



The Effectiveness of Distance Learning Using Learning Management System Media and Whatsapp Groups at Senior High School

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ABSTRACTS

In the world of education, during the COVID-19 pandemic, schools and colleges were not allowed to do face-to-face learning directly or often called offline at schools or campuses. All teaching and learning processes must be carried out online at home. One alternative to this policy is by applying the Distance Learning (PJJ) method where teachers or students cannot meet face to face directly. PJJ currently carried out is online (in a network) through internet-based media. At the senior high school / vocational school / Islamic Senior High School level PJJ is carried out using a Learning Management System (LMS), which is a system that can manage, convey, and monitor students using an internet-based application. Not enough with LMS, WhatsApp social media using the Group feature is also one of the supports in the successful implementation of online learning during the COVID-19 pandemic. Research on the Effectiveness of Distance Learning (PJJ) using learning media Learning Management System (LMS) and WhatsApp Group was conducted at senior high school 1 Cipeundeuy, Subang, Indonesia.

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1. INTRODUCTION

In 2019 the world was shocked by the Corona virus or often known as Corona Virus Disease 19 (COVID-19). This virus originated from the city of Wuhan, China. The corona virus is very easy to spread and the symptoms experienced by sufferers are very common, such as flu in general, namely coughing, fever, no taste, shortness of breath, etc., so it is difficult to distinguish between common diseases and COVID-19. This virus outbreak is spreading so fast throughout the world, including Indonesia that the WHO has determined that COVID-19 is a pandemic. Many researchers have reported the ways how to against Covid-19 pandemic (Machmud and Minghat, 2020; Putra and Abidin, 2020; Anggraeni, 2020; Razon, 2020; Hamidah *et al.*, 2020; Hashim *et al.*, 2020; Dirgantari *et al.*, 2020; Mulyanti *et al.*, 2020; Sangsawang, 2020; Hasanah *et al.*, 2020).

The efforts of the Indonesian government, especially in West Java, in deciding the spread of the COVID-19 virus to establish a Large-Scale Social Restriction (PSBB) policy based on the Governor of West Java Decree Number: 443 / Kep.10-Hukham / 2021 concerning Enforcement of Large-Scale Social Restrictions (PSBB) proportionally in 20 Regencies / Cities in West Java. PSBB implemented by the government makes daily activities and activities limited, because daily activities are carried out online at home. This social restriction policy includes restrictions at school, work at home or Work from Home (WFH), restrictions on religious activities, and restrictions on activities in public places. One of the things affected by this epidemic is the world of education, the learning process which is generally carried out face-to-face has shifted to online.

In the field of education, schools and colleges are not allowed to conduct direct or offline learning at school or campus. The learning process is carried out through the implementation of Learning from Home (BDR) as stated in the Ministry of Education and Culture Circular Number 4 of 2020 concerning Implementation of Education Policies in an Emergency for the Spread of COVID-19 which was strengthened by SE Secretary General Number 15 of 2020 concerning BDR Implementation Guidelines during the COVID-19 emergency (Kemendikbud, 2020). BDR is carried out using the Distance Learning (PJJ) method Online and Offline (Off Network). According to Permendikbud number 24 of 2012 concerning the implementation of distance education in higher education article 1 defines that distance education, hereinafter referred to as PJJ, is education in which students are separated from educators and learning uses various learning sources through information and communication technology, and other media (Kemendikbud, 2012).

Reporting from Aji, Rizqon Halal Syah (2020) in this online learning, in its application there are still obstacles, including: (1) Limitations of Data Technology Capabilities by teachers and Students; (2) Inadequate Facilities and Infrastructure; (3) Access Limited Internet; (4) Inadequate Budget Provision. "We need to identify Distance Learning facilities and infrastructure for elementary schools so that this learning method works well during the pandemic and after the pandemic has passed. This identification is not only for schools in urban areas, but also for 3T (underdeveloped, frontier and outermost) areas that do not have internet" (Wahyuningsih, 2020). But in fact, online PJJ mainly complained about by students because there were a lot of poorly understood materials, more assignments were given when online compared to offline, required additional costs to buy quotas and inadequate facilities and infrastructure due to having to use Android-based mobile phones. The purpose of this research is to develop a Software Learning Management System, get feedback on its use and test its effectiveness in improving conceptual understanding and developing student character.

