

Comprehensive Analysis of Online Learning Effectiveness in High School in the City of Padang

Syofiani¹, Pebriyenni², Lisa Tavriyanti³

^{1,2,3}Universitas Bung Hatta, Padang, Indonesia

syofiani@bunghatta.ac.id, pebriyenni@bunghatta.ac.id, lisa.tavriyanti@bunghatta.ac.id

Abstract

This research aims to comprehensively analyze the online learning effectivity at Senior High School in Padang City. The research is done by using survey method towards 16 public schools as population. The research was conducted in June 2021 by taking three subjects as samplings, such as Bahasa Indonesia (Indonesian), Bahasa Inggris (English), and PPKn (Civic Education). The questionnaire consists of 30 close-type questions using Likert scale. The amount of respondents is 2161 students of grade X and XI. The data is grouped by aspects of learning objectives, infrastructures, teachers ability using technology, time efficiency, and learning outcomes. The result shows that >70% of respondents stated that online learning can increase analytical skills and divergent thinking, and is able to develop new values. The discovery was made possible because 81% respondents stated that the device they owned is compatible for online learning. In relation to teachers ability using technology and learning models, the research resulted in >70% students stated that teachers are skilled at using technology. Also, media and learning model used by teachers are able to increase students creativity and it can achieve better learning outcomes. It can be concluded that online learning at senior high school in Padang city is effective to create conducive learning and achieve maximum learning outcomes.

Keywords

effectivity; online learning; learning outcomes



I. Introduction

Networked (online) or distance learning (PJJ) is a big leap in the education system because it involves significant changes in the order of the learning process. This includes People, Processes, and Tools in the education system. The online implementation is carried out through digital transformation in the field of education. The COVID-19 pandemic that occurred in Indonesia had an impact on people's lives, including in the field of education. During a worsening pandemic situation, the government finally made a learning policy online or in a network (online). This learning uses media that allow interaction between teachers and students even though they are not in the same place (Putrawangsa & Hasanah, 2018). The implementation of online learning is possible using the method blended learning where learning is internet-based collaborated with non-internet-based to produce optimal learning (Harto, 2018).

Government policy towards online learning is an effort to ensure the implementation of educational services for students in schools. From the results of observations on online learning, many problems were found, including 1) The inability of parents to provide online learning facilities; 2) Inadequate quality of the internet network so that students cannot access ongoing lessons, or vice versa, the material from the teacher cannot be accessed because the signal quality at the teacher's place is not good; 3) The low skill of

teachers in using technology which has an impact on the unpreparedness of teachers in carrying out online learning; 4) The number of students who are less serious in participating in learning because it cannot be fully monitored by the teacher; 5) The burden on parents is getting heavier because they have to be directly involved in helping children when studying or doing assignments, (Syamsuar, 2018)

According to (Handarini & Wulandari, 2020, Hikmat, 2020, Yaumi, 2018) that online learning requires adequate facilities and infrastructure, such as laptops, computers, smartphones, and internet networks. This can be an obstacle experienced by students, especially for underprivileged students in areas where the majority of the economy is still low. This is what underlies the author to examine the effectiveness of online learning at Padang City High School during the Covid-19 pandemic. The outbreak of this virus has an impact of a nation and Globally (Ningrum *et al*, 2020). The presence of Covid-19 as a pandemic certainly has an economic, social and psychological impact on society (Saleh and Mujahiddin, 2020). Covid 19 pandemic caused all efforts not to be as maximal as expected (Sihombing and Nasib, 2020).

Padang City Public High School has attempted to implement online learning effectively by using various kinds of online learning devices and media. There are many learning media used by teachers in online learning, including Zoom Meeting, Google Meet, Google Classroom, WhatsApp, and other applications. The effectiveness of learning is largely determined by whether or not the interaction between teachers, students and learning resources is meaningful. Media is a tool that serves to convey messages from teachers, learning resources to students. There are many interesting things to study in online learning. Researchers tried to investigate matters related to the effectiveness of learning and analyzed comprehensively from various aspects.

