Post-pandemic impact: E-learning crack-up and English learning quality

Ramli Ramli*, **Risky Risky, Woro Kusmaryani**

Universitas Borneo Tarakan, Indonesia

ABSTRACT

This study delved into the impact of the E-learning crack-up on the learning process during the pandemic to the post-pandemic learning process and the quality of English learning during face-to-face learning. This study applied qualitative research methods. The researchers selected six students from class XI-1 and one teacher at SMAN 1 Nunukan to participate in the interview session. In the data collection process, documents, observations, and interviews as research instruments were implemented. The researchers analyzed research data through three phases: data condensation, presentation, and conclusion verification. From the data analysis, the researchers found that E-learning crack-ups in the learning process during the pandemic affected students' learning processes. This is evidenced by the results of student interviews, which stated that they were still trying to adapt to the learning process in the post-pandemic period. However, based on the observations and document reviews, the researchers also found that the students' adaptation process during the post-pandemic learning period was excellent because it was supported by an exciting learning process and the implementation of Kurikulum Merdeka at Nunukan 1 Public High School. Thus, the quality of learning at SMAN 1 Nunukan is outstanding.

Keywords: *Post-pandemic; Learning quality; E-learning crack-up*

***Corresponding Author:*

Ramli
Universitas Borneo Tarakan
Jl. Amal Lama No. 1, Kel, Pantai Amal, Kota Tarakan, Kalimantan Utara, Indonesia
Email: ramli26@borneo.ac.id

1. Introduction

The emergence of the COVID-19 pandemic has brought multiple challenges to human life on a global scale. The establishment of the COVID-19 pandemic status by the World Health Organization in March 2019 has affected community activity worldwide within a fundamental process. The impact of the spread of the virus attacks not only the health sector but also social, economic, cultural, political, and education. As education is transformable in practice, e-learning expanded its trends during the coronavirus outbreak in December 2019. Several learning platforms were utilized in the distance learning process to adapt to the online learning schemes. Maru et al. (2022) claim that the student utilized several platforms such as WhatsApp application, Google Meet, Zoom Meeting, and Google Classroom during distance learning. This platform serves as a virtual classroom for students and teachers to interact with each other in the learning process. Each of these platforms comes with different learning management systems.

Although revolutionary, E-learning in the education sector also triggers undeniable issues. In line with that, Pustika (2020) states that the advancement of technology and facilities in Indonesia is unequal, yet Indonesia is such a vast country. It indicates that Indonesia's national community's state and economic situation might not be suitable for full online learning implementation. Adedoyin and Soykan (2020) mentioned another challenge of online learning at home is the unexpected appearance or interruption of family members, friends, or pets that may rattle the online learning process. Conforming the issues, Ramli et al. (2022) indicate that online learning provides longer time and flexibility that students never find time to do the responsibility.

In early 2022, the issuance of four ministerial decrees containing new regulations in the domestic learning process. Published by the Ministry of Education, Culture, Research, and Technology, the regulation states that learning can be carried out 100% in some areas and 50% in others with complete vaccination rules and strict health protocols. This regulation allows schools to implement face-to-face learning, indicating the COVID-19 pandemic public restriction is over. This transition also poses new challenges. Estrellado (2021) affirms that a safe transition to face-to-face classes requires consistency among the government, schools, students, and other stakeholders as the educational landscape adjusts through the post-pandemic times.

Consequently, SMA Negeri 1 Nunukan transitioned to face-to-face learning as the COVID-19 cases decreased, returning to the yellow zone category. As Alhammadi (2021) highlighted, many students expressed concerns about the subpar quality and inefficiency of education during distance learning. This aligns with the situation while implementing online learning at SMAN 1 Nunukan. The issues became evident during the initial observation phase, where a student's feedback on the pandemic's online learning process, specifically in English subjects through Microsoft Teams, provided valuable insights.

