

## Innovation Models: Development Of Resources And Learning Materials

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### ABSTRACT

*Education in the future expects changes in learning approaches that focus on individual abilities and prioritize students as the main subject (student centered). Facing the evolution of education during the COVID-19 pandemic and the direction towards Society 5.0, it is necessary to innovate in the development of learning resources and materials, bearing in mind the importance of learning resources and materials in the teaching and learning process. One of the innovative ways to develop learning resources and materials is through the application of the Quizizz-based development method. The hope is that with this approach, students' responses to Quizizz-based teaching materials and resources will be very positive, indicating strong support from students for using this approach in the learning process.*

### **INTRODUCTION**

Education is a whole series of processes in which individuals develop capabilities, attitudes and behaviors that have positive value, aiming to fulfill their human role in the context of creation. The role of education in life is very important, and the importance of education is growing given the fast pace of global change.

The impact of the COVID-19 pandemic which has spread throughout the world, including in Indonesia, has affected various sectors, including education. Therefore, educational institutions are faced with the need to carry out a distance learning process, where students and teachers are involved in the learning and teaching process from a distance, even though they are in different places. As a result, educators are required to design learning resources and materials that utilize online media. This step is in accordance with the decision of the Ministry of Education and Culture of the Republic of Indonesia contained in Circular Number 4 of 2020 concerning Implementation of Education Policy in Emergency Conditions of the Spread of COVID-19.

Based on this situation, various efforts have been made to ensure the continuity of the learning process even though physical face-to-face is not possible. Technology, especially the internet, smart phones and laptops, has been widely used as a means to support the implementation of distance learning.

The teaching-learning process during the COVID-19 pandemic has induced extraordinary transformations in the entire education sector. In this situation, all levels of education have experienced a sudden adaptation to carry out learning from home via online platforms. This process is not simple, because the challenges are related to limited human resources and technology that is not fully prepared. Challenges in the world of education include non-uniformity in the learning process, both in terms of standards and the expected quality of learning achievements. This dilemma is a burden for educators and students, especially in terms of developing learning materials that are suitable for online learning media.

This challenge must be adapted to different levels of education. The impact also has the potential to cause physical and mental stress. In this case, positive, creative and innovative ways of thinking can be a



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solution to overcome various obstacles in the distance learning process. Applying interesting online learning resources and media can help create a fun learning environment. This aims to achieve quality learning achievements, as well as provide students with learning experiences that do not make them feel bored or bored. In this way, it is expected that the achievement of learning can achieve optimal results.

## LITERATURE REVIEW

### A. Innovation

Schumpeter's in Sweezy (2013) argues that innovation includes efforts to create and implement a combination of elements that produce something new. Through innovation, individuals can add value to products, services, work processes and educational policies. The benefits of innovation do not only apply to educational institutions, but also to stakeholders and society as a whole.

According to Wina Sanjaya (2015) in her work on curriculum and learning, innovation is defined as a new concept that appears in a certain social context and is used to address or solve problems. Literally, innovation comes from the word "to innovate," which refers to the act of making changes or introducing something that did not exist before. In some situations, innovation can also be interpreted as a form of invention.

According to Law no. 18 of 2002, innovation refers to research, development or engineering activities that aim to develop practical practices by utilizing new values and scientific contexts, or creating new ways of applying existing science and technology to products or production processes.

According to Robbins (2019), innovation is a new concept that is used to initiate or modernize products, processes or services. In accordance with the opinion of Sharon A Smaldino (2014), innovation refers to ideas, ideas, objects and practices that are considered new by certain individuals or groups, which are then applied or adopted.

From these various definitions, innovation can be interpreted as a new manifestation in the form of ideas, thoughts, or actions. Innovation can appear in various fields, including in the world of education. Innovation often emerges as a response to the problems at hand, especially in the current context where the Corona Virus outbreak is having a significant impact. One of the impacts is felt in the world of education, which has so far relied on face-to-face learning methods. As a result of the outbreak, both teachers and lecturers had to adapt by adopting online learning. This is a challenge for those who are used to technology and also for those who are less experienced in it. In an effort to overcome this challenge, various new ideas and ideas emerged as a form of innovation in carrying out learning.