Many studies have been carried out on the implementation of online learning such as that conducted by Dewi, (2020); Firman, (2020); Wijayanti, (2020) the results of the study indicate that a flexible online learning system is able to form learning independence and student learning motivation. In addition, students / students prefer online learning media that are already known and learning will feel boring if there is no creativity from the lecturer / teacher during the teaching and learning process. According to Rahmawati, (2020); Rohmawati, (2015), "learning effectiveness is one of the quality standards of education and is often measured by the achievement of goals, or it can also be interpreted as accuracy in managing a situation, "doing the right things. Furthermore, Rahmawati, (2020) states that "effective learning is learning that provides students with the opportunity to learn on their own or carry out the widest possible activities for students to learn".

To achieve effective learning, professional teachers are needed both in planning and implementing and evaluating learning outcomes. Rohmawati, (2015), argues that teachers need to have global insight to view and approach educational problems. Teachers are required to be able to work cooperatively think critically and systematically. Teachers must have a desire to improve intellectual abilities in accordance with the development of science and technology. To ensure effective learning, it is important for teachers to have a complete set of competencies, such as pedagogic, professional, social and personality. Teachers must be able to design teaching methods that make students actively think or answer problems based on knowledge that is equipped with reasons. So, students can have the courage to think and the ability to solve problems.

Effectiveness criteria include: 1) the ability of teachers to manage learning well; (2) student activities during learning are good; (3) student responses to positive learning activities; and (4) student learning outcomes are classically complete and the requirements for aspects of mastery learning are met. Meanwhile, according to Nejad, (2020); Firdaus,

(2016); Cakir, (2013), the factors that influence the success of the learning process are the curriculum, absorption capacity, teacher presence, student attendance and learning achievement. Furthermore, according to Nejad (2020), for the implementation of effective learning, it is necessary: a) consistency of learning activities with the curriculum; (objectives, materials, media, and learning evaluation strategies. b) Implementation of the teaching and learning process, including: conditioning learning activities; presenting tools, resources and media; time efficient, mastering the subject matter and able to activate students.

It can be concluded that the effectiveness of learning is characterized by the following characteristics; succeeded in delivering students to achieve instructional goals, providing an attractive learning experience, actively involving students, having the facilities that support the teaching and learning process, and good learning organization. There are four indicators of learning effectiveness; teaching quality, level of teaching, incentives and time adequacy, (Aan (2020); Azizinezhad (2011); Martins (2015). In order for these four indicators to be achieved, competent teachers are needed. If teachers have good competencies, they will produce quality learning so that can improve the quality of education because basically, the quality of education is in the hands of competent teachers and supported by an appropriate curriculum.

II. Research Method

The research method used is a survey with a total population of 16 schools in Padang City. The learning samples are Indonesian, PPKn and English subjects. The data used in this study is primary data with a survey method and using a questionnaire as a tool to collect data (Creswell 2012). Questionnaires were distributed online to respondents via google forms so that during the COVID-19 pandemic, respondents could access the questionnaire from their respective places of residence. The questionnaire consists of 30 closed questions using ascale Likert. Thescale is Likert used to measure a person's attitudes, perceptions, and opinions on a social phenomenon. The questionnaire made consisted of five questions regarding aspects of learning objectives, seven questions regarding aspects of learning infrastructure, five questions regarding the ability of teachers to use technology, five questions regarding the ability of teachers to choose learning models, four questions regarding time efficiency, and four questions for results study. The answer choices provided are Strongly Agree (SS), Agree (S), Disagree (TS), and Strongly Disagree (STS). In this study the Neutral (N) option was not included. Data was collected in June 2021 from students of class X and XI of Padang City State Senior High School. The number of respondents who filled out the questionnaire was 2161 students. The data processing is done with the editing stage (editing). The researcher checked all (30 items) of the questions that were filled out by the respondents. The next stage is coding (coding). The researcher gives numbers to the answers of research respondents and then tabulates by compiling and calculating data from the coding results which are then presented in the form of tables and figures.

