

Pandemic Learning Loss Recovery Strategy in the New Normal Period

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ABSTRACT

The Education Emergency during the COVID-19 period has had a major impact on the decline in the quality of education in Indonesia. This study aims to uncover: 1) how is learning during Covid-19? 2) What are the aspects of learning loss? and 3) how is learning loss recovery in post-COVID-19 learning? This research data was obtained from teachers and students in six Central Java, East Java, and Lampung schools. The data was collected through questionnaires, interviews, and documentation techniques. The data analysis of this study includes three stages. Namely data reduction, data presentation, and conclusions, as formulated by Miles and Huberman. Based on the data analysis that has been carried out, it shows that there has been a learning loss in learning during the COVID-19 pandemic. This is characterized by a decrease in student motivation, participation, and learning outcomes. There are several strategies that teachers can do to recover from pandemic learning loss in the new normal era, including 1) using various strategies, media, and learning resources, 2) doing remedial/enrichment, 3) requiring students to actively ask questions, 4) involving the role of parents.

Keywords: Effective learning, learning loss, learning strategy, pandemic learning, post-COVID-19.

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I. INTRODUCTION

The Covid-19 pandemic has caused education around the world to change. At the peak of the first wave of the pandemic, there was a school closure (Angrist *et al.*, 2021), and learning was implemented online. In practice, most teachers and students cannot adapt to existing changes. This means learning cannot be carried out optimally and causes a decrease in student achievement. The ability of students in elementary school has been lagging for 1.5–2.2 years (Pratiwi, 2021). At that time, there has been a decrease in student motivation, interest, and participation in learning (Febrian *et al.*, 2021). In addition, learning that can only be done in a relatively short time results in teachers being unable to teach all Basic Competencies of subjects, and students are unable to master all the information conveyed by the teacher (Andriani *et al.*, 2021). Even in those days, 12.8% of students enrolled in schools from around the world experienced dropouts (Harmey & Moss, 2023). It can be said the non-optimization of the learning process during COVID-19 causes learning loss.

Studies that examine the phenomenon of learning loss in online learning during COVID-19 can be categorized into three trends. First, a study on learning loss during COVID-19 (Angrist *et al.*, 2021; Kaffenberger, 2021; Tadesse & Muluye, 2020). Second, a study on learning problems in the new normal era (Budi Permana & Pujiastuti, 2017; Ichsan *et al.*, 2021; Manalu *et al.*, 2021). Third, studies on learning

models in the post-COVID-19 period (Festiyed *et al.*, 2022; Nurmawanti *et al.*, 2021). These studies do not seem to have specifically discussed learning loss recovery strategies in the new normal learning period. This study aims to complement the results of previous research related to learning loss and recovery efforts. In line with that, the problems in this study are formulated as follows:

- 1) How is learning during COVID-19?
- 2) What are the aspects of learning loss?
- 3) How does learning loss recovery affect learning in the new normal period?

This research is very important to study because, without recovery, learning loss in learning will cause human resources in various countries to have poor quality, both in terms of knowledge, attitudes, and skills. The government must immediately implement policies to recover learning loss, while at the level of education units, school principals and teachers try to implement them in the form of learning activities.

II. LEARNING LOSS RECOVERY

A. Learning Loss

In the context of the COVID-19 pandemic, learning loss occurred between the pre-pandemic period and the pandemic period (Tirando, 2021). At this time, the term learning loss refers more to the loss of learning opportunities due to the reduced intensity of interaction between students

and teachers in the learning process (Engzell *et al.*, 2021). Learning loss is the lack of maximum learning processes in schools (Andriani *et al.*, 2021). The education and development forum defines learning loss as the phenomenon of loss of student knowledge and skills, in general and specifically, or student academic decline due to a prolonged gap in the educational process (Wahyudi, 2021). This phenomenon occurs because online learning is not done optimally (Febrian *et al.*, 2021). Some obstacles in online learning include 1) inadequate facilities and infrastructure, 2) expensive internet quota, 3) unstable internet connection, and 4) lack of understanding of IT Tarigan (2021).