### B. Learning Resources

Learning resources are all things that can be used by students in the learning process, either directly or indirectly. Learning resources play a role in supporting the achievement of student learning objectives. In addition to books, learning resources include all elements that can be used by students to broaden their competence and facilitate the learning process. All elements outside of individual students who play a role in encouraging the learning process can be considered as learning resources. In principle, learning resources contribute to organizing effective learning and helping students learn.

According to Andi Prastowo (2018), learning resources basically include all forms of elements such as objects, data, facts, ideas, people, and others that can trigger the learning process, such as package books, modules, student worksheets, real objects, models, mock-ups. , question banks, museums, zoos, and so on.

Wina Sanjaya (2015) defines learning resources as everything that is present around the learning environment and functionally supports the optimization of learning outcomes. Optimization here does not only refer to learning outcomes alone, but also considers student interactions with various sources that stimulate the learning process and accelerate understanding and mastery of the material being studied.

According to Sitepu (2014), learning resources are conscious efforts that are planned, systematic, and use certain methods to change behavior permanently through interaction with learning resources. Learning resources play an important role in shaping knowledge, skills, attitudes, beliefs, emotional aspects, and feelings. Without learning resources, the learning process cannot take place effectively.

Ani Cahyadi (2019) defines learning resources as all types of sources, including data, individuals, or concrete objects that can be used by students to learn, both individually and in combination, to achieve certain learning goals or competencies.

Overall, it can be concluded that learning resources have a wide and varied scope. Learning resources are not limited to learning media alone. It includes all kinds of elements, whether in the form of individuals, data, or concrete objects that help students achieve their learning goals and develop their competencies. With this understanding, the teacher is not only the only source of learning, but part of the various existing learning resources.

### C. Teaching Materials

Teaching materials have an important role in the learning process. As emphasized by Sitepu (2014), teaching materials are part of teaching resources that contain learning messages, both specific and more general, that can be used for learning purposes. Sharon A. Smaldino (2014) adds that teaching materials include content either in written form, delivered through media, or facilitated by instructors used by students to achieve learning objectives, also includes information that will guide student development. Based on this, it can be concluded that teaching materials contain content that students need to learn, either in written form or guided by a teacher to achieve certain goals.

Ani Cahyadi (2019) explains that teaching materials are a set of learning tools that contain material, methods, limitations, and evaluations that are designed in a systematic and attractive manner in order to achieve the stated goals, namely achieving competencies and sub-competencies in all their complexity. This understanding emphasizes that teaching materials must be prepared according to learning guidelines, according to learning needs, and equipped with evaluation tools, and must be attractive so that students are interested.

Andi Prastowo (2018) reveals that teaching material is a collection of information that students must absorb through fun learning. This reflects the importance of students feeling the benefits of teaching materials after studying them. Teaching materials act as a tool to achieve the goals to be achieved by students.

From the explanation above, the concept of teaching materials used in this study can be interpreted as material or lesson materials that are designed systematically, used by teachers and students in learning to achieve the expected learning objectives.

### D. Quizizz

Quizizz is an online tool used to create interactive quiz games that can be integrated into the learning process in the classroom. The interactive quizzes that are created involve up to four answer choices, including the correct answer, and provide the option to include an image as the background to the question.

In its use, Quizizz is able to generate real-time data and statistics regarding student performance. Besides being able to run during the learning process in class, this tool also allows the creation of questions for assignments outside the classroom, such as homework (PR), so that students can play them anytime and anywhere, as long as they do not exceed the specified time limit.

Djamil, N. (2022) as a recent development, Quizizz recently introduced an interactive presentation feature. This feature can be accessed using a free account. With this presentation feature, teachers can not only conduct quizzes as usual, but also have the ability to insert slides or presentations similar to Google Slides or Microsoft PowerPoint. This means teachers can add slides in the middle of an existing quiz, providing more flexibility in organizing learning materials.