2. METHODS

The method used in this research is using descriptive quantitative methods. Data obtained from the results of the pretest and posttest by distributing questionnaires using google form to students at senior high school 1 Cipeundeuy, Subang with the research implementation time in February-March 2021. The analysis technique used is descriptive statistical techniques by comparing the results of the pretest and posttest that was deployed.

3. RESULTS AND DISCUSSION

This research was carried out through a student study service (KKN) organized by the University of Education of Indonesia with the theme "Prevention and Overcoming the Impact of COVID-19 in the Education and Economy Sector" which was held online from February 4, 2021 to March 14, 2021. With the intended targets are students in ten and eleven grade and teachers at senior high school 1 Cipeundeuy, Subang. The focus of this research is the observation of PJJ using the Learning Management System (LMS) and Whatsapp Group, mentoring students during online learning and helping with school administration. Before providing assistance, firstly distribute the pretest and the following are the results of the pretest related to the effectiveness of Distance Learning (PJJ) at at senior high school 1 Cipeundeuy which was filled by 83 respondents. The result of the effectiveness of PJJ at senior high school 1 Cipeundeuy that shown at **Figure 1**.



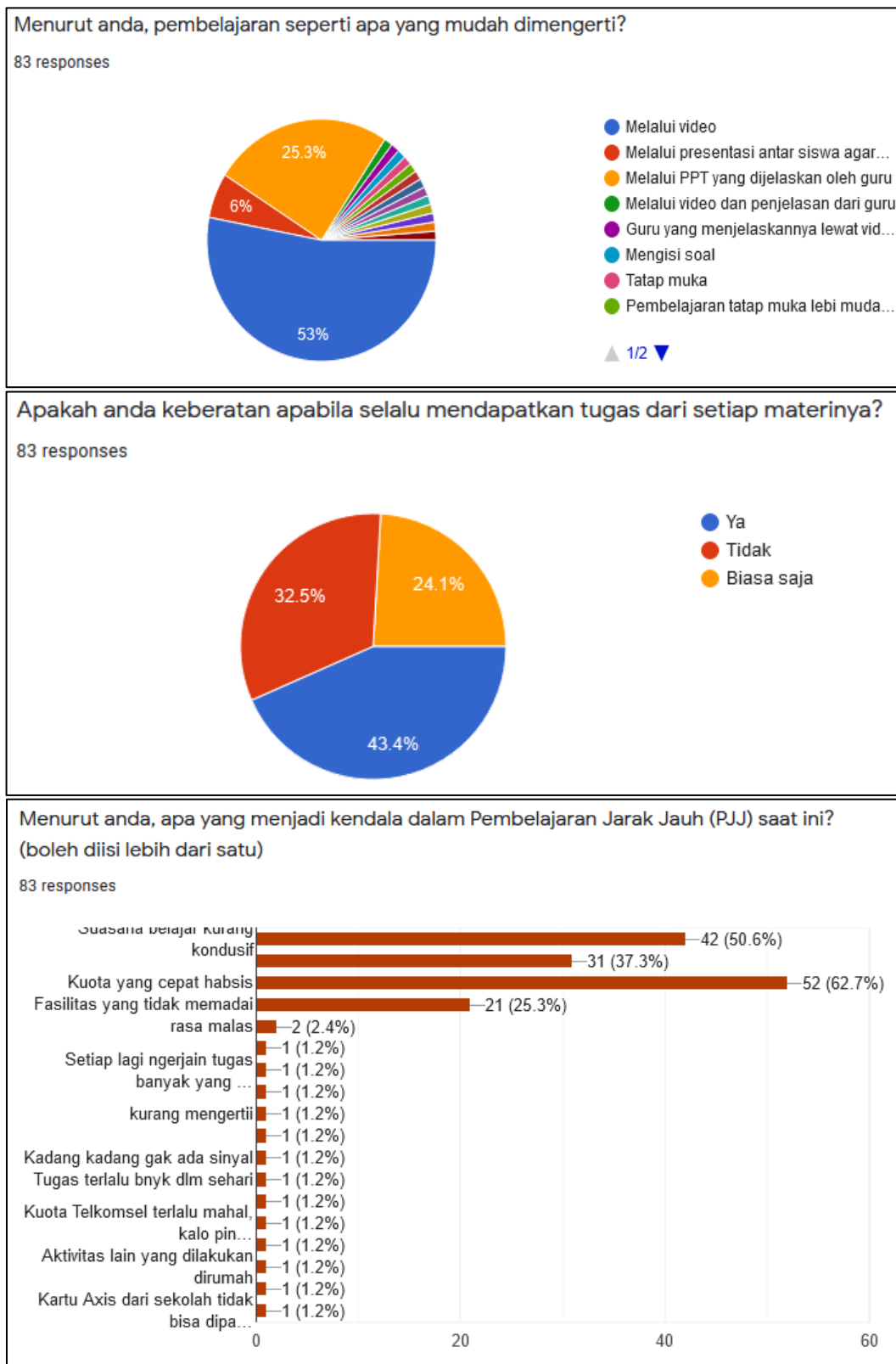


Figure 1. Pretest Results of the effectiveness of PJJ SMAN 1 Cipeundeuy.

In the pretest results, the effectiveness of PJJ shows the highest percentage of 65.1%, namely that PJJ is less effective (Mukhlisin & Pasaribu, 2021). Most of the students do not understand the material presented by the teacher and object if each material is given an assignment, then students also experience problems in implementing PJJ online, one of