III. Results and Discussion

The Covid-19 pandemic has provided an overview of the continuity of the world of education in the future through technological assistance. However, technology still cannot replace the role of teachers and learning interactions between students and teachers. This is because education is not only about acquiring knowledge, but also about values,

cooperation, and competence. The pandemic situation is a challenge for the creativity of teachers and students at the Padang City State High School in using technology. This challenge is not only in the transmission of knowledge, but also how to ensure that learning continues to be conveyed properly. At the same time, this challenge is also an opportunity for how the use of technology can help students become competent for the 21st century. The most important skill in this century is self-directed learning or independent learning as an outcome of education. The Covid-19 pandemic condition also requires policy makers in the education sector to be able to adapt in carrying out the learning process.

This research is a systematic effort to comprehensively look at the effectiveness of online learning in Padang City Public High School. There are 6 (six) things or indicators analyzed in this study, namely; (1) Students' perceptions of the achievement of aspects of learning objectives; (2) students' perceptions of the availability of online learning facilities and infrastructure; (3) students' perceptions of the teacher's ability to use technology; (4) students' perceptions of the ability of teachers to choose and use appropriate learning models; (5) students' perceptions of the efficiency of learning time, and; (6) Students' perceptions of the achievement of learning outcomes. The following is an overview of the research results.

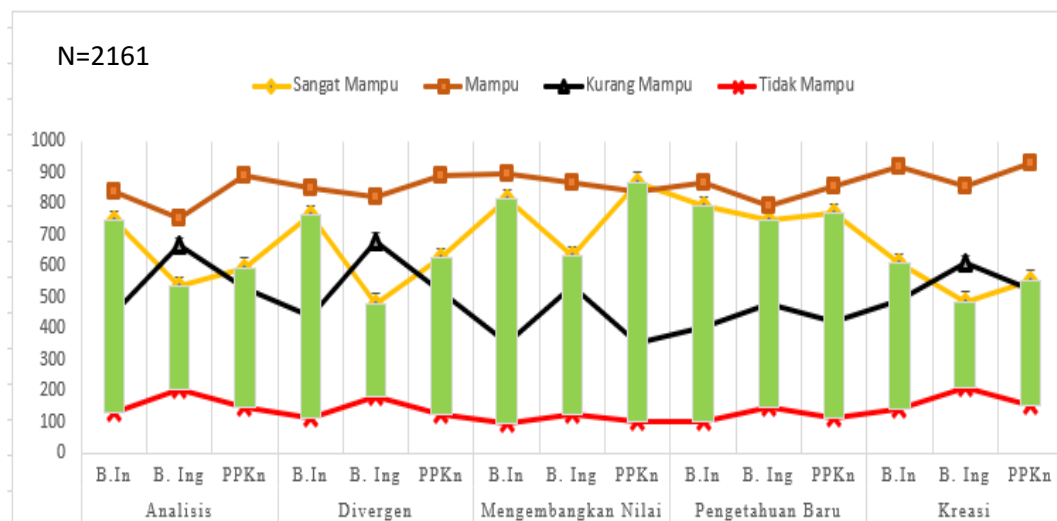


Figure 1. Students' Perceptions of Achieving Learning Objectives

To see students' perceptions of achieving learning objectives, five questions were asked, namely whether online learning can improve: analytical skills, divergent thinking skills, the ability to develop good values in thinking and acting, the ability to construct knowledge new, and create new work steps without thinking for a long time. Figure 1 shows >70% of students have the perception that online learning carried out at SMA Negeri Padang City is in the category of being able and very capable of achieving learning objectives. There is no visible difference in students' perceptions of the implementation of online learning in three subjects, namely Indonesian, English and PPKn. More clearly can be seen in Figure 2.