Learning loss can be seen from the decline in students' cognitive, affective, and psychomotor abilities (Gularso *et al.*, 2021) (Nurfidah, 2021). Cognitive (knowledge) is the brain's ability to express concepts that have been learned (Ekawati, 2019). Affective is a person's internal ability to take action (Winkel, 2005). The psychomotor realm is not only related to the physical alone but also to writing, reading, counting, drawing, and composing activities (Mansyur, 2020). To minimize the occurrence of learning loss, learning must be carried out according to the criteria of the National Standard of Education (SNP; Standar Nasional Pendidikan). SNP is a reference for developing curricula and organizing education to achieve national education goals (Ulum, 2020). There are at least four types of national education standards in the regulation. First, the Graduate Competency Standards include attitudes, skills, and knowledge, namely the minimum abilities students must achieve from their learning outcomes. The second content standard is the minimum criteria for material teachers teach students according to the level and type of education. Third, process standards are the minimum criteria for the learning process that must be implemented, including planning, implementing, and assessing learning outcomes. Fourth is standard infrastructure, namely tools/equipment that can assist in implementing education, while infrastructure is the facilities needed to carry out the functions of educational units.

B. Learning During the Post-COVID-19 Period

Post-Covid-19, the new normal era, is a new habit to adapt to the Covid-19 pandemic. The new normal is a new life order where people can carry out activities while complying with Covid-19 prevention rules (Samarennan, 2020). Learning in the new normal era is carried out using health protocols. The implementation can be done face-to-face, online, and through blended learning (Jamilah, 2020). Online learning in the new normal era has improved compared to the beginning of the Covid-19 pandemic. In this era, there has been an increase in teacher competence by 14.1% (Ahmad, 2020). The implementation of blended learning is learning that combines face-to-face learning with online learning. There are five keys to implementing this learning, including 1) live event, 2) self-paced learning, 3) collaboration, 4) assessment, and 5) performance support materials (Suprijono, 2020).

Teachers' ability is important for quality learning processes and outcomes (Idhayani *et al.*, 2020). In the new normal era, teachers must remain professional and able to adapt to various changes in the field of education.

Professional teachers must be able to direct, guide, and educate their students in the learning process (Darmina *et al.*, 2022) and be proficient in using technology (Jamilah, 2020). In addition, teachers who have 21st century skills are needed in the new normal era (Haris *et al.*, 2022). The skills of the 21st century are reflected in

- a) Knowledge, namely the ability to master learning materials,
- b) Pedagogical skills, namely teacher abilities, which include teaching skills, guiding, assessing, using teaching aids, associating and communicating with students, as well as skills in compiling teaching preparation or teaching planning,
- c) Product criteria, namely the ability of teachers to Conduct a learning evaluation process.

In addition, the competence of 21st century teachers consists of digital age literacy, inventive thinking, effective communication, and high productivity competencies (Ahmad, 2020).

III. METHOD

This research uses a qualitative research approach with a case study type. The characteristic of this type of research is the limitation of the time and place of research. This research was conducted in 6 schools located in three provinces in Indonesia, namely Central Java, East Java, and Lampung. The school levels used as research sites are Elementary School (SD; Sekolah Dasar), Junior High School (SMP; Sekolah Menengah Pertama), and High School (SMA; Sekolah Menengah Atas) which have private and public status. The six schools are; SDN (Sekolah Dasar Negeri; State Primary School) Sukaraja (Kalianda, Lampung), MI (Madrasah Ibtidaiyah; Islamic Primary School) Al-Iman Bader (Tuban, East Java), SMP Hasanudin 6 (Semarang, Central Java), SMP Jannaturroichan (Jombang, East Java), MAN (Madrasah Aliyah Negeri; State Islamic Senior High School) 1 Tegal Central Java, and MA (Madrasah Aliyah; Islamic Senior High School) Darul Ulum (Semarang, Central Java). The respondents who became the source of the data were teachers and students in the six schools.

This research focuses on three aspects, namely, learning during COVID-19, aspects of learning loss, and learning loss recovery strategies in the new normal period. This research data was collected by questionnaire, interview, and documentation techniques. (1) Questionnaire instruments are arranged using the Thurstone scale. The use of this type of questionnaire scale is flexible. Respondents can select more than one available answer and add other answers. The questionnaire instruments were distributed by utilizing Google Forms to distribute to teachers in the six schools. (2) The type of interview used is an in-depth interview. The interview was conducted after the distribution of questionnaires so that the question instrument prepared was a follow-up question related to respondents' answers. Interviews in this study used semi-structured interviews (racing on interview instruments, but open). These interviews were conducted with teachers and some students. (3) Documentation studies are carried out to determine the lesson planning prepared by the teacher and student learning

outcomes. The documentation data collected in this study are curriculum, syllabus, learning program plan (RPP), and student learning outcomes.