which is inadequate facilities, a less conducive learning atmosphere, especially the quota that runs out quickly. There are several suggestions in the online PJJ process so that the learning material can be understood, namely through videos, presentations delivered by the teacher, discussions with fellow students, zoom meetings, and also wanting to do face-to-face meetings.

In student learning assistance with PJJ at senior high school 1 Cipeundeuy already using the LMS. LMS is a software application that can help plan, implement a learning process (Muhardi *et al.*, 2020). Below is a display in monitoring and mentoring students during the learning process using LMS in PJOK subjects as well as discussions with students via WhatsApp Group (Manurung, 2020).

In **Figure 2**, in this section the teacher can check the presence of each student, the assignments and posttests that have been done by the students and the calculation of the final score of the 3 will be seen on the PBM monitoring. In **Figure 3**, PBM content which is part of the Teacher PBM is intended for teachers to fill in the content or material to be studied, can use files in the form of word / PDF / PPT, YouTube links, or video conference links uploaded via LMS and examination and assessment of assignments. students through PBM content. In addition, the making of posttest questions, Mid-Semester Assessment (PTS) and Final Semester Assessment (PAS), End-of-Year Assessment (PAT) was carried out on Teacher PBM in the PTS / PAS / PAT content section.

In **Figure 4** is a discussion about PJOK and math tasks that are not understood and discussed together and sharing a YouTube link on "Easy Tips for Online Learning during the COVID-19 Pandemic" via the WhatsApp Group. **Figure 5** shown example of the application of using power points in distance learning.