Figure 2. Percentage of Students' Perceptions of Achieving Learning Objectives

From 2161 respondents, the answers to the very capable criteria were 25.39% to 35.68%, and 38.32% to 41.82% stated that the learning objectives could be achieved by forms of online learning. There are 4.95% to 7.77% of respondents stated that online learning cannot improve analytical skills, divergent thinking, develop good grades, construct new knowledge and new work steps without thinking for a long time. The results of this study indicate that there are still obstacles to the implementation of online learning, including in urban areas. This is relevant to previous studies that there are obstacles in online learning, especially related to the readiness of technology and resources to achieve learning objectives.

Effective learning must be supported by facilities and infrastructure that enable students to carry out meaningful learning. There is an educational interaction between teachers and students, so that the learning climate becomes conducive. To support learning in the network, of course, required tools software. Software is software or digital programs that are used as a place for learning online. At 16 public high schools in Padang City, the most widely used online learning tools are WhatsApp, Zoom, Google Meet, Google Classroom and Telegram, each of which has its limitations. The following are the results of research related to the availability of online learning facilities and infrastructure

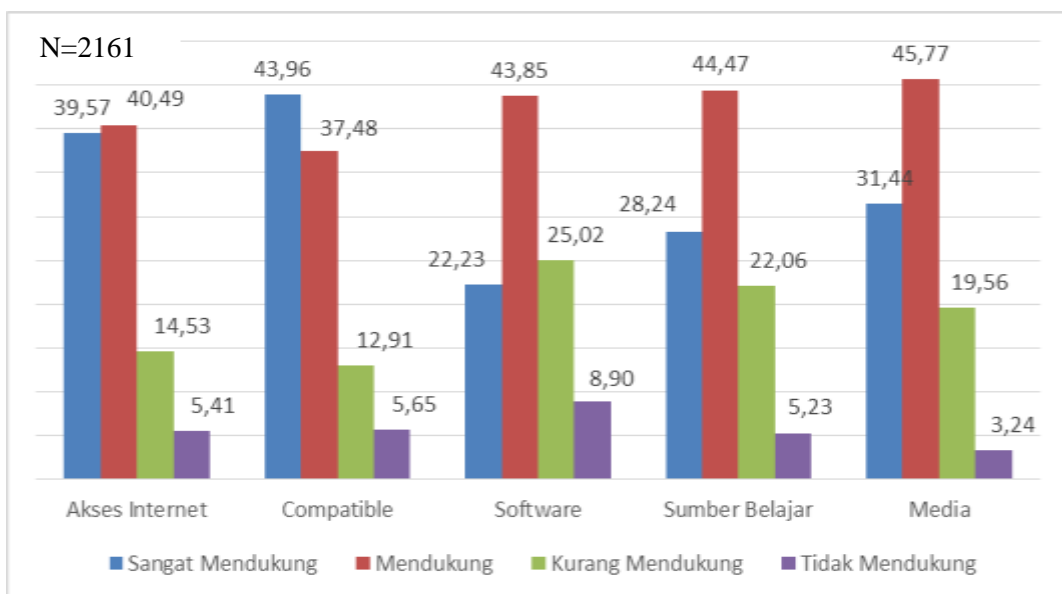


Figure 3. Perception of Availability of Learning Facilities and Infrastructure

In Figure 3 it can be explained that 22.23% to 43.96% of respondents answered that the availability of learning facilities and infrastructure was very supportive, then the answers to the supporting criteria were between 37.48% to 45.77%. It can be concluded that more than 67% of students stated software that theused was available, >81% of students stated that their devices were compatible for use in online learning, >80% of students stated that internet access was smooth, >72% stated that learning resources could be accessed properly and > 77% of students stated that learning media were available and could be used well in online learning. Of the 2161 respondents, 3.24% to 8.90% stated that internet access was not smooth, online learning tools were not available, could not access and use learning media properly, and it was difficult to find learning resources. Relevant research results state that the lack or unavailability of online learning facilities and infrastructure can have an impact on students' lack of motivation to learn (Dewi, 2020), students' lack of courage to communicate, and the emergence of indications of stress in students (Wijayanti, 2020) reduced integration of exemplary in learning Rahmawati, 2020) as well as the lack of emotional bonding between teachers and students. The following describes the teacher's ability to use online learning technology.