IV. RESULTS

A. Learning Activities During COVID-19

The implementation of learning amid the COVID-19 outbreak has shifted from face-to-face to online learning. Teachers did not know about learning with this system at the beginning of its implementation. One of the teachers at SMP Hasanudin said:

"The sudden switch in the learning system made me confused. I made various efforts to gather information related to online learning, such as reading books and attending seminars. In addition, I had discussions with student Waka in making learning plans (RPP)."
(Respondent 1)

Based on the interview above, the teacher starts the planning stage by making various preparations, including attending online seminars and training and finding information about various online learning resources. In preparing RPP (Rencana Program Pembelajaran = Lesson Plan), teachers collaborate with the vice principal for student affairs. Teachers conduct deliberations within teacher working groups in several other schools, such as SDN Sukaraja and MI Al-Iman (KKG = Kelompok Kerja Guru). The RPP form used in each school is different. MA Darul Ulum, MAN 1 Tegal, and SMP Janaturroihan Jombang use a Lesson Plan, while SDN Lampung, MI Al-Iman Tuban, and SMP Hasanudin Semarang use a weekly learning plan (RPM).

In general, the implementation of learning is carried out in three ways: indirect learning (asynchronous), learning through assignments, and direct learning (synchronous). Based on the data from the distribution of questionnaires, several schools that became research locations used asynchronous learning and learning with an assignment system as the main form of learning, while synchronous learning was only carried out at certain times. Teachers upload PDF, Word, Video, and PPT (power-point presentation) material on the WhatsApp and Google Classroom platforms during the asynchronous learning process.¹ Next, the teacher instructs students to study the material independently. Students can ask questions and discuss them through the platform if they encounter difficulties. Learning with the assignment system is carried out by teachers by giving various tasks to students, such as doing questions on Student Worksheets, summarizing the material contained in the package book, making videos related to the subject matter, and so on.² In contrast, synchronous learning uses Zoom and Meet as learning

media. The learning process uses lectures, discussions, and presentations.³ However, synchronous learning is rarely used because of inadequate carrying capacities, such as cellphone ownership, quota, and unstable networks.

At the evaluation stage, teachers give assignments and tests and make observations to students. Assessment with assignment techniques and tests is used by teachers in all schools that are used as research locations⁴. However, observational assessment techniques are only carried out at Hasanudin Junior High School. Based on the results of interviews with several teachers, observation is not used as an assessment technique in online learning because student activities and attitudes cannot be observed directly. The time tolerance for students to do test questions and assignments is 3-7 days. In addition, the assessment is carried out after learning is completed. Daily tests, midterm assessments, end-of-semester assessments, and end-of-year assessments are carried out using online platforms: WhatsApp and Google Classroom.

B. Aspects of Learning Loss in Learning During the COVID-10 Period

For almost 2 years, learning amid a pandemic outbreak has been carried out online. Based on the interview results, the teacher stated that there had been learning loss caused by the unpreparedness of teachers and schools in implementing learning with this system. This can be seen from the decrease in student learning outcomes caused by low motivation and student participation in learning. So, it can be said that learning loss in online learning covers three aspects: Student motivation, participation, and learning outcomes.

1) Student Learning Motivation

Based on data obtained from observations and teacher interviews⁵, most students have very low motivation to participate in online learning. This can be seen from several students' attitudes when learning online:

- 1) Before learning starts, students do not prepare well or search for or read the material to be taught
- 2) When learning is carried out, many students do other activities that are not related to learning. Students do not even turn on the camera and microphone when learning synchronously. Some of them use photos as backgrounds for Zoom or meet accounts to make it look like turning on the camera. Some students also stated they were more excited when learning was done face-to-face than online.
- 3) In working on the assignment given by the teacher, most students do not do it seriously, such as completing assignments by copying friends' answers, so the results are not what is expected by the teacher. In addition, students do not have discipline in submitting assignments; for example, students do not submit assignments according to

¹ Asynchronous learning was used in all schools that were the location of the study, except SDN Sukaraja Lampung, and the WhatsApp platform was used in all these schools, while the Google Classroom platform was only used in SMP Hasanudin Semarang, MA Darul Ulum Semarang, and MAN Tegal.