NIS	Nama Siswa	Konten									Nilai Tugas	Postes				
		Pendahuluan	Pengantar	Pembahasan Materi	Tugas 1	Postes 1	Tugas 2	Postes 2	Postes 3	1		2	3	NA		
202110005	AL-ARICHI RIZKY RAMADHAN	v	v	v	Sudah	v	0	0	0	0	0	0				
202110006	ALIVIA RIZKY RAMDHANI	v	v	v	Blm	v	0	0	0	0	0					
202110008	ANA NUTARI	v	v	v	Blm	v	0	0	0	0	0					

Figure 2. Documentation of students' PBM monitoring results.

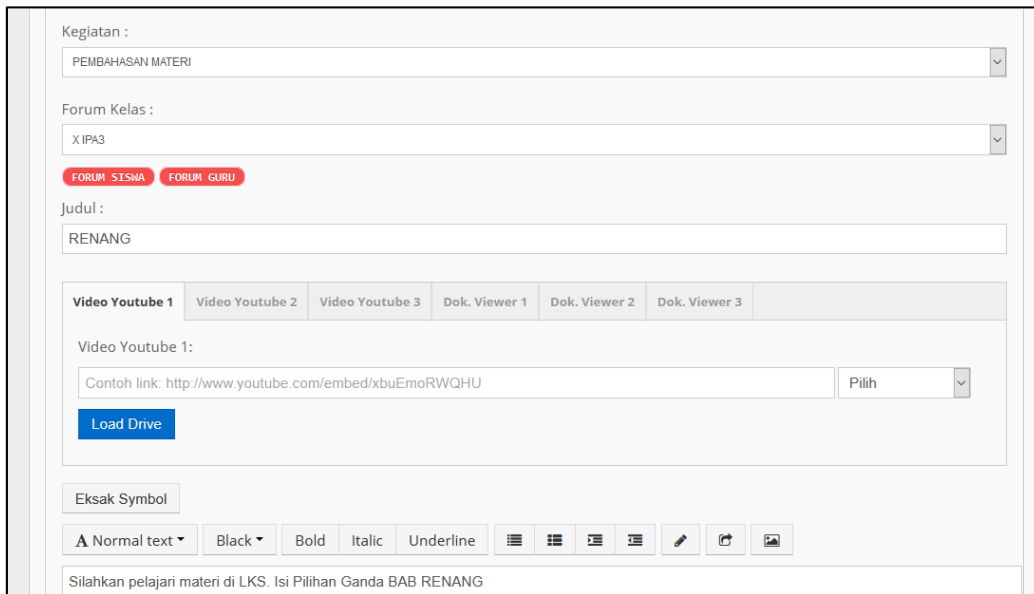


Figure 3. Documentation of PBM content made by the teacher.

