



# The Needs Analysis of Online Learning

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**Abstract.** *Online learning* is a trend during the COVID-19 pandemic, which requires teachers to apply it in their learning. This study tries to analyze the needs and provide recommendations for the fulfillment of the efficiency and effectiveness of the implementation of *online learning*. The research method used is descriptive qualitative by using questionnaires and observation sheets. Needs assessment technique by assessing actual conditions and evaluating according to the ideal standard criteria that have been prepared. The results of the study show that aspects of online learning including pedagogic models, learning strategies, and learning technology have been fulfilled. The use of diverse learning resources and technology testing should be carried out before the learning program is implemented.

**Keywords:** Need Analysis · Online Learning

## 1 Introduction

Education is the main key of a nation in advancing quality human resources. The form of education is set forth in the learning process. Learning as a process to assist learning activities in achieving the expected behavior. Learning is considered as a constructive process of organizing available cognitive resources in such a manner that new knowledge or new skills are placed at the disposal for mastering new learning tasks. Learning is a process of common investigation based on the exchange of information and perspectives [2].

Current technological developments and advances have had a positive impact in the field of education, especially learning [3, 4]. Utilization of information technology has given birth to renewable innovations and can assist in the effectiveness and efficiency of learning. Educational institutions should apply information technology in the implementation of learning as well as a demand for teachers to innovate [5, 6]. One learning approach that utilizes information technology is online learning.

Online learning is a learning system that utilizes internet technology and is known as E-Learning [7]. Delivery of subject matter and online learning management. Online learning is a system composed of several components and the theory and practice are not simple or coherent [8]. The components that must be considered in implementing online learning or e-learning are learning design, multimedia components, internet equipment,

computers and storage tools, connection and service providers, power/program management, planning software sources, and standards as well as connection services and applications [9]. In line with Khan's view, more succinctly Nada Dabbach suggests that online learning includes aspects including pedagogic models, learning strategies, and learning technology [10].

This study aims to analyze the needs and provide recommendations for the fulfillment of the efficiency and effectiveness of the implementation of online learning as a basis for decision making in the development of further online learning.

## **2 Methods**

The research method used is descriptive qualitative method as an approach or search to explore and understand a central phenomenon [11]. Data collection techniques were carried out by observation, interviews, and distributing questionnaires to teachers and students.

### **2.1 Observation**

Observation carried out using a needs assessment technique by analyzing and evaluating programs that have been implemented to collect information related to gaps that occur in the field regarding online learning based on indicator includes pedagogic models, learning strategies, and learning technology [10].

### **2.2 Interview**

Interviews were conducted with 25 teachers who teach to find out the teacher's views on the teacher's efforts in planning online learning. The interview was intended to determine the preparation and strategy of online learning teachers.

## **3 Results and Discussion**

The researcher made observations using the observation sheet instrument containing the ideal standard criteria regarding online learning referring to the theory according to Dabbagh and Bannan 2005-114 in their book online learning: concepts, strategies, and application.

Observation aims to determine the fulfillment of the ideal criteria (should) be adjusted to the actual conditions in the field SMKN 1 Garut is related to online learning that has been implemented. The ideal standard indicators include an assessment of three elements, namely pedagogic models, learning strategies, and learning technology.

**Table 1.** Observation Results Pedagogic Model Learning *On line*

Aspect	Indicator	Current	Gap
<b>Pedagogic Model</b>	To do analysis curriculum	There is document curriculum ( syllabus, lesson plans, Prota, Prosem) science lesson	Not there is gap and indicator fulfilled.
	To do analysis characteristics participant educate	There is documents and notes about performance academic participant educate.	Not there is gap and indicator fulfilled.
	Designing a learning program that will implemented	There is document plan implementation learning (RPP)	Not there is gap and indicator fulfilled.
	Formulate steps learning that emphasizes discovery _ knowledge new or character exploratory.	Activity learning formulated in the RPP as well as plot learning character exploratory.	Not there is gap and indicator fulfilled.
	Formulate steps emphasizing learning _ interaction social through dialogue and conversation or character dialogic	Activity learning formulated in RPP, flow learning character dialogic between participant educate.	Not there is gap and indicator fulfilled.
	Blend a number of source other learning integrated in one technology certain.	Learning only use teaching materials provided by the teacher in the form of book package	Source available study _ only book package
	Formulate process and outcome assessment instruments study student	The teacher compiles and determines the process and outcome assessment instrument study in the form of an objective test	Not there is gap
	Integrate a number of theory study in design learning	Guided RPP preparation only on theory study behaviorism	The preparation of the RPP is guided by several theory study like cognitivism and constructivism

### 3.1 Pedagogic Model

The pedagogic model is described as a view of the learning process, namely theoretical constructions derived from learning theories that can be implemented into specific learning strategies [10].

Based on the results of observations in Table 1 several indicators have been met including curriculum analysis, analysis of student characteristics, learning that emphasizes the discovery of new or exploratory knowledge and social interaction through dialogue, designing learning programs, and formulating instruments for assessing processes and learning outcomes. Indicators of learning design that combines several learning theories have not been met.

Learning programs that are exploratory and dialogical are a concern for teachers considering that the government mandates through the 2013 curriculum to design learner-centered learning with a scientific and cooperative approach to build students as independent (active) learners, hence exploratory learning. Dialogic (dialogic), and integrative (integration) need to be applied by teachers in online learning [10]. Through dialogical communication, it is possible for the teacher’s role to be able to provide solutions for students to the problems faced in online student learning activities [12, 13].

