

Analysis of Planning to Enhance Creativity Using Appropriate Media and Learning Models for High School Students

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Abstract: Improving the quality of education is sought in the teaching and learning process. Learning is a process that impacts teachers and students in teaching and learning activities by increasing interest in material that is considered problematic. Media and learning models that can foster students' sense of creativity play an essential role in overcoming obstacles to understanding subject matter that students consider difficult. So, this research aims to discover the types of media and learning models that are supposed to increase the creativity of Class X students at SMA PGRI 1 Palembang. The method used is a method with a descriptive research design and data collection using questionnaires, interviews, and observations during learning. The results show that students need learning media that is often related to their daily lives, namely social media. The social media that is most owned by students and is considered to be able to act as additional media in learning is Instagram. Students chose this social media platform because it can foster students' sense of creativity in creating work that helps them understand complicated subject matter. These students' opinions support selecting the PjBL model as the learning model biology students and teachers need. This is because combining media and learning models suitable for use in the classroom provides opportunities to increase students' creativity in finding ways to understand the subject matter independently.

Keywords: Creativity; Instagram; Learning Media; Learning Models; PjBL.

Introduction

Improving the quality of education is something that is sought in the teaching and learning process. One way to improve the quality of education is to change the educational paradigm from teacher-centred teaching to student-centred learning [1] so that students are physically, mentally and socially involved in learning [2]. Learning takes place as a process that impacts teachers and students in teaching and learning activities [3] and can increase interest in material that is considered difficult [4]. Teachers act as facilitators in improving the quality of lessons, learning outcomes and students' creative abilities [5]. A teacher is tasked and responsible for motivating students to be active, skilled, and innovative in ongoing learning [6] and can create enjoyable learning [7].

Understanding material that is considered difficult by students still shows less than optimal results for Class X SMA PGRI 1 Palembang. This can be caused by the need for media and learning models that have not been met. This was obtained from initial interviews with students, where the average student found it difficult to understand the material. This lack of access to media and interactive and exciting learning models affects students' understanding of the material. To improve learning outcomes, schools need to address the need for media and learning models so that students can be more involved and interact effectively with subject matter that is considered problematic. Therefore, the need for media and learning models plays an important role. Learning media in primary education can improve students' learning experiences to be more exciting and

interactive. Meanwhile, a learning model that suits students' character can provide opportunities for students to learn through experience or the results of concepts built based on the final learning product. Thus, incorporating media and learning models that suit students' needs into the classroom can significantly impact students' learning outcomes.

Understanding the factors influencing student learning outcomes is essential and cannot be ignored. Several factors can play a role in improving or inhibiting students' ability to achieve the expected learning outcomes. Therefore, continuous research and attention to student learning outcomes are essential in improving education quality [8]. Media and learning models that can foster students' sense of creativity play a vital role in overcoming obstacles to understanding subject matter that students consider difficult. Interactive learning media can increase student involvement and understanding, making learning more fun and effective [9]. In addition, accessible learning media can accommodate diverse learning needs and preferences, making it easier for students with different learning styles to succeed [10].

Teachers' realization of good education requires engaging media and learning models to increase students' creativity and improve students' learning outcomes [11]. One way to increase students' learning creativity is by creating learning media that can develop students' sense of creativity and become interested in learning [12]. Learning media is a tool for conveying or delivering material messages during learning [13]. Meanwhile, a suitable learning model can also increase students' creativity. The learning model can facilitate students to explore the level of

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creativity in expressing things or points of knowledge that have been obtained, describing the efforts made, and expressing students' beliefs about the results obtained from these activities [14]. This activity helps students overcome difficulties in understanding the material considered difficult to learn and find solutions to improve their learning outcomes. Therefore, this research aims to determine the types of media and learning models that increase the creativity of Class X students at SMA PGRI 1 Palembang.

Research Methods

This research uses a descriptive type research design. Descriptive research aims to explain a situation, event, object, or anything related to variables that can be described [15]. This research uses interview and observation methods as data collection tools. This type of research observes events that are the centre of attention and needs and then describes them as they are. Descriptive research methods are used to solve and answer problems that occur today.