The post-pandemic situation that brought different methods might also impact the students and the learning quality. Therefore, considering this matter, the researchers would like to investigate how the E-learning crack-up among students affects the learning

qualities in the post-pandemic situation. This research was expected to provide more information about e-learning crack-up and could also be considered for teachers conducting their classes in unexpected situations such as pandemics. Based on the background of the research mentioned above, the research question investigated the English learning qualities during the post-pandemic situation and the effect of E-learning crack-up among students towards the current English learning in SMAN 1 Nunukan.

2. Literature review

2.1. The concept of e-learning crack-up

The term E-learning is not new, at least in recent years. Coman et al. (2020) define E-learning as a system utilized for formal teaching or a network where information is transferred through electronic resources to a large audience. Additionally, Gherheș et al. (2021) state that E-learning is part of a broader concept, distance education. In line with Gherhe's idea, Aparicio et al. (2016) claim that e-learning was not the first term to be used in gestating computerized systems to facilitate the learning process. Fawaz and Samaha (2021) point out that learning via online platforms was linked to depression and anxiety disorders among undergraduates, and there was a fundamental correlation between student satisfaction and the prevalence of depression, anxiety, and stress.

E-learning and students crack up and become inseparable. Hasan and Bao (2020) state a significant strong relationship exists between "e-Learning crack-up" perception and students' psychological distress. This strong relationship is linked to students' behaviors related to the E-learning system, which makes them suffer psychologically during the school year. Considering the related studies and definitions mentioned, it can be understood that E-learning crack-up occurs when students face phycological issues during the E-learning process. These psychological issues are exhaustion, anxiety, and depression.

Exhaustion is one of the psychological effects of low energy, both mentally and physically. Maslach and Leiter (2019) define exhaustion as wear out, loss of energy, depletion, debilitation, and fatigue experienced by an individual caused by overload work demand. Limited human energy will be depleted if it is used continuously and for a long period in a row. Psychologically, this has an impact on the emotional aspects of individuals. Das et al. (2021) reveal that using gadgets in e-learning is tiring and exhausting. The frequent use of gadgets during the online learning pandemic made the learning system monotonous. Anxiety is one of the most frequent psychological issues experienced by most people in different fields. Calik (2020) defines anxiety as fear resulting in psychological symptoms such as a quicker pulse rate and tremors. Anxiety impacts human behaviour because, most of the time, the symptoms can be known through changes in attitudes and behaviour when the individual is attacked by anxiety. In line with that, Schab (2008) describes anxiety as uneasiness and apprehension.

Another impact of the magnitude of the pressure received by humans is depression. Foreman (2015) defines depression as an overwhelming sense of grief, helplessness, or

worthlessness that lasts longer than a few days, weeks, or even months. It can be understood that depression is a mental issue that impacts a person's feelings, thoughts, and behavior. People who are depressed frequently experience sadness and lose interest in engaging in daily activities. This disorder can result in various mental and physical issues that lower the sufferer's performance.

2.2. The concept of English learning qualities

The quality of learning English will significantly affect student learning outcomes. In the context of learning English, several factors, such as lesson planning to learning media, play an essential role in the quality of learning. Septrisia et al. (2021) point out that it requires proper learning planning and media to advance the quality of English learning. This is because all critical aspects of the learning process will significantly impact it. In a pandemic, for example, learning English that focuses on online learning methods still needs to accommodate the quality of formal learning for students to achieve the desired target. Loi et al. (2022) reveal that English online learning needs to explore the online class to fulfil all learning quality indicators.

According to the Ministry of National Education in Guritno (2016), there are seven indicators of learning quality: (1) student activities, referring to all forms of student activities, both physical and non-physically; (2) teacher skills in learning management; which are related to skills in implementing learning to achieve the desired learning objectives; (3) student learning outcomes, referring to the changes in behavior that are created after experiencing learning activities; (4) learning climate, referring to the interaction between learning components such as teachers and students; (5) materials, which students must master; (6) learning media, which includes tools to provide learning experiences for students; and (7) the learning system in the school, relates to the process that occurs in the school. Those competencies are required to achieve during the learning process. Meanwhile, English skills based on the learning objectives cover communicative competencies, intercultural competence, self-independence, and analysis and creativity.