## METHODS

This paper adopts the literature review method. Literature review is a process that is carried out in stages, which involves identifying various published and unpublished papers from secondary data sources related to a particular topic. Consisting of three steps, the literature review method includes: 1) Identifying relevant literature; 2) Evaluation of the identified literature; 3) Writing a literature review.

The basis for writing this article is based on various sources and literature, both from international and national scales. The data collection approach involves collecting textbooks, journals, dissertations, conference materials, unpublished manuscripts, reports, newspaper articles, and sources on the internet. After all the necessary documents and data have been collected, the author reads, records, and analyzes the contents of the documents and data, which is then processed into an article.



## RESULT AND DISCUSSION

### 1. DEVELOPMENT OF LEARNING RESOURCES

#### A. Characteristics of Learning Resources

According to Ani Cahyadi (2019), in general, learning resources have the following characteristics:

- 1) Learning resources must have a strong role in supporting the teaching and learning process in order to achieve learning objectives with optimal results.
- 2) Learning resources must have instructional educative values, which can change and influence behavior according to the desired learning objectives.
- 3) In the classification of learning resources, the learning resources used have several characteristics: (a) not organized or systematic either in form or content, (b) learning objectives are not stated explicitly, (c) are only used for certain situations or purposes or incidentally. , and (d) can be used for various learning purposes.
- 4) Learning resources that have been designed (resources by design) have special characteristics and are in accordance with the available media.
- 5) Learning resources can be used individually (separately), but can also be used in combination (combined) with other sources.
- 6) Learning resources can be divided into two types, namely learning resources that have been designed (by designed) and existing learning resources (by utilization). The designed learning resources are those that were originally created and produced by the learning actors, both teachers and students. For example, internet learning is a type of learning resource created to facilitate the learning process. Existing learning resources (by utilization) are learning resources that exist without human intervention and have existed since the beginning
- 7) These learning resources are usually in the form of the environment and natural conditions. For example, the teacher explains material about tawaf by using real Kaaba learning resources in Makkah. The existence of this Kaaba was not designed but existed before learning was carried out. Then the teacher and students use the Kaaba as a real medium in learning. Means students must be invited to Mecca in order to approach the Kaaba. But if the teacher uses a miniature of the Ka'bah, then it is included in the by design category.

#### B. Principles of Learning Resource Development

Ani Cahyadi (2019) states, the principle of developing learning resources includes the following three things:

##### 1) Basic Development

The need to develop learning resources in educational environments arises from the following considerations:

- a. Rapid progress in science, technology, and art makes teaching materials in textbooks unable to keep up with these changes simultaneously.
- b. Limited time in the face-to-face learning process between teachers and students causes limitations in the delivery of material in depth, so that competency goals are often not achieved.
- c. Every student has a unique learning style, and it is impossible for all of these styles to be catered for in a limited classroom environment.
- d. It is important for students to be trained in searching, finding, processing, and using information independently.
- e. Existing learning resources need to be integrated and used optimally together with the learning process in the classroom to increase effectiveness and efficiency.
- f. Learning resource centers can be a driving force in overcoming learning challenges and adopting creative and innovative approaches that put students' interests first.

##### 2) Development Goals

The purpose of developing learning resources has two aspects, namely the general and specific contexts. In general, this aims to improve the quality of the process and student learning outcomes both at the individual



and collective levels by utilizing various types of learning resources. More specifically, the purpose of developing learning resources can be described as follows:

- a. Responding to students' learning needs according to their learning patterns.
- b. Providing opportunities for students to choose learning resources that suit their characteristics.
- c. Providing skills to students in utilizing various learning resources.
- d. Overcoming learning constraints experienced by students individually.
- e. Giving students the opportunity to develop various learning models.
- f. Overcoming obstacles in the development of learning systems.
- g. Encourage the adoption of new, creative and innovative learning approaches.
- h. Creating a fun learning environment.
- i. Integrating the use of learning resources

### 3) Development Component

Components of learning resources that need to be developed can be categorized as follows:

#### a. Message

Things to consider in the development of the message as follows.