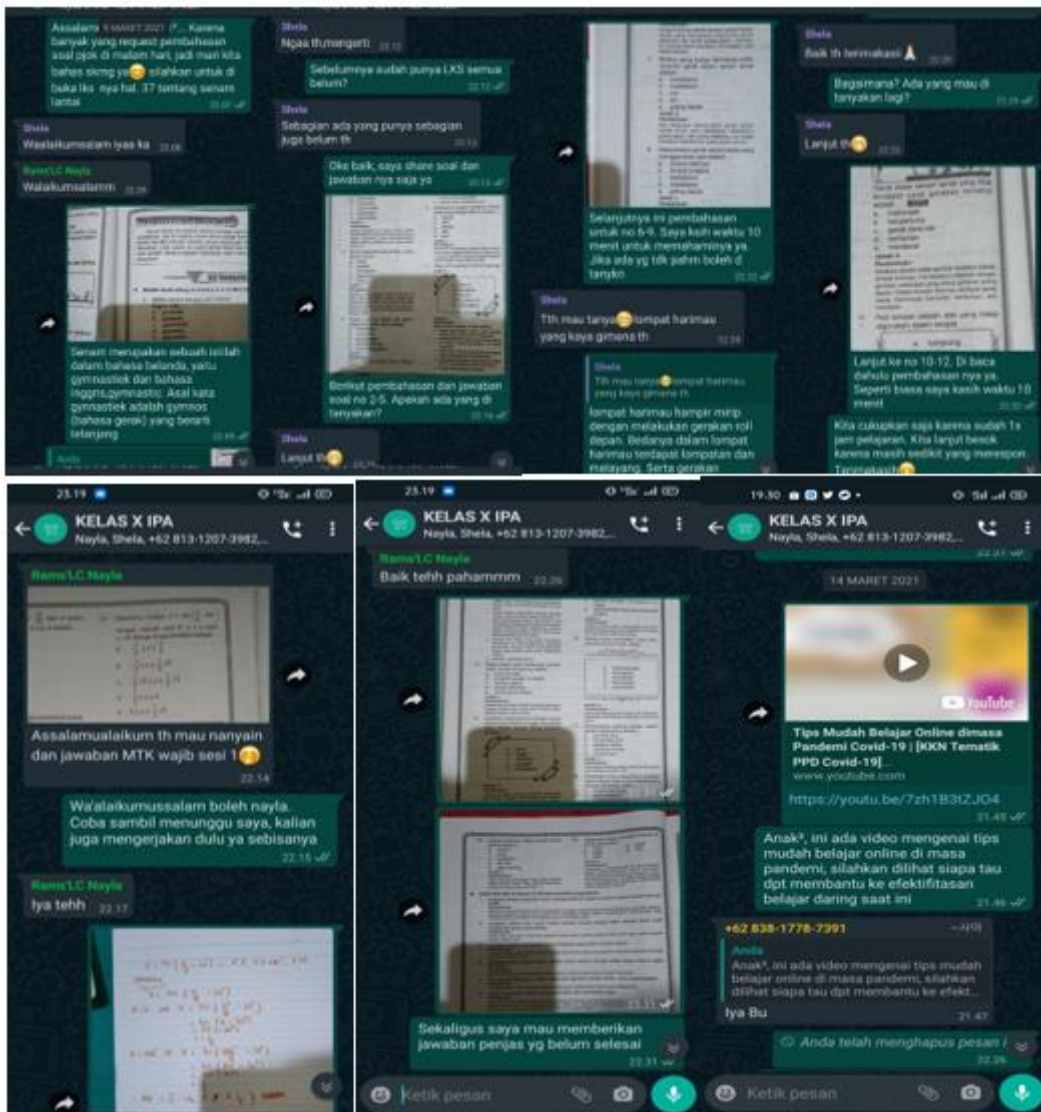


Figure 4. Documentation of the discussion through the WhatsApp group.