Sabirova and Khanipova (2019) claim that effective English learning depends on the teacher's learning process. This is because the quality of learning will increase if the teacher can carry out his role well. In another study during the pandemic situation, Akhmedov and Shuhkrat (2021) revealed that ICT helps English language students by enabling them to communicate, edit, annotate and arrange text easier. It is linked to the learning climate on how the environment must be proper and supportive to create a positive result. In those cases, English learning quality is based on certain fundamental aspects that must be fulfilled.

2.3. The concept of post-pandemic learning

Changes in learning schemes during the Covid-19 pandemic since 2019 have become an important education issue. Sharing similar thoughts, Khan and Ahmed (2021) point out that the disruptive impacts of the COVID-19 pandemic have caused the

education field at an unprecedented scale. The closure of several schools and the transition of the learning process to virtual has greatly impacted the student learning process. During the pandemic, it is known that the entire teaching and learning process is carried out remotely. This learning utilizes several online learning applications that are available both free and paid, which have also caused a lot of controversy.

After the Covid case decreased in early May 2022, several activities, including learning activities, began to see light. One is the policy of transitioning back to face-to-face learning for schools. Sulasmi (2022) reveals that based on the evaluation ranking of PPKM levels, a limited Face-to-Face Learning policy for areas located at levels 1 to 3 is established. This is certainly welcomed because online learning systems aren't favourable to most people, in line with a study conducted by Putri et al. (2020) revealed that the culture of distance learning has yet to be part of Indonesian people's life.

The post-pandemic period is marked by a decrease in the population infected with COVID. This decrease in number then impacts a new change called the new normal. The change is the changing of several community regulations during the pandemic. Mujiarti et al. (2022) claim that in the education sector, beginning in early July 2021, when conditions are under control, and positive cases of COVID-19 have significantly decreased, limited face-to-face learning is allowed with several conditions. This face-to-face learning process also varies due to the impact of the pandemic, where the use of technology is quite massive. Some schools continue to implement a hybrid learning system.

The comparison between the best options in the EFL learning process is endless. Both methods, blended learning and traditional classes, have advantages and disadvantages. However, these differences are sometimes different, considering that problems always arise and are correlated with several factors. In this case, environmental conditions in a country will also significantly affect the types of problems encountered in the learning process. In this instance, it is clear that what is meant by the post-pandemic learning period is a learning process that allows students to attend school and directly interact with other students in the classroom, as opposed to one that is completely online.

3. Method

3.1. Research design

This study used a qualitative descriptive method to explore students' experiences during the pandemic learning period and its correlation to their current learning process. Sandelowski (2000) states qualitative descriptive research thoroughly explains an event in concrete terms. The chosen approach aligned to explain events concretely and comprehensively. The topic was relevance stems from the previous discovery of students' E-learning crack-up phase during the pandemic at SMAN 1 Nunukan, specifically grade 11 MIA 1 students.

3.2. Sampling method

The research focused on XII-grade students from MIA 1 (Matematika dan Ilmu Alam) at SMAN 1 Nunukan, who experienced an E-learning crack-up phase during the pandemic. Six students were selected for interviews based on their English subject performance: 2 with the highest scores, 2 with average scores, and 2 with the lowest scores.

3.3. Data collection method

This study utilized a comprehensive data collection approach, incorporating document analysis, structured observation, and semi-structured interviews, to investigate the impact of E-learning crack-up on the English learning process of students at MIA 1 SMAN 1 Nunukan during the post-pandemic period. The focus on post-pandemic classes and adherence to the Ministry of National Education's learning quality indicators added significance to the research, offering valuable insights into how students' educational experiences were affected by the pandemic and subsequent E-learning challenges.