² The learning assignment system was used in all schools that were the location of the study, except MAN 1 Tegal.

³ Synchronous learning is used at MI Al-Iman Tuban, SMP Hasanudin Semarang, SMP Janaturroihan Jombang, MAN 1 Tegal.

⁴ Data was obtained from the survey through the distribution of questionnaires filled out by teachers.

⁵ Observations were conducted at SMP Hasanudin Semarang and MA Darul Ulum Semarang, while interviews were conducted to Respondent 1, Respondent 2, Respondent 3, Respondent 4, Respondent 5, Respondent 6.

the specified deadline and ask for an extension. Some of them also behave indifferently to the assigned tasks. Not infrequently, teachers have to warn students by sending messages or calling. This is done so that students complete all assignments.

2) Student Participation

There has been a decrease in student participation during the online learning process. Based on data obtained from the distribution of questionnaires, the percentage rate of students who show their participation in learning does not exceed 50%. More details can be seen in Tables I, II, III, and IV.

TABLE I: STUDENT LEARNING PARTICIPATION RATE ON THE QUESTION ANSWERING INDICATOR (TEACHER SURVEY DATA)

School Name	Answering Questions
SDN Sukaraja	50%
MI Al-Iman	30%
SMP Hasanudin	30%
SMP Jannaturoichan	45%
MAN 1 Tegal	30%
MA Darul Ulum	30%

TABLE II: STUDENT LEARNING PARTICIPATION RATE ON THE INDICATOR RESPONDING TO QUESTIONS (TEACHER SURVEY DATA)

School Name	Responding to Question
SDN Sukaraja	50%
MI Al-Iman	35%
SMP Hasanudin	30%
SMP Jannaturoichan	35%
MAN 1 Tegal	35%
MA Darul Ulum	35%

TABLE III: STUDENT LEARNING PARTICIPATION RATE ON THE ENABLE VIDEO WHILE LEARNING INDICATOR (TEACHER SURVEY DATA)

School Name	Turn on Video
SDN Sukaraja	50%
MI Al-Iman	25%
SMP Hasanudin	10%
SMP Jannaturoichan	50%
MAN 1 Tegal	25%
MA Darul Ulum	10%

TABLE IV: STUDENT LEARNING PARTICIPATION RATE ON THE INDICATOR ACTIVATES SOUND DURING LEARNING

School Name	Answering Questions
SDN Sukaraja	50%
MI Al-Iman	40%
SMP Hasanudin	20%
SMP Jannaturoichan	30%
MAN 1 Tegal	40%
MA Darul Ulum	20%

Tables I, II, III, and IV show that student participation in online learning is very low. This can be seen from the attitude of students when the learning process is carried out. In synchronous online learning using Meet and Zoom platforms, students who activate video during learning are only around 10%-50%, and students who activate voice to ask or answer questions are only around 20%-50%. Student participation in online learning carried out asynchronously also has a percentage rate that is not much different. Students who ask questions to both teachers and other students are only about 30%-50%, and students who answer or respond to questions are only about 30%-50%.

Third, student learning outcomes. During online learning that has been carried out for more than 1 year, student learning outcomes have decreased. Most teachers state that not all basic competency subjects (KD = Kompetensi Dasar)

are taught to students. If percentaged, about 20%-50% of KD is not taught. In addition, students do not like online learning. One of the students at MA Darul Ulum said:

"Online learning at my school is often done with an assignment system. Every day, I was only given assignments without adequate material explanation by the teacher, so I did the assignments by looking for answers through Google and Brainly. For a difficult task, I do it by copying answers from friends." (Respondent 7)

The results of the interview showed that online learning was not optimal. This causes students to feel bored and have difficulty understanding learning material, as seen from the decrease in student achievement. Based on the results of the learning evaluation, the student's score did not reach the passing grade. To graduate students, teachers use the Group Reference Approach. Teachers control students' grades in order to achieve the passing grade.

C. Learning Loss Recovery Strategies in Post-COVID-19 Learning

The post-COVID-19 learning system has changed compared to learning during the COVID-19. The learning system carried out online has changed to learning with a limited blended learning and face-to-face system. Based on data obtained through the distribution of questionnaires, teachers also make various efforts so that learning can be carried out optimally in normal times. In addition, teachers made various efforts to increase student motivation, participation, and understanding and reteach some KD (basic competencies) that had not been achieved in learning during the COVID-19 pandemic. This is explained in the tables below, which are presented according to the indicators of the research instrument.