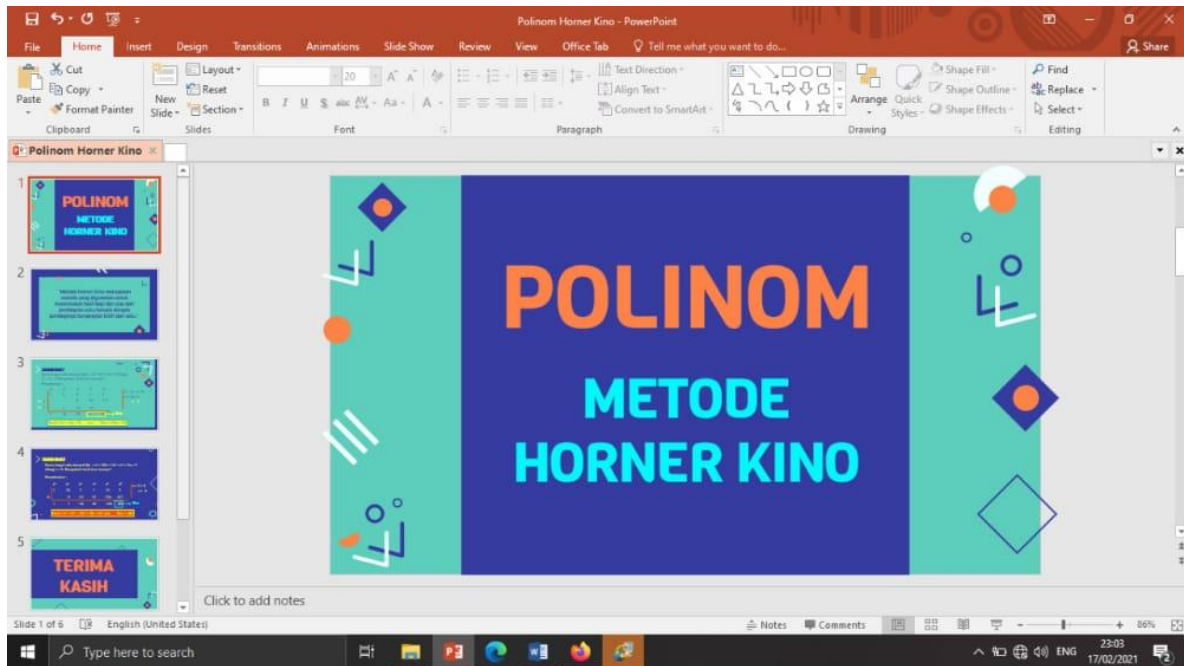


Figure 5. Making a power point regarding the kino horner method polynomial.

To support PJJ which is carried out online, learning materials for mathematics are also made using PowerPoint on the "Horner Kino Method Polynomial", the PPT is equipped with sample questions and their discussion. Not only through LMS and WhatsApp Groups, student assistance is also carried out by means of Home Visit to students who are never absent, do assignments, and whose contacts are difficult to contact (**Figure 6**). The following is a Home Visit activity carried out with the BK Teacher at senior high school 1 Cipeundeuy.

After conducting some assistance through LMS and WhatsApp Group and Home Visit, at the end of this study, a posttest questionnaire was distributed via Google Form to see the extent of the differences and the effects of mentoring on students. In **Figure 7** shown the results of the Posttest on the effectiveness of PJJ at senior high school 1 Cipeundeuy with 73 respondents.



Figure 6. Home visit documentation.