3.4. Data analysis

This research employed qualitative data analysis, following the three stages by Miles and Huberman (2014). Firstly, data condensation focused on strengthening and streamlining data from field notes, interview transcripts, and other empirical materials, avoiding loss or weakening of information. After that, data displays organized and analyzed data to draw potential conclusions, enabling in-depth analysis and understanding. The last was conclusion drawing and verification, which interpreted displayed data, tested findings, and derived concise and straightforward conclusions aligned with the research objectives. This rigorous approach enhanced the research's credibility and relevance.

4. Findings

4.1. English learning quality at SMAN 1 Nunukan

In answering research questions related to the impact of E-learning crack-ups on students' learning processes and to determine the quality of learning at SMAN 1 Nunukan in English subjects during the post-pandemic periods, the researchers collected documents that could describe the learning process in both situations. The aim is to see the differences between the learning period during the pandemic and post-pandemic. The documents collected by the researchers' included syllabus, lesson plans, learning media, learning materials, and learning platforms.

4.1.1. Syllabus and ATP

The transition from pandemic-era online learning to post-pandemic face-to-face learning marked a significant shift for SMAN 1 Nunukan, encompassing both the learning system and curriculum implementation. As part of the Sekolah Penggerak initiative, the

school embraced a model of Kurikulum Merdeka, replacing traditional syllabi with ATP (Alur Tujuan Pembelajaran/ Flow of Learning Objectives). This research delves into the implications of this transformative phase, shedding light on the challenges and opportunities presented by the new curriculum approach, making it a noteworthy exploration in the educational landscape.

Table 1
Syllabus.

Aspect & Indicator	Syllabus (Pandemic)	ATP (post-Pandemic)
The suitability of the preparation of the RPP with the syllabus as a guideline, which includes: a) Compatibility of Core competencies and Basic Competencies contained in the syllabus with the RPP b) Appropriateness of learning stages and assessment aspects listed in the syllabus with the lesson plan.	a) The application of KI (Core Competencies) 3 to KD (Basic Competencies) 3.1 both focuses on the application of the social function of linguistic elements. Then, the application of KI 4 to KD 4.1 which both focus on reasoning and presenting works in written form. b) The stages of learning are quite appropriate, but there is a modification from observing the environment to observing the examples of learning videos.	a) The application of CP (learning outcomes) to TP (Learning Objectives) is appropriate, namely the involvement of Listening-Speaking, Reading-Viewing, Writing-Presenting elements in learning activities. b) The stages of learning are in accordance with the procedures for implementing Kurikulum Merdeka, namely giving freedom and flexibility to the teaching process.

In the table above, several differences exist in implementing the syllabus and ATP. In the syllabus during the pandemic, the curriculum used was still the 2013 curriculum, and the lesson plan had to comply with the syllabus as the main reference. Viewed from the suitability of KI and KD, the attached RPP follows the syllabus. It is demonstrated by applying KI 3 to KD 3.1, which equally focuses on using the social function of language elements. In KD 3.1, it can be seen that KI 3 is reflected through the application of social functions, text structures and linguistic elements of oral and written transactional interaction texts, which involve the act of giving and asking for information related to suggestions and offers, according to the context of their use, and specifically must include the use of should and can as a linguistic element.

The same thing happened to the results of the ATP study, where researchers found a match between CP and TP listed in the teaching modules for both learning topics, namely Descriptive text and Exposition Text. This can be seen by the elements of listening–speaking, reading– viewing, and writing–presenting, which are reflected through the learning activities in the teaching module, where the two topics represent the three elements very well. Meanwhile, in ATP during the post-pandemic learning period, the researchers found that the learning process had fulfilled the elements in Phase F, consisting of listening-Speaking, Reading-Viewing, and Writing-Presenting activities. There is no specific reference regarding the learning activities stages in the learning process of Kurikulum Merdeka. This is because teachers are free to maximize learning activities with their creativity so that learning is also varied and exciting for students.