- (1) Message content includes all subject matter needed by students and students in an educational environment.
- (2) The message material includes all abilities and skills needed in the local community.
- (3) Message content varies to cover every subject or skill, from simple to complex.
- (4) The messages presented are current, accurate, and appropriate to the context.
- (5) The message presentation is presented with appeal to encourage motivation in further learning.

#### b) People

In the component of people as a source of learning, the following matters need to be considered:

- (1) Has deep mastery in his field.
- (2) Have extensive experience.
- (3) Provide information that is relevant to the needs of students.
- (4) Communicate in an effective and convincing way.
- (5) Encourage motivation to continue learning.
- (6) Flexible in terms of attendance, can be invited to the study location or met at a suitable place.
- (7) Demonstrate an exemplary personality.

#### c) Material

When developing materials you need to pay attention to the following things:

- (1) Presents a variety of formats, such as print, non-print, audio, visual, audio-visual, and computer-based.
- (2) Practical and easy to use.
- (3) Makes you feel happy when you use it.
- (4) Inspiring to continue the learning process.
- (5) The numbers are adequate for individual and group learning needs.
- (6) Can cater to a variety of different learning styles among students.
- (7) Support students in presenting lesson material in various formats.
- (8) Encouraging students to produce new innovations in presenting subject matter.

#### d) Tools

In developing tool components as learning resources, it is necessary to consider the following aspects:

- (1) Relevant to existing needs in each subject or area of expertise.
- (2) Keep abreast of progress and changes in science, technology, and art.
- (3) Easy to use and practical in its application.
- (4) It is safe and provides a fun learning experience.
- (5) Can be used by students individually or in groups.
- (6) Provide a wider learning space for students.
- (7) Can be generated by students, learners, or both.
- (8) Effective and efficient in supporting learning and teaching activities.



e) Procedure

When developing procedures, the following should be considered.

- (1) Focusing on achieving learning objectives.
- (2) Adapted to the characteristics of the subject matter.
- (3) Suitable for the needs and characteristics of students.
- (4) Facilitate students' understanding of the subject matter.
- (5) Various and follow the development of learning theory and learning.
- (6) Promote student involvement and independence.
- (7) Creating an interactive, creative, innovative, effective, efficient and interesting learning environment.
- (8) Ignite a sense of challenge and motivate students to learn more deeply.
- (9) Adapted to the context of the existing learning environment.

f) Environment

In developing the environment as a learning resource, students need to pay attention to the following:

- (1) Refers to learning objectives
- (2) In accordance with the characteristics of the subject matter
- (3) According to the characteristics of students
- (4) Easy to reach by students
- (5) It's safe and provides a real experience
- (6) Interesting and motivating to learn more
- (7) Effective and efficient as a learning resource.

g) Management.

In managing the learning resource development component, it is necessary to pay attention to the following matters:

- (1) Systematic and integrated planning process; curriculum, syllabus, and learning implementation plans already include learning approaches using various types of sources.
- (2) Cooperation and coordination involve learners, managers of learning resources, as well as the principal or deputy principal.
- (3) Integration with other existing learning resources, adapted for all subjects.
- (4) The existence of a learning resource center that functions to coordinate the management and optimization of the use of various learning resources in educational institutions, in order to achieve effectiveness and efficiency.
- (5) Management leadership that has competence in technical utilization of learning resources and in developing learning designs based on various sources.
- (6) The availability of sufficient funds is absolutely necessary to procure, develop, and maintain the condition of learning resources. Limited funds can lead to instability in the management of learning resources.