This research began with the needs analysis stage, which used interview techniques, questionnaires, and observations. This needs analysis was carried out at SMA PGRI 1 Palembang. The experts who were used as resource persons at this needs analysis stage were 2 biology teachers and students from class X. This needs analysis aims to explore barriers to learning in the classroom and efforts to meet the needs for engaging media and learning models, then to identify the characteristics of students, and identify the learning media used by resource persons during classroom learning activities.

Results and Discussion

Planning analysis is carried out as a basis for the need to develop media and learning models suitable for students so that students' creativity levels can be channelled into understanding subject matter considered difficult, namely virus material. The composition of the data from the questionnaire on the needs of biology students and teachers can be seen in Table 1.

Table 1. Results of filling out the needs questionnaire for students and biology teachers

No.	Question item	Percentage of answers	
		Students	Teacher
1.	What forms of teaching materials have been used in the learning process?	<ul style="list-style-type: none"> • LKPD (25%) • Modul (30%) • Video (20%) • 3 dimensi (10%) • E-book (15%) 	<ul style="list-style-type: none"> • LKPD (20%) • Modul (30%) • Video (25%) • 3 dimensi (10%) • E-book (15%)
2.	What form of teaching materials do you prefer in the learning process?	<ul style="list-style-type: none"> • LKPD (15%) • Modul (18%) • Video (30%) • 3 dimensi (32%) • E-book (5%) 	<ul style="list-style-type: none"> • LKPD (15%) • Modul (18%) • Video (33%) • 3 dimensi (30%) • E-book (4%)
3.	Teaching methods used during biology learning.	<ul style="list-style-type: none"> • Discussion (30%) • Lectures (50%) • Learning model (20%) 	<ul style="list-style-type: none"> • Discussion (35%) • Lectures (45%) • Learning model (20%)
4.	The use of learning models has been carried out in class.	<ul style="list-style-type: none"> • Yes (60%) • No (40%) 	<ul style="list-style-type: none"> • Yes (50%) • No (50%)
5.	Learning model used in class.	<ul style="list-style-type: none"> • Discovery learning (25%) • Problem-based learning (PBL) (30%) • Project-based learning (PjBL) (25%) • Collaborative model (20%) 	<ul style="list-style-type: none"> • Discovery learning (20%) • Problem-based learning (PBL) (30%) • Project-based learning (PjBL) (20%) • Collaborative model (30%)
6.	What learning model do you prefer?	<ul style="list-style-type: none"> • Discovery learning (15%) • Problem-based learning (PBL) (30%) • Project-based learning (PjBL) (35%) • Collaborative model (20%) 	<ul style="list-style-type: none"> • Discovery learning (25%) • Problem-based learning (PBL) (30%) • Project-based learning (PjBL) (35%) • Collaborative model (10%)
7.	What type of learning media is used in the learning process?	<ul style="list-style-type: none"> • Print media (40%) • Audio media (15%) • Audiovisual media (25%) • Online media (15%) • Social media (5%) 	<ul style="list-style-type: none"> • Print media (40%) • Audio media (18%) • Audiovisual media (22%) • Online media (15%)

			• Social media (5%)
8.	Is the use of social media deemed sufficient to support learning in class?	<ul style="list-style-type: none"> • Yes (85%) • No (15%) 	<ul style="list-style-type: none"> • Yes (70%) • No (30%)
9.	What current social media platforms can be used as learning media in the classroom?	<ul style="list-style-type: none"> • Youtube (20%) • Facebook (20%) • Instagram (35%) • Twitter (30%) • TikTok (5%) 	<ul style="list-style-type: none"> • Youtube (30%) • Facebook (15%) • Instagram (25%) • Twitter (25%) • TikTok (5%)
10.	Choosing suitable media and learning models can increase the sense of creativity in creating work.	<ul style="list-style-type: none"> • Yes (80%) • No (20%) 	<ul style="list-style-type: none"> • Yes (90%) • No (10%)

The results of the questionnaire analysis of the needs of students and biology teachers regarding planning to increase creativity during learning show that 40% of students and biology teachers answered that print media is the leading media that is still used in class and social media (5%) is very rarely or rarely used. as a learning medium. However, the questionnaire results regarding the use of social media as a learning medium obtained the same results from students and biology teachers, who concluded that using social media can support the learning process in the classroom. All students stated they needed additional learning media to support the learning process. Students think Instagram social media can be used as a learning medium in class (35%). The results of the questionnaire analysis regarding the preferred teaching methods were that both students and biology teachers obtained the same results, namely methods that can produce a work (project). So, it can be said that from all the needs questionnaire data, biology students and teachers want to combine media and learning models suitable for use in the classroom so that the level of creativity provides a direction in understanding complicated subject matter independently.