Explorative learning can invite students to express ideas in finding concepts or solving problems through problems and can help students construct a concept [14].

### 3.2 Learning Strategy

Learning strategies can be interpreted as techniques and plans used by educators in an effort to facilitate and involve students in learning activities (Table 2).

Based on the results of observations, most of the indicators have been met such as the teacher taking actions that help in solving problems, the teacher encouraging independent learning skills, the teacher carrying out learning strategies in accordance with the learning implementation plan or learning design, the teacher assessing the process and learning outcomes of students using certain instruments, and assessing the learning achievement of students in the category or criteria of success. Only 1 indicator that has not been met is related to learning resources using only textbooks.

**Table 2.** Online Learning Strategy Observation Results

Aspect	Indicator	Current	Gap
<b>Learning strategies</b>	The teacher takes actions that help in problem solving	The teacher provides an explanation of how to solve problems regarding subject matter and the use of electronic devices to access subjects in learning	There are no gaps and indicators are met.

*(continued)*

**Table 2.** (continued)

Aspect	Indicator	Current	Gap
	Teachers help students discover new knowledge	Ongoing learning helps students to discover new knowledge	There are no gaps and indicators are met
	The teacher provides references for other learning resources	Teachers only use textbook learning resources.	Learner knowledge is only sourced from digital textbooks provided by the teacher
	The teacher creates a learning environment by establishing social interactions with students.	Learning takes place through discussion, question and answer, and giving ideas and opinions from students	There are no gaps and indicators are met
	Teachers encourage collaboration and social skills among students.	Teachers strive to create a collaborative learning environment with students	There are no gaps and indicators are met
	Teachers encourage self-study skills	Teachers provide teaching materials to facilitate student learning activities independently	There are no gaps and indicators are met
	The teacher carries out learning strategies according to the learning implementation plan or learning design	The flow of the implementation of learning is guided by the design of the implementation of learning or the design of learning	There are no gaps and indicators are met
	The teacher assesses the learning process of students using certain instruments	The teacher records student learning activities regarding student attitudes on the observation sheet or student attitude assessment	There are no gaps and indicators are met

### 3.3 Learning Technology

Learning technology is a means of delivering learning materials and communication or communication tools between educators and students.

Table 3 results of observations regarding the technology used in online learning. There are several indicators that have been met, including analyzing technological media

**Table 3.** Online Learning Technology Observation Results

Aspect	Indicator	Current	Gap
<b>Learning technologies</b>	Analyzing technology media according to available resources at school	Teachers use technology media in accordance with the availability of resources owned by students such as cellphones and internet networks.	There are no gaps and indicators are met
	Analyzing technology media according to the characteristics of the subject	Do not analyze media technology based on the characteristics of the subject	Teacher orientation is only on the delivery or distribution of subject matter
	Analyzing the suitability of technological media with the characteristics of students	The teacher asks students about the abilities and skills of students in using the Zoom meeting application. And the teacher provides tutorials or procedures for using the application	There are no gaps and indicators are met
	Determine the technology media that will be implemented in learning	The teacher sets whatapps technology media and zoom meetings as a tool in delivering subject matter	There are no gaps and indicators are met
	Integrating other learning resources on one technology media used	The teacher only uses one learning resource in the form of a package book as teaching material and does not include other learning resources	The use of technological media is limited to only a means of delivering subject matter
	Provide <i>asynchronous</i> learning services	Teachers use <i>whatapps group applications and learning videos as asynchronous communication media</i>	There are no gaps and indicators are met
	Provide <i>synchronous</i> learning services	The teacher uses the <i>Microsoft Teams application as a synchronous communication medium</i>	There are no gaps and indicators are met

according to available resources, the suitability of technological media with the characteristics of students, determining technology media to be implemented in learning, and providing *asynchronous* and *synchronous communication services* in learning. While the indicators that have not been met include analyzing technology media according to the characteristics of the subject and the gaps that arise the teacher is only oriented to the delivery or distribution of subject matter.

*Asynchronous* and *synchronous* services in online learning are a very important part as a form of communication between teachers and students. Synchronous is a form of communication that requires two or more people to be present at the same time. While *asynchronous* does not require two or more people to be present at the same time [15].

Furthermore, the testing of the ease of technology is not carried out by the teacher and the teacher directly implements technology media and applications in learning. The use of technology should be tested first so that teachers and students can find out the ease of operation of using technology before it is used [16]. Technology testing can be done at the alpha stage before the product is implemented in the implementation of learning [17]. Formative evaluation is carried out to collect data related to the strengths and weaknesses of the learning program. The results of the formative evaluation process can be used as input for improving the draft program [18].

Indicators of integration of other learning resources in one technology media have not been met and teachers only use one learning resource in the form of textbooks as teaching materials.

## 4 Conclusion

Based on the research findings, it can be concluded that the implementation of online learning at smk negeri 1 garut has been based on 3 aspects (pedagogic model, learning strategy, and learning technology). However, there are several factors that have not been met, including integrating several learning theories in learning design, teachers need to provide references to other learning resources, analyze technological media according to the characteristics of the subject, and integrate other learning resources into one technology media used.

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