a country is one indicator of its advancement. Since increasing the nation's intelligence is one of education's objectives, it is an attempt to enhance the quality of human resources. Education employs character education even inside its curricula to enhance the educational experience. According to Stevani et al. (2022), education is crucial in helping those lacking information become knowledgeable and change from ignorance to knowing.

A learning process greatly influences the quality of graduates an educational institution produces. In the meantime, several elements affect the learning process, such as the curriculum, the teaching staff, the infrastructure and facilities, the learning tools and materials, the school administration, the school atmosphere, and the places where students receive their work training. Teachers must always work to enhance the quality of the learning process since it is one of the components of the process. From a procedural standpoint, teachers have been successful in getting most students to participate actively in the learning process on a physical, mental, and social level. This can be seen from the teacher's enthusiasm for teaching and self-confidence. When viewed in terms of results, a teacher is said to be successful if the learning process implemented is able to change the behavior of the majority of students towards better mastery of basic competencies (Halawa & Mulyanti, 2023).

According to Ibrahim, a teacher must be professionally equipped to manage information and the environment in order to support students' learning activities. This is especially true in the contemporary period of rapid advancements in science and technology. Effective and efficient teaching and learning activities depend on the teacher's function as a guide and facilitator in the classroom. This is a prerequisite for quality education. Students' understanding of the material when performing teaching tasks is another indicator of the calibre of education. Innovation in teaching and learning activities, namely as a method of learning media, is necessary for efforts to improve the quality of education. Technology is advancing at an accelerating rate,

which affects how different media are used as teaching methods (Karo-karo S. & Rohani, 2018).

An effective learning environment needs to be engaging, enjoyable, demanding, and inspiring. Additionally, it ought to give kids more room to develop autonomously and creatively in accordance with their interests and talents. Even though teachers are only facilitators in learning, and students are required to be more active, teachers must be able to create a pleasant learning atmosphere to stimulate students to be more active in learning. A lot of elements affect how enjoyable learning activities are, and one of the most important ones is that the learning media that is chosen for the process must be engaging for the students and interactive enough to not take away from the core of the content being taught (Mustaqim & Kurniawan, 2017).

According to research by Cahyani (2020), using appropriate learning media can improve student learning outcomes during the learning process (Stevani et al., 2022). In the context of education, media is a data carrier that is especially goal-oriented. In the teacher's methodology section, media is employed as a teaching tool while creating learning areas. In order to enhance student learning, educational media can also be employed to convey messages and elicit emotions, ideas, feelings, and abilities in the students. Teachers need to be able to design and produce engaging and cutting-edge instructional materials for the classroom. One of the causes of the success of the learning process is teacher readiness. This requires mastery of science and technology, and learning strategies that will be used in class. In other words, quality learning starts with quality teachers. If teachers get better day by day, then education will also get better and better quality (Rahmatullah et al., 2020). Presently, educators must exercise greater creativity in creating engaging lessons, yet schools lack the necessary infrastructure to facilitate learning. This calls for the necessity for Android-accessible educational materials (Mulyati et al., 2022).

Video learning materials, such as instructional films created using the Canva app, are one of the cutting-edge learning tools that may be used in the educational process. Video learning materials can be understood as a way to teach that makes simultaneous use of two senses: the sense of sight (visual/image) and the sense of hearing (sound/audio). Data from earlier studies indicated that utilising the Canva app increased the percentage of learning outcomes for students. This demonstrates that

employing video learning materials based on the excellent criteria of the Canva application makes it easier for pupils to understand the subject matter. In light of this, the learning resources chosen can be applied to both online and offline learning (Rahmatullah et al., 2020). However, in this study the video learning media produced only contained material, there were no quizzes or questions to support student understanding. Then, the video learning media produced in this research is not integrated by a particular learning model.

Because of this, academics are eager to develop video learning materials that combine the PBL learning approach with the Canva application. PBL, or problem-based learning, is a teaching approach that gives students real-world issues to address on their own or in groups. According to earlier research (Nuzula, 2016), because this model allowed students to think more freely and utilize logic to solve problems, the results demonstrated that students were more engaged in the learning process. Almost all pupils actively participate in the learning process thanks to this learning paradigm. The learning process using the PBL learning model presents real-life situations for students so that they are not confused and can immediately understand and discover what they are learning, especially in buffer solutions (Ulfa Nuzula, 2016).