## 2. DEVELOPMENT OF TEACHING MATERIALS

The development of teaching materials must be based on an analysis of student needs. There are a number of reasons why it is necessary to develop teaching materials, namely:

- a. The availability of materials in accordance with curriculum requirements means that the learning materials developed must be in line with the curriculum content
- b. In accordance with the characteristics of the target, meaning that the learning materials developed can be adapted to the characteristics of the students who are the target, including aspects of their social, cultural, geographical environment, and their level of development.
- c. The development of learning materials must have the ability to overcome challenges or difficulties that arise during the learning process.

Therefore, in the context of developing learning materials in schools, attention is needed to the characteristics of students and needs that are in line with the curriculum. This encourages students to be more active and participate in learning. The development of student activity sheets is an alternative in developing learning materials that can help students understand and master certain competencies, because student activity sheets help in accumulating knowledge about the material being taught through a systematic learning approach.

#### A. Characteristics of Teaching Materials

Teaching materials have several characteristics, Widodo and Jasmani in Ika Lestari (2013) revealed that the characteristics of teaching materials are:

1. Self-instructional , namely teaching materials that can enable students to teach themselves using the teaching materials that have been developed. Therefore, in teaching materials there must be objectives that are clearly formulated and provide learning materials that are packaged into more specific units or activities.
2. Self Contained , that is, all subject matter from one competency unit or sub-competency that is studied is contained in one teaching material as a whole.
3. Stand Alone (stand alone), namely teaching materials that are developed not depending on other teaching materials or do not have to be used together with other teaching materials.
4. Adaptive , namely teaching materials should have high adaptive capacity towards developments in science and technology.
5. User Friendly , that is, every instruction and presentation of information that appears is helpful and friendly to the user, including the ease of the user in responding and accessing it as desired.

#### B. Purpose of Developing Instructional Materials

By understanding the goals and benefits, so that educators do not take the wrong step in compiling these teaching materials. The development of teaching materials is made to achieve the following objectives:

1. Presenting teaching materials that can suit the needs of students who must be in accordance with the curriculum. In addition, teaching materials must also adapt to the nature and environment students come from (background).
2. Make it easier for students to get alternative teaching materials apart from sources at school such as books and texts which are difficult to obtain.
3. Ease the teacher's burden in carrying out learning activities.

#### C. Benefits of Teaching Materials Development

Benefits in developing teaching materials for educators/instructors or teachers:

1. There are teaching materials that can be fulfilled according to the curriculum and fit the needs of the students themselves.
2. With the development of teaching materials, learning does not depend on text sources that are difficult to obtain.
3. Sources become wider because of the many and comprehensive references.
4. Insight into the experience and knowledge of educators becomes deeper and broader in making and developing teaching materials.
5. Creating effective learning interactions between students and educators. This is because students can pay more respect to the teacher.
6. The number of credits can be more and can be used as a book to be distributed.

#### D. Principles of developing teaching materials

1. Development starts with light things then heavy things.
2. Do repetition so that understanding becomes stronger.
3. Positive feedback can make students' understanding stronger.
4. One of the strong learning enthusiasm will be a key aspect of learning success.
5. Reaching a goal can be analogous to climbing a ladder, step by step and reaching the desired goal.
6. By showing the learning outcomes that have been passed to students, it can encourage them to be more enthusiastic about achieving goals.

#### E. How to develop teaching materials

According to Ani Cahyadi (2019), pedagogically there are four ways to develop teaching materials, namely:

##### 1. By Development

Making teaching materials from scratch (blank), because what you want to convey is very unique and special. Teaching materials by development , the teacher will make teaching materials from scratch or from nothing to exist. Because the teacher will explain a specific teaching material, where the teaching material is the original idea of the teacher himself.

2. By Utilization

Take ready-made teaching materials without any modification. If the teacher obtains a teaching material, the teacher will convey the teaching material as it is without any frills. For example, teachers get references from books from the government for learning the 2013 curriculum and so on.

3. By Modification

Adapt the teaching materials taken by making modifications and adjustments. This method tends to be similar to by utilization because it is obtained from a source. However, in practice teachers can modify the teaching materials, they can be reduced or added according to needs.

4. By Customization

Develop teaching materials by combining various content objects. In this method of developing teaching materials the teacher will combine or mix the three previous methods.