4.1.2. Lesson plan

There are differences in the making and implementing of lesson plans during the pandemic and post-pandemic learning periods. As previously described by researchers, the curriculum transition has resulted in several changes in terms related to the learning preparation process. During the pandemic using the 2013 curriculum; the lesson plan was made in the form of *Rencana Pelaksanaan Pembelajaran* (RPP) then during the learning period in Kurikulum Merdeka era the teaching modules were used. Even though the function is the same, the teaching modules in the Kurikulum Merdeka have more complete components, such as the availability of materials, worksheets, and assessments, to ensure that learning objectives are achieved.

Table 2

Lesson plan analysis.

Aspect and Indicator	RPP (Pandemic)	Learning Modul (post-Pandemic)
The preparation of lesson plans that facilitate active, creative, innovative, effective and fun students can be studied from: a) the use of varied and challenging learning methods (such as: designing simple research, carrying out project assignments, cooperative learning, or problem-based learning); b) the use of varied and motivating learning media (such as: PPT, videos, concrete objects, or artificial objects); Involving students actively in learning, can be studied from: a) learning methods that encourage active students; b) varied and challenging tasks; and various learning media.	a) The use of methods during the learning period during the pandemic was entirely online-based to adjust the learning situation. The variation of the method used is discussion through the Microsoft Teams video conference platform. b) The learning media used in RPP offers and suggestions are PowerPoint and Youtube. a) Active student learning is encouraged through large group discussion activities discussing their observations about videos on related topics. b) The tasks given are in the form of discussions and observations, as well as presentations.	a) The learning method at each meeting is different, this method includes problem-based learning, role play and windows shopping. b) Reading sources on the theme of exposition text, Student Worksheets (LKPD), Posters/Videos, Presentation Slides (PPT). a) The learning methods used such as role play and windows shopping not only require students to be active orally but also physically and interpersonally. b) A number of assignments both online and offline were given, namely group assignments using sticky notes media to online assignments using the live worksheet platform.

In the table above, learning during a pandemic and post-pandemic has quite significant differences in terms of the process of learning activities, the media used, and the assignments given by the teacher. During the pandemic, various learning methods focused only on large group discussions. Students will be divided into groups with many members, and then the teacher will show videos relevant to the topic to be discussed together. Meetings can also only be carried out online, considering the limitations in the learning process, which is adapted to the distance learning period. In this context, a number of platforms are used, such as WhatsApp to Microsoft Teams.

During the pandemic, as seen in the lesson plan, it was known that student assignments also seemed very monotonous, namely giving material and dividing group discussions and presentations. In post-pandemic learning, students participated more

actively because of the interesting variations of assignments. Many media were involved in their assignment project, such as posters and sticky notes. With this, in terms of lesson plans, post-pandemic learning is of better quality.

4.1.3. Learning media
Table 3

Learning media analysis.

Aspect and Indicator	Pandemic	Post-Pandemic
Utilization of facilities and infrastructure as media and learning resources both in schools/madrasas and outside schools/madrasas, can be studied from: a) the use of facilities and infrastructure that can be used as media/learning resources in the classroom b) and the use of facilities and infrastructure that can be used as media/learning resources in schools/madrasas and outside schools/madrasas	a) Learning media during a pandemic all utilize virtual learning resources that can be applied to distance learning. The media used include YouTube, PowerPoint, live worksheets and Canva as supporting tools.	a) During the post-pandemic learning period, the learning media used in the classroom include reading texts. Posters, PowerPoints and videos. b) For classroom learning, teachers still use virtual learning media such as live worksheets for assignment collection.

In the table above, it can be seen that there are differences and similarities in the process of using learning media during the pandemic and post-pandemic. The similarity is that both of them still use virtual learning media, while the difference is that the distance learning process adapts to the pandemic situation so that aspects of using learning media in the classroom are impossible to fulfill. Judging from the use of learning media, the pandemic learning period provides various options. At SMAN 1 Nunukan, the learning media used by teachers to support the learning process during the pandemic combined several virtual learning media. The learning media used to display material is PowerPoint slides, but for several other purposes, the use of Canva is also required as another option for displaying material.