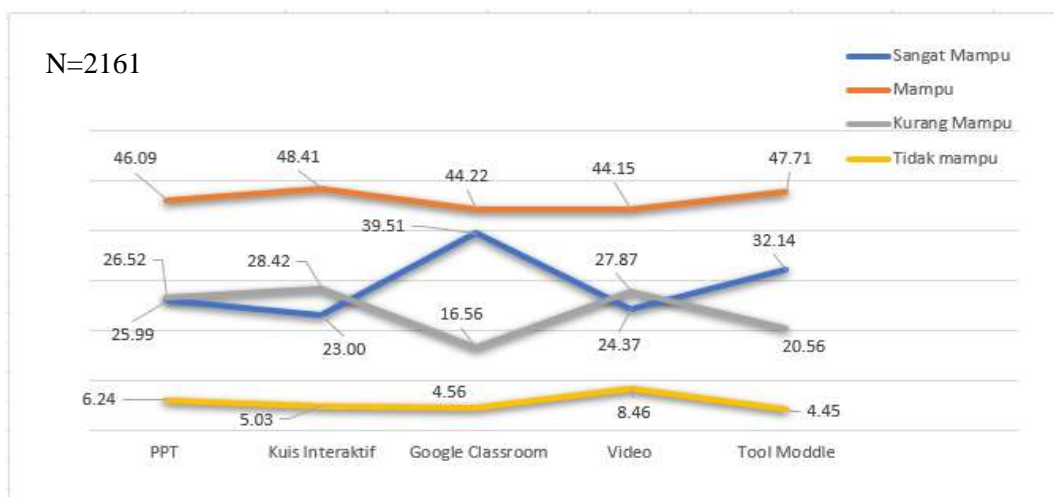


Figure 4. Students' Perceptions of Teachers' Ability to Use Technology

The effectiveness of online learning cannot be separated from the ability of teachers to plan, implement and evaluate (process and results) online learning. For this, the researcher asked questions related to the teacher's ability to use technology. The questions are as follows; (1) Does the teacher present learning by using attractive PowerPoint Presentations; (2) Does the teacher provide interactive quizzes in online learning (such as quizziz); (3) In online learning, the teacher gives assignments using Google Form, Google Classroom or Moodle; (4) Does the teacher use interactive video in online learning, and; (5) Was the test conducted using the Google Form/Google Classroomtool or Mddle.

The results of the study on the ability of teachers to use technology can be explained as follows: 25% to 39.51% of students have the perception that teachers are very capable and 44% to 48.41% state that teachers are able to use technology well. This means that >69% of Indonesian, English and Civics teachers at Padang City Public Senior High School have the ability to use online learning technology effectively. There is a relationship between students' perceptions of the teacher's ability to use online learning technology and the availability of online learning facilities and infrastructure owned by students.

The following indicators studied are the ability of teachers to choose and use learning models. There were several questions asked to examine the ability of teachers to use effective learning models in online learning. This can be seen in Figure 5