### 3. BLENDED LEARNING BASED TEACHING RESOURCES AND MATERIALS

#### A . Blended Learning System Architecture

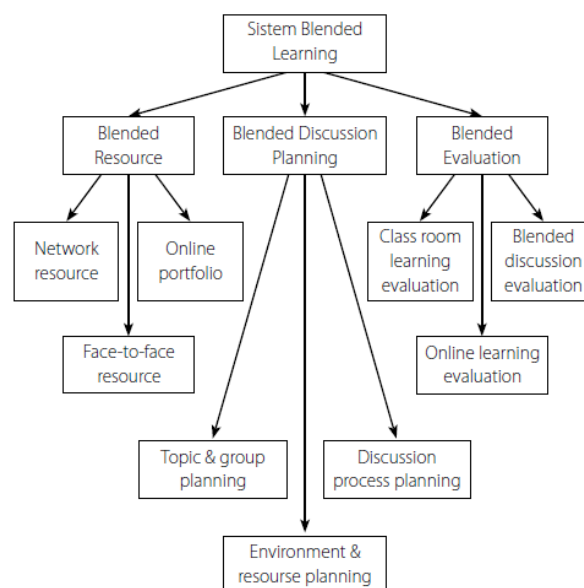
Blended learning is a merger between different learning environments. There are several meanings depending on the context used. Blended learning provides a more effective environment for teachers and students in carrying out learning. The concept of blended learning has existed since the beginning of learning design, the terminology has always been developing until now. In its early stages, blended learning meant combining classes and e-learning , but now it has changed to mean the development of various learning methods, learning resources and learning materials.

A blended learning system is designed to integrate online learning with face-to-face learning in following changes in learning resources, methods with goals, and increasing learning opportunities for students. In designing a blended learning system , the following three factors must be considered:

- 1) Materials in blended learning include face-to-face learning content, online learning resources, and online learning portfolios .
- 2) blended learning discussions , choosing topics and student groups, and designing discussions.
- 3) Evaluation design in blended learning , which parts must be done in class, and which parts can be done online .

Blended learning system architecture as can be seen in Figure 1.1 below.

**Figure 1.1**  
**Blended Learning System Architecture**



Source: Ani Cahyadi (2019)



## B. Innovation in the Development of Learning Resources and Materials based on *blended learning* 4D model adaptation

The procedure for developing resources and teaching materials based on *blended learning* and critical thinking test instruments adapted from *the 4D model* can be explained as follows.

### a. Defining Stage ( *Define* )

The define stage is carried out by establishing and defining instructional needs. This stage prioritizes analysis to formulate goals and obstacles in developing instructional resources and materials. This defining stage consists of: (1) front end analysis, (2) student character analysis, (3) task analysis, (4) concept analysis, and (5) formulation of learning objectives.

### b. Design Stage ( *Design* )

The aim of this stage is to design a learning device prototype. In this stage, resources and teaching materials based on blended learning and critical thinking test questions are prepared.

Four steps must be taken at this stage, namely: (1) preparation of test standards ( *constructing criterion-referenced test* ), (2) selection of media ( *media selection* ) that is appropriate to the characteristics of the material and learning objectives, (3) selection of formats ( *format selection* ), namely examining existing teaching material formats and determining the format of teaching materials to be developed, (4) make an initial design *according* to the selected format

### c. Development Stage ( *Develop* )

This stage aims to produce learning tools that have been revised based on input from the validator. This stage includes six steps, namely:

- 1) device validation by expert ( *expert appraisal* ),
- 2) first revision,
- 3) limited trial (trial I),
- 4) analysis,
- 5) second revision,
- 6) report.

### d. Stage of Deployment ( *Disseminate* )

The dissemination process is a final stage of development. The dissemination stage is carried out to promote product development so that it can be accepted by users, both individuals, a group, or a system. Manufacturers and distributors must be selective and work together to package materials in the right form. Dissemination can be carried out in other classes with the aim of finding out the effectiveness of using devices in the learning process. Dissemination can also be done through a transmission process to related learning practitioners in a particular forum. This form of dissemination aims to obtain input, corrections, suggestions, assessments, to perfect the final product of development so that it is ready for adoption by product users.