TABLE V: TEACHER EFFORTS TO INCREASE LEARNING MOTIVATION BY GIVING PRAISE/REWARDS TO STUDENTS WHO SUCCEED IN THE LEARNING PROCESS

School Name	Giving Gifts/Compliments
SDN Sukaraja	-
MI Al-Iman	-
SMP Hasanudin	V
SMP Jannaturoichan	V
MAN 1 Tegal	V
MA Darul Ulum	V

TABLE VI: TEACHER EFFORTS TO INCREASE LEARNING MOTIVATION BY GIVING ASSIGNMENTS WITH VALUE ADDITION

School Name	Providing Additional Value
SDN Sukaraja	V
MI Al-Iman	V
SMP Hasanudin	-
SMP Jannaturoichan	V
MAN 1 Tegal	-
MA Darul Ulum	-

Based on Tables V and VI, teachers try to increase student motivation with two events. First, the teacher gives praise/reward to students who succeed in the learning process. The praise/gift is a form of teacher appreciation for student success. Second, teachers provide additional assignments by providing additional grades for students who do the assignment well. Based on Tables V and VI, teachers who make efforts by giving more rewards/praise than giving assignments with added grades. It can be said that to

increase student learning motivation, teachers make sharing efforts, such as giving appreciation or adding assignments.

TABLE VI: TEACHER EFFORTS TO INCREASE LEARNING PARTICIPATION BY REQUIRING STUDENTS TO ASK QUESTIONS OR COMMENTS

School Name	Requiring Students to Ask/Comment
SDN Sukaraja	-
MI Al-Iman	-
SMP Hasanudin	-
SMP Jannaturoichan	V
MAN 1 Tegal	V
MA Darul Ulum	V

TABLE VIII: TEACHER EFFORTS TO INCREASE LEARNING MOTIVATION BY USING VARIED MEDIA/METHODS

School Name	Using a Variety of Methods/Media
SDN Sukaraja	V
MI Al-Iman	V
SMP Hasanudin	V
SMP Jannaturoichan	V
MAN 1 Tegal	-
MA Darul Ulum	-

Based on Tables VII and VIII, teachers make various efforts to increase student learning participation. Teachers use a variety of media/methods. Based on the interview results, the learning media used were PPTs, pictures, and props, while the learning models used included project-based learning (PBL), problem-based learning, and learning discussion. In addition, teachers require students to ask, respond, and comment, so there is interaction between teachers and students, or students. Tables VII and VIII show that the use of learning strategies that require active students has been carried out in 3 schools, while the use of varied media/methods has been carried out in 4 schools. Teachers have made both efforts to increase student learning participation.

TABLE IX: TEACHER EFFORTS TO INCREASE STUDENT UNDERSTANDING BY USING VARIED LEARNING RESOURCES

School Name	Using Varied Learning Resources
SDN Sukaraja	V
MI Al-Iman	-
SMP Hasanudin	V
SMP Jannaturoichan	V
MAN 1 Tegal	-
MA Darul Ulum	V

TABLE X: TEACHER EFFORTS TO IMPROVE STUDENT UNDERSTANDING BY USING APPROPRIATE HANDBOOKS

School Name	Using the Appropriate Handbook
SDN Sukaraja	-
MI Al-Iman	V
SMP Hasanudin	-
SMP Jannaturoichan	V
MAN 1 Tegal	V
MA Darul Ulum	-

TABLE XI: TEACHER EFFORTS TO IMPROVE STUDENT UNDERSTANDING BY USING LKS (LEMBAR KERJA SISWA-STUDENT WORKSHEETS)

School Name	Using LKS
SDN Sukaraja	V
MI Al-Iman	-
SMP Hasanudin	-
SMP Jannaturoichan	V
MAN 1 Tegal	-
MA Darul Ulum	-

TABLE XII: TEACHER EFFORTS TO INCREASE STUDENT UNDERSTANDING BY GIVING ASSIGNMENTS ACCORDING TO LEARNING OBJECTIVES

School Name	Using Assignments According to the Learning Objectives
SDN Sukaraja	V
MI Al-Iman	V
SMP Hasanudin	V
SMP Jannaturoichan	V
MAN 1 Tegal	-
MA Darul Ulum	-

Based on Tables IX, X, XI, and XII, teachers make four efforts to improve student understanding. First, the use of varied learning resources. Learning resources are obtained through various books and information spread on the internet. Secondly, the use of handbooks. Books used are in print and digital form, such as package books, encyclopedias, and e-books. Third, student worksheets (LKS) were used. Fourth, assignments according to learning objectives. Tasks assigned to students include summarising, making videos, making papers, and doing specific projects. Teachers make these efforts to improve students' understanding of learning.