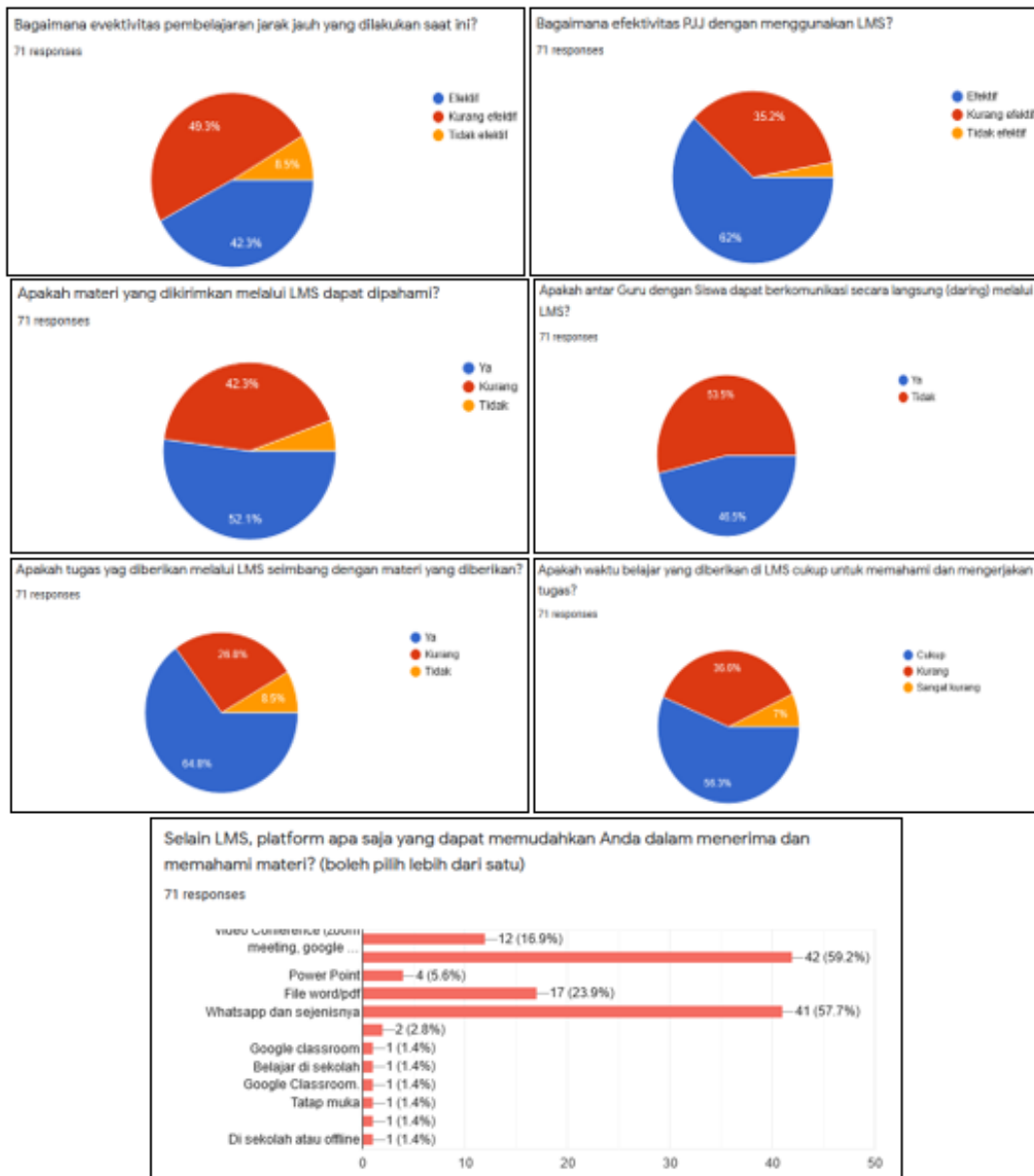


Figure 7. Posttest results on the effectiveness of PJJ senior high school 1 Cipeundeuy.

In the posttest results, there was a decrease related to less effective PJJ, from 65.1% to 49.3%. Most of them responded that the use of the LMS was effective, the provision of material in the LMS was understandable, the tasks given were in accordance with the material and the time given was also sufficient. However, the decrease in the percentage of learning effectiveness is not significant because at senior high school 1 Cipeundeuy the teacher is not allowed to do video conferencing because it adjusts to the conditions of students, so that communication between teachers and students is still lacking. In addition, students provide responses related to platforms that can facilitate the learning process, the most responses are using video conferencing (zoom meetings, google meet, etc.) then using WhatsApp and the like, in the form of PPT / PDF / Word files, Google Classroom. as well as others. There are several inputs for the teacher, namely providing detailed material complete with questions, not burdening students with too many assignments, giving assignments to be on schedule, subject teachers not slow to respond, as well as other inputs so that the PJJ at senior high school 1 Cipeundeuy can run optimally.

4. CONCLUSION

The Covid-19 pandemic has had a very large impact on various sectors, especially in the education sector in Indonesia. All educational institutions are required to do PJJ online at their respective homes. PJJ can use various platforms such as LMS, WhatsApp, video conferencing, Google Classroom and others. Learning that is carried out online is still not optimal so that it affects the effectiveness of PJJ. There are still several obstacles, including the limited technological capabilities experienced by teachers and students, inadequate facilities and infrastructure, limited internet access. The need to maintain health and comply with health protocols in order to prevent the spread of COVID-19, so that teaching and learning activities can be carried out offline (outside the network) in educational institutions and the community can carry out normal activities.

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6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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