Several things that need attention when carrying out dissemination are:

#### 1) User Analysis

User analysis is the first step in the dissemination stage to find out or determine the users of the product that has been developed. Product users can be individuals or groups.

#### 2) Determination of deployment strategy and theme

Dissemination strategy is a design to achieve product acceptance by potential users of the development product. Several dissemination strategies that can be used based on user assumptions include: (a) value strategy, (b) rational strategy, (c) didactic strategy, (d) psychological strategy, (e) economic strategy and (f) power strategy.

#### 3) Time

This timing is very important, especially for product users in determining whether the product will be used or not (rejecting it).

#### 4) Selection of dissemination media

In product deployment, several types of media can be used. The media can be in the form of educational journals, educational magazines, conferences, meetings and agreements of various types as well as through e-mail delivery.

### C. Advantages and Weaknesses of Developing Learning Resources and Materials based on *blended learning*

#### **The use of *blended learning* has the following advantages:**

- 1) Students not only learn more during *online sessions* in addition to traditional learning, but can increase student interaction and satisfaction.
- 2) Students are provided with many options to supplement classroom learning, enhance what is learned, and opportunities to access further levels of learning.
- 3) Presentations can be delivered more quickly for students who learn using *e-learning*.
- 4) Not only learning in one direction sequentially, with *blended learning* students have the opportunity to learn the material they want, as well as setting flexible schedules and time according to the subject.
- 5) Lower costs for institutions and students.

#### **The disadvantages of *blended learning* include:**

- 1) Limited access to computers and the internet. *Bandwidth* speed is limited, making it difficult to access the internet continuously without being interrupted. Some areas still have difficulty accessing the internet, and electricity facilities are even very lacking.
- 2) Limited knowledge conveyed using technology. *Web* pages cannot present complete information with a limited computer screen resolution. Likewise, people's habits are still easier to read books than reading on a computer screen.
- 3) Limitations improve skills for students. Student skills such as activities that must be carried out in the laboratory, making programs, making drawings manually which cannot be completely replaced with computers.

### CONCLUSION

Facing the development of education during the COVID-19 pandemic and towards *society 5.0* in the future, changes are demanded in the learning process that is based on individual abilities and student-oriented as a subject ( *student centered* ). Therefore, it is necessary to innovate the development of learning resources and materials in accordance with the times, because learning resources and materials are one of the most important aspects of learning activities. Learning resources and materials can be designed, created and developed by the teacher for students by utilizing the existing environment and technology.

One of the innovations in developing learning resources and materials can use development based on *blended learning* using the 4 D model. It is hoped that with this model, students' responses to teaching resources and materials based on *blended learning* and *critical thinking skills* will be very good. This means that students really support the use of teaching materials and resources based on *blended learning* and *critical thinking skills* in the learning process.

It is hoped that students will also feel that *blended learning* is very beneficial for them during the COVID 19 pandemic and the era of *society 5.0*, students can study anywhere and anytime, utilize technology and are very helpful under any circumstances.

It is also hoped that students will become trained to learn to think critically, because the assignments given are related to current conditions that require careful and critical thinking. This is in accordance with the advantages of *blended learning* , namely students are free to find and study teaching resources and materials independently by utilizing materials available online, students can communicate/discuss with teachers or other students that do not have to be done in class/face to face. . Students are more interested in utilizing existing technology to carry out the learning process, namely with *Google Classroom* , *Edmodo* , *Quiziz* , Learning Home Portals, *Zoom* and so on to make it easier for students to carry out the learning process anywhere and anytime.

With *blended learning* teachers can provide innovation in the learning process because if they do not provide innovation then the teacher will not get unexpected learning outcomes and in the future the role of the teacher will be replaced by technology.

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