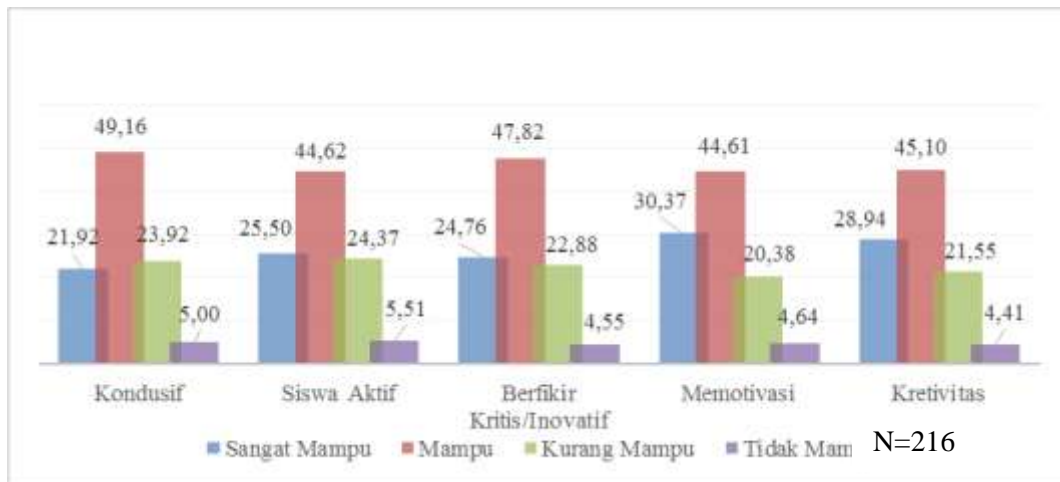


Figure 5. Students' Perceptions of Teachers' Ability to Use Model

Figure 5 shows that Indonesian, English, and Civics teachers have the ability to use learning models effectively. The results showed >70% of students stated that the teacher was very capable / able to create a conducive learning climate and make students active during the teaching and learning process. Respondents also stated that the online learning model used by Padang City Senior High School teachers could improve the ability to think critically/innovatively, and motivate students to explore themselves more in learning. In addition, >74% of respondents stated that the online learning model used by the teacher could improve students' creativity well. This is in line with the opinion of the International Education Advisory Board (2017) which states that every teacher is not excluded from the need for ICT skills. Educational development is very important to ensure that technology is used easily in learning and is able to facilitate the implementation of education. Adequate equipment will not be useful if it is not accompanied by human resources who are able to use it.

The effectiveness of online learning is also seen from the aspect of the use of study time. The results show that 55% to 70% of respondents strongly agree/agree that the time to do assignments, consultations, discussions to achieve learning objectives is quite effective in online learning. There are 30.59% of respondents think that online learning is less effective and <14.89% stated that it is not effective when viewed from the use of time for consultation with teachers of Indonesian, English and PPKn subjects. An explanation of this can be seen in Figures 6 and 7.