TABLE XIII: TEACHER EFFORTS TO FULFIL THE UNFULFILLED KD BY REMEDIAL

School Name	Remedial
SDN Sukaraja	V
MI Al-Iman	V
SMP Hasanudin	V
SMP Jannaturoichan	V
MAN 1 Tegal	V
MA Darul Ulum	-

TABLE XIV: TEACHER EFFORTS TO FULFIL THE UNATTAINABLE KD BY ENRICHING

School Name	Enriching
SDN Sukaraja	-
MI Al-Iman	-
SMP Hasanudin	-
SMP Jannaturoichan	V
MAN 1 Tegal	-
MA Darul Ulum	-

TABLE XV: TEACHER EFFORTS TO FULFIL THE UNATTAINABLE KD BY INVOLVING PARENTS

School Name	Engaging Parents
SDN Sukaraja	-
MI Al-Iman	V
SMP Hasanudin	V
SMP Jannaturoichan	V
MAN 1 Tegal	-
MA Darul Ulum	-

Based on Tables XIII, XIV, and XV, teachers have made various efforts to fulfill KD, which was not achieved during the pandemic. This effort is to carry out remedial and enrichment after knowing the results of the learning evaluation carried out during the COVID-19 period. Teachers carry out remediation or enrichment outside of class hours. Teachers give class hours to students who have not reached the passing grade set. Teachers also work with students who have fulfilled the passing grade to help other students understand learning. In addition, teachers also work with parents to supervise and assist children in learning at home.

V. DISCUSSION

Learning during the COVID-19 has shifted from face-to-face to online learning. The sudden transition of the learning system causes various difficulties, especially for teachers. Teachers did not know about the online learning system at the beginning of its implementation. In addition, there are other problems when carrying out learning with this system, such as 1) inadequate learning facilities and platforms, 2) high internet quota costs, 3) unstable internet connection, and 4) low technological capabilities (Tarigan, 2021). The unpreparedness of teachers and schools, as well as various problems that occur in online learning, cause learning loss. This phenomenon can be seen from a significant decrease in various domains, namely cognitive, affective, and psychomotor (Gularso *et al.*, 2021; Nurfidah, 2021). The phenomenon of learning loss is also felt in several schools in Indonesia. Teachers at the school stated that learning motivation, participation, and student learning outcomes have decreased quite drastically. In the current new normal era, efforts are needed to recover learning from the phenomenon of learning loss. Teachers must have high professional abilities (Idhayani *et al.*, 2020) and 21st-century skills (Haris *et al.*, 2022). In addition, learning is carried out using active student learning strategies (Marbun, 2021) and digital-based learning media (Hakim, 2020).

Learning during the pandemic is not carried out optimally. This can be seen from several aspects:

- 1) The planning stage: Lesson plans are made so that learning can be carried out in a directed manner (Iskrotun *et al.*, 2022). However, the low knowledge of teachers causes the lesson plans not to suit the needs of students.
- 2) Implementation stage: Learning should be interactive, inspiring, fun, and challenging, motivating students to participate actively and providing space for students to be creative and independent (Republic of Indonesia, 2021). Learning during the pandemic has not illustrated these criteria. In addition, the learning platforms used have not varied. There are many learning platforms and media that can be used in online learning, including Google Sites, Google Drive, and YouTube (Hakim, 2020)
- 3) Evaluation stage: In learning, assessment must touch three aspects, namely cognitive, affective, and psychomotor (Tamrin *et al.*, 2021), but in online learning, the assessment carried out only focuses on the cognitive and psychomotor domains.