Learning media

Based on the needs analysis results in interviews and questionnaires, students want audiovisual learning media, namely learning media that can be seen, heard, and observed by the five senses. The learning media needed by students is media that can convey more interesting viral material to stimulate students' thoughts, feelings, and interests. Learning media is anything the sender can communicate, and the recipient can promote students' thoughts, ideas, and interest in learning [16]. Learning media can provide information from information sources to information recipients [17].

The development of the digital era today is marked by the increasingly massive penetration of social media in various aspects of life, one of which is in the world of education. This phenomenon results from changes in communication patterns from conventional methods and media to digitalization of communication using contemporary social media [18]. Social media as a learning medium in the learning process is widely used today and is owned by many students, such as Facebook, Twitter, YouTube, and Instagram [19]. Based on the results of interviews with class X students, the social media platform that many students use is Instagram. Instagram is an application that many people have because it is easy to use and gets information quickly. Apart from that, Instagram has a unique design feature for sending photos and videos,

so it is interesting to use as a learning medium. According to students, Instagram positively impacts the ability to understand biological terms that often appear in viral material. Instagram features that can be used as learning media are the homepage (feed) and Instagram story [20]. They can increase students' creativity in sharing viral material by displaying images that make students interested and active and allow them to participate in the learning process.

It is hoped that learning media created on Instagram can increase students' creativity in understanding virus material taught by teachers [21]. By utilizing social media as a means of information and communication technology in learning, teachers and students can make viral material that is considered difficult by students more straightforward to understand [22]. Based on the results of interviews conducted with biology teachers, the benefits of exciting learning media are that it can convey learning material more uniformly, and the learning process is straightforward, engaging, interactive, and efficient in terms of time and energy. Apart from that, exciting learning media can make abstract learning material more concrete, and media can overcome the limitations of the human senses.

Learning is carried out at school, and teachers can communicate with students via social media as a learning medium [23]. Instagram is a social media platform that can make it easier for teachers to convey material to students and does not require lecture methods [24]. Technology has made it easier for teachers and students to interact and deliver lesson material to students without having to meet face to face. Still, this interaction can be done wherever the students are.

Learning model

Determining learning objectives must be adjusted to students' learning needs, such as understanding material and developing intellectual abilities and students' creative abilities [25]. Therefore, identifying the characteristics of students who will be used as learning objects is also essential to the learning planning stage. The design of learning activities is also important because it will determine whether the learning objectives of a topic or subject to be taught are achieved [26], especially virus material that students consider difficult. In this case, teachers must master various kinds of innovative learning models and strategies and be able to choose the ones that best suit the topics and learning objectives that have been previously determined [27].

Based on the results of interviews with biology teachers, students felt that they needed to be involved in

learning activities to create a work to understand the virus material. The students considered the virus material to be complex. According to the biology teacher, the work that students create can enable them to be more creative and feel proud of their work. Project-based learning is a learning model that allows teachers to manage classroom learning by involving project work [28]. Therefore, biology teachers feel that the Project Learning (PjBL) learning model is suitable for implementation in the classroom because this learning model is an innovative learning method and the focus of learning lies on core concepts and principles, involving students in creating a work and allowing students to work autonomously in developing students' knowledge creatively and reaching its peak in producing actual product [29].

The PjBL learning model can make students active in learning and solving problems to produce work and obtain the desired learning process and results [30]. The advantage of this model is that it can improve problem-solving abilities in understanding material that is considered difficult and increase creativity in work [31]. This model can also provide students with experience in organizing a project [32]. However, using the PjBL model can take longer to produce work, and students may be less active in group work [33]. It is hoped that using learning models accompanied by learning media that will later be developed can overcome the problems students and teachers face.

Conclusion

Engaging media and learning models positively impact learning outcomes and students' learning motivation. The use of Instagram learning media to channel students' creativity levels allows students to visualize concepts and understand virus material better. Meanwhile, the PjBL model also allows students to participate actively in learning and learn independently according to the student's learning styles. Combining media and learning models that suit students can run more effectively and answer the need to increase students' sense of creativity.

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