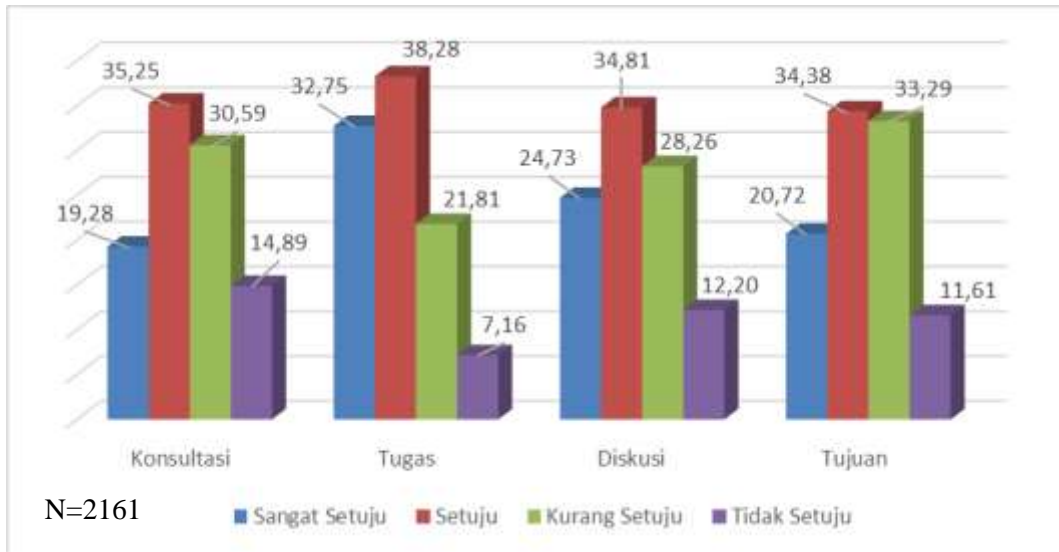


Figure 6. Students' Perception of Time Effectiveness

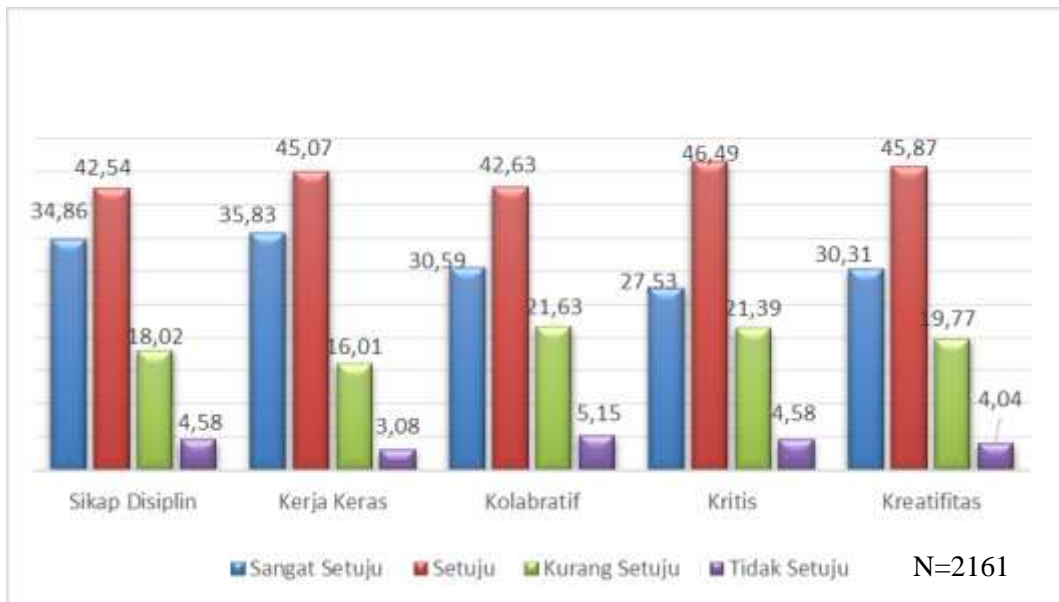


Figure 7. Students' Perceptions of Learning Outcomes

From Figure 7 it can be explained that online learning is effective for improving students' discipline, hard work, collaborative, critical and creative attitude. This statement is supported by >73% of respondents. Then <21.63% of respondents stated that online learning was lacking and <5.15% stated that it was not effective in achieving the goal. The research results are relevant to the opinion of Firdaus (2016), that there are several characteristics of effective learning, namely successfully leading students to achieve instructional goals, providing attractive learning experiences, involving students actively to support the achievement of instructional goals and having facilities that support the learning process, (Sukasman, 2020).

IV. Conclusion

The results showed that, >70% of respondents stated that online learning can improve analytical skills, think divergently and develop new values. This finding was possible because 81% of respondents have a learning device that is compatible. Associated with the ability of teachers to use technology and learning models, the results showed > 70% of students stated that teachers are skilled in using technology. Media and learning models used by teachers are able to increase student creativity, and can achieve good learning outcomes. Thus, it can be concluded that online learning at SMA Negeri Padang City is effective for creating conducive learning and can achieve maximum learning outcomes. Therefore, in principle, online learning can be implemented in Indonesian, English and PPKn subjects. There are no principal problems that can hinder the achievement of learning outcomes, even though it is carried out online.

Acknowledgment

We would like to thank the Leaders and Institute for Research and Community Service at Bung Hatta University for funding the research.

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