The teacher also provides other websites as a support, such as YouTube, to help students understand and use the live worksheet website as a substitute for student answer sheets. Live worksheet makes it easy for teachers to automatically collect and score student assignments with a scoring system that the teacher has adjusted. This combination of several media supports the virtual learning process at SMAN 1 Nunukan.

4.1.4. Learning material and platform
Table 4

Learning material and learning platform analysis.

Aspect & Indicator	Pandemic	Post-Pandemic
The use of ICT to support learning can be seen from: a) use of the internet as a learning resource (such as: e-books, e-libraries, scientific papers, articles,	a) The internet is very necessary during the online learning period. Learning variations are also closely related to the use of technology such as	a) Presentation of learning material can be displayed directly in the form of PowerPoint. Learning resources come from internet articles and e-books.

videos, or social media); And b) use of the internet as a learning medium (such as: LMS, e-learning, blended learning, distance learning, google meet, zoom, or google classroom	YouTube and social media such as Instagram. b) Learning materials still refer to the 2013 syllabus and curriculum, the learning platform used is Microsoft Teams, and live worksheets.	b) The learning material refers to the ATP formed by the teacher, the use of live worksheets and Google Drive for collecting assignments is used.

Regarding learning materials and platforms, there are differences caused by differences in curriculum implementation in the two learning situations. As it is well known that online learning cannot be separated from the use of the internet, so that the entire learning process depends on the use of technology, including displaying and presenting material during online learning. At SMAN 1 Nunukan, the learning material most often used during online learning is YouTube. Youtube is a learning resource used by teachers because it can be accessed by all students without the need for intensive guidance because students already understand and are familiar with how to use the application. Youtube provides a lot of learning materials that feature good visuals and videos, as well as interesting creative shows. In addition, teachers also utilize social media such as Instagram in carrying out assignments, where students can post the results of their assignments to their respective social media accounts to be assessed.

4.2. *E-Learning crack-up impact during the post-pandemic learning*

The study delved deeper into post-pandemic English subject learning quality and the impact of E-learning crack-up. Six representative students from class XII MIA 1 were interviewed, including two with the highest scores, two with average scores, and two with the lowest scores in English. Additionally, the teacher's perspective was gathered through an interview, focusing on 11 questions covering 7 aspects of learning quality.

4.2.1.*Online learning impact to students learning ability in the current learning process of English subject*

> It is influential to me, because the pandemic has been going on for two years, it feels more difficult to communicate and interact with friends when studying now. But I like to adapt. (Student 1)

In this aspect, students agreed that online learning impacts their English learning process. Students claimed that they need time to adapt to the learning process in the post-pandemic period. Another reaction felt by students besides difficulties in the adaptation process was surprise. This reaction was possible because the transition from online to offline learning significantly differs in the process and learning methods that challenge students to get habituated to it as quickly as possible to learn optimally. Furthermore, the fifth student believed that, for now, he still needs to get used to face-to-face learning due to the transition after studying online for two years. The sixth student also felt the same feeling, where online learning surprised him because there was a significant difference; fortunately, he also added that adapting, in this case, was very necessary.

> So in learning during the pandemic, students looked less than optimal because of fatigue, but as far as (my) observation goes, this has an effect, but the impact on current learning depends on each student. There are those who are still affected today, but there are also those who can adapt quickly. (Teacher)

From the teacher's perspective, it was known that students in the learning process felt an influence in the post-pandemic period from the impact of online learning during the pandemic. However, this has no impact on students as a whole. Because some students have good adaptability, the learning process encountered during face-to-face learning runs without significant obstacles. The teacher also stated that learning during a pandemic had various problems (see appendix 5). This was because often when learning tooks place in online learning, students looked tired, so their learning process was less than optimal in English subjects.