Based on the results of interviews conducted by researchers with the chemistry teacher at SMA Budi Agung Medan, she stated that previously at the high school he had used learning media such as learning videos in the chemistry learning process, but only learning videos and not yet integrated learning models in the learning videos. When he implemented video learning media, students became more active compared to the previous learning process which only relied on commonly used learning media. According to her, using textbooks alone prevents students from participating fully in the learning process, which lowers student learning results. Then, this school's method of teaching is still teacher-centered, which means that pupils don't actively participate in their education. Students are less excited to engage in the learning process when the teacher merely uses markers and a whiteboard to illustrate the content. As a result, it is essential to create video learning media utilising the Canva software in conjunction with the very reliable and useful PBL learning paradigm. Because there are still teachers at SMA Budi Agung Medan who lack the necessary skills to create science-based and technology-based learning materials, like video learning materials built

using the Canva application and integrated PBL learning model, the use of technology in the classroom is still not optimised. Whether employed offline or online, this media is incredibly effective. Given the above problem's context, the author is interested in carrying out research for a project titled **"Development of Video Learning Media Based on the Canva Application on Buffer Solution Material at SMA Budi Agung Medan"**.

1.2 Identification of Problems

Based on the background above, identify the problems in this research, namely:

1. Lack of use of learning media that can be accessed via Android.
2. Students are not active in the learning process if they only use textbook learning media.
3. Students are less enthusiastic in the chemistry learning process.

1.3 Scope of Problem

Based on the above problem identification, the author determines the scope of the research to develop video learning media based on the Canva application integrated with the PBL learning model in buffer solution material for class XI Science at SMA Budi Agung Medan. This is done to avoid misinterpretation of the title and main issues revealed in this research. This research's primary goal is to create the prepared video learning materials, after which the researcher will observe how students react to them.

1.4 Problem Formulation

Based on the problem identification above, the problem formulation in this research are as follows :

1. How to analyze the needs of students in the chemistry learning process at SMA Budi Agung Medan?
2. What is the validity of developing video learning media based on the Canva application on buffer solution material at SMA Budi Agung Medan?
3. How practical is video learning media for teachers at SMA Budi Agung Medan?

4. How do students respond to the development of video learning media based on the Canva application using buffer solution material that has been developed by researchers?

1.5 Limitation of the Problem

Seeing the various problems that can arise from this research and considering the limitations of time and other supporting facilities, this research is limited to :

1. The object of this research is XI Science Ustman Bin Affan class in the even semester of SMA Budi Agung Medan Academic Year 2023/2024.
2. The main material for discussion is buffer solutions in the context of researchers creating video learning media designs using the Canva application, where this video learning media is integrated with the PBL learning model.
3. The Thiagarajan's 4D model is used in this research and development. There are four phases : define, design, develop, and disseminate.
4. The video learning media based on the Canva application used in this research is limited to creating a learning media design in the form of PowerPoint accompanied by animation, then inserting audio, then editing it as attractively as possible, and inserting the PBL learning model syntax into the video learning media.
5. Following the syllabus in chemistry learning, the Basic Competency (KD) limits used in this video learning media only use KD 3.12, namely explaining working principles, pH calculations, and the role of buffer solutions in the body.

1.6 Purpose of the Problem

Based on the problem formulation above, the purpose of developing video learning media based on the Canva application on buffer solutions are as follows:

1. Knowing the needs analysis of students in the chemistry learning process at SMA Budi Agung Medan.
2. Knowing the validity of developing video learning media based on the Canva application in buffer solutions at SMA Budi Agung Medan.

3. Knowing the practicality of video learning media for teachers at SMA Budi Agung Medan.
4. Knowing students' responses to the development of video learning media based on the Canva application using buffer solution material that has been developed by researchers.

1.7 Benefits of the Problem

It is hoped that the development of video learning media based on the Canva application on Buffer Solution material can provide positive results for chemistry learning in high schools, especially at Budi Agung High School, Medan. It is also hoped that it will provide theoretical and practical benefits. The benefits that can be taken from this research are as follows :

1. Theoretical Benefits of Research

- a. Theoretically, the results of this research can increase knowledge about learning media that can be used in buffer solution material, provide ideas, and increase teacher information in developing appropriate learning media.

2. Practical Benefits of Research

- a. *For Students*

It is hoped that by developing video learning media based on the Canva application, students can foster enthusiasm for learning and be motivated to be enthusiastic in the learning process. It is hoped that the development of Canva learning media can increase students' knowledge about applications that can be used as media that can support student creativity.

- b. *For Teachers*

It is hoped that through the development of video learning media based on the Canva application, it can be used as a medium for teacher evaluation and input in the teaching and learning process so that it can improve learning impressions.

- c. *For Researchers*

It is hoped that through the development of video learning media based on the Canva application, it can add new knowledge and be used as a

reference to find out the obstacles faced by students so that it can be developed optimally and as reference material in using learning media.

d. For Readers

It is hoped that through the development of video learning media based on the Canva application, it will be able to add information to the world of education, especially regarding learning media which allows it to be used during the learning process, especially in chemistry subjects.