The non-optimal implementation of learning during the pandemic has resulted in learning loss (Andriani *et al.*, 2021; Febrian *et al.*, 2021). Aspects of learning loss in online learning, including learning outcomes, motivation, and student participation. First, students' learning outcomes cognitive, affective, and psychomotor abilities have decreased quite drastically. Teachers do not all teach the basic competencies of each subject. Students do not achieve the criteria for student graduation standards in character, knowledge improvement, and skill development (Republic of Indonesia, 2021). Second, learning motivation. Motivation is very influential in improving learning outcomes (Sulfemi, 2018). In online learning, most students

have low motivation. This low motivation is shown by the attitude of students who are indifferent both when preparing, implementing, and evaluating learning. Third, learning participation. Students participating in the implementation of online learning do not exceed 50%. Student participation, shown by the behaviour of asking, answering questions, doing questions, and completing assignments (Anastasia *et al.*, 2021), is very low.

Several teachers in schools have sought learning recovery in the post-COVID-19 period. Various recovery techniques can be used, such as implementing remedial/tutoring programs (Tirando, 2021), involving the role of parents (Zhao, 2022), developing appropriate curricula, and striving to improve teacher pedagogy (Angrist *et al.*, 2021). Efforts made in several schools in Indonesia include (1) using strategies, media, and varied learning resources, (2) doing remedial/enrichment, (3) requiring students to ask questions actively, and (4) involving the role of parents. Some of these efforts have improved the quality of learning in the post-COVID-19 period. An increase in student understanding, motivation, and learning participation evidence this. In addition, there has been an increase in teachers' IT skills (Setiawan & Hatip, 2021) and teacher's pedagogical abilities (Ahmad, 2020). So, it can be said that learning at this time has a better quality than learning in the early days of the Covid-19 pandemic.

There are supporting and inhibiting factors in implementing learning recovery in the post-COVID-19 period. The recovery of learning loss is supported by a policy from the Ministry of Education and Culture (Kemendikbud). The policy is in the form of implementing limited face-to-face learning (Ministry of Education, Culture, Research and Technology, 2021), internet quota assistance, and developing a new curriculum. Several other factors that support learning loss recovery include an increase in pedagogy skills (Ahmad, 2020) and IT skills owned by teachers, the availability of infrastructure in the form of platforms, learning media, and internet quotas, and the involvement of parents. In addition, the unpredictable surge in COVID-19 virus cases has become an obstacle for teachers in carrying out learning recovery. In this uncertain condition, teachers must continue developing creativity and abilities to create optimal learning. Cooperation between the government, schools, and parents is urgently needed to maintain and improve the recovery of learning loss in the post-COVID-19 period.

VI. CONCLUSION

The transition of the learning system from face-to-face to online learning during COVID-19 was suddenly carried out. This creates various difficulties. Learning facilities and platforms, internet quota costs, internet connection stability, and technological capabilities of teachers and students were the main obstacles contributing to the low quality of learning. This condition has led to learning loss in learning during the COVID-19 period. A decrease in student participation, motivation, and learning outcomes characterizes this phenomenon. In learning in the post-Covid-19 era, learning loss recovery is needed to produce graduates with character, insight, and high skills. The

recovery is related to increasing student understanding, increasing learning motivation, increasing learning participation, and fulfilling basic competencies that were not achieved during the COVID-19 pandemic. This recovery can be done in various ways, including 1) using strategies, media, and varied learning resources, 2) doing remedial/enrichment, 3) requiring students to ask questions actively, and 4) involving the role of parents. Several learning loss recoveries carried out by teachers in the post-COVID-19 era have improved the quality of learning. This can be seen from the increase in participation, motivation, and learning outcomes in learning in the new normal era.

The research results related to learning loss and recovery strategies are needed to improve the quality of learning in the new normal era. Without learning loss recovery, learning objectives will not be achieved maximally. The results of this study provide benefits in the form of deepening theories related to the phenomenon of learning loss and recovery strategies in the post-Covid-19 period. In addition, this study reinforces some of the results of previous studies. This study was limited to learning loss recovery in classroom learning activities. Observations and interviews were only conducted in six schools. Therefore, further research is needed to strengthen the findings of this study, including (1) The location of the study is focused on regional schools that experience high levels of learning loss, (2) Implementation of learning loss recovery strategies in driving schools, and (3) Learning loss recovery strategies from government policy aspects.

CONFLICT OF INTEREST

The authors declare that they do not have any conflict of interest.

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