4.2.2. The transition effect from online to offline learning in students' learning readiness

> Not really, because in both situations we have to get up early. (Student 4)
> My readiness to learn is quite stable. (Student 5)
> I feel more ready during the face-to-face than during the online learning because the learning feels more relaxed. (Student 6)

Students who believed their learning readiness was stable after the pandemic was over, and those whose learning readiness was affected and feel they still have to re-adapt to the learning system they were facing now as a consequence of changes after the pandemic was declared over in the education sector. Nonetheless, it can be concluded that the transition from online to offline learning did not have a significant effect, but there were still some critical notes. The second student believed his learning readiness has stayed the same and felt the same in pandemic and post-pandemic learning situations. In line with the second student, the third student also felt that from learning readiness, he was getting used to the transition and did not see it as a significant problem. Further added by the fourth student for him, his learning readiness was still stable because for him, in both learning situations, students still have to get up early to take online and offline classes. The fifth student also agreed on this because he felt that in terms of learning readiness, he is still stable and able to deal with transitions well.

> It is very influential. For example, during a video meeting using Microsoft Teams during a pandemic, we usually have a question-and-answer session; often, students suddenly leave the video conference during the question-and-answer session because they were worried or even unprepared. However, for now, students can adapt well, so there is a significant difference. (Teacher)

Based on the teacher's observation, there was a significant difference in student learning readiness. The teacher shared her experience during the pandemic learning period that students were unprepared to participate in online learning. There was a moment when students left the video conference during the question-and-answer session between the teacher and students. This happened because students were anxious and were

not ready for the questions being asked, so it can be seen that students were not ready to face learning. While at this time, students have been able to adapt well.

4.2.3. *Differences of teacher's material delivering during the pandemic and post-pandemic*

> Yes, in my opinion, during the pandemic, the explanation was not very clear, so asking questions was also difficult. The teacher also did not give too much detailed explanation. (Student 2)
> There is a difference, because during the pandemic sometimes the assignments were not accompanied by an explanation while now the explanation of the material is clearer. (Student 3)

Students were on the same page concerning the teacher's ability to deliver material in the learning process in both situations. Students believed that they experienced differences in how the teacher delivered the material in the English subject during the pandemic and post-pandemic learning periods. As stated during the student's interview, the differences can be seen in the different student responses and the learning process during the pandemic, which students considered unattractive compared to the current learning process implemented at SMAN 1 Nunukan. In line with the first and second students, the third student stated that the delivery of material and assignments became more difficult to understand during the online learning period because some assignments were even studied independently and needed to be explained with clear information. The fourth student felt the same thing, where the provision of material that was less detailed made online classes during the learning period during the pandemic less enjoyable and encouraged motivation to learn. The fourth student also added a quite different statement but still agreed. This student argued that learning in the post-pandemic period was more fun in the context of delivering material because the distractions in the learning process were also reduced. This was also supported by the sixth student, who preferred face-to-face learning systems compared to online.

> The difference I felt when teaching lessons during a pandemic and post-pandemic is the dependence on internet quota and electricity. We still use media with an internet network during face-to-face classes, but the material is diverse. Furthermore, when learning online, we cannot learn freely; it is different from face-to-face classes because we can explore more. (Teacher)

The teacher was sharing the same perspective as the students. She stated that the biggest obstacle when teaching during a pandemic was dependence on electricity and internet networks. This was because in delivering material, both students and teachers must be on a stable connection (see appendix 5). Because if one of them experiences internet problems, the delivery of material will not be optimal. Furthermore, the teacher also added that the use of online learning media is also still used in face-to-face classes; it is just that the material becomes more diverse because the learning situation in class

makes the material more flexible, and students can learn freely; the result in that teachers and students can explore learning more intensively and enjoyably.

5. Discussion

In contrast to Hasan and Bao's (2020) research, this study found that E-learning crack-up still influenced students' post-pandemic. Still, its impact was insignificant compared to the pandemic learning phase. Most students adapted well, benefiting from the excellent implementation of Kurikulum Merdeka, which allowed teachers more freedom and flexibility to create modules aligned with the industrial revolution era. These valuable insights have implications for educational practitioners and policymakers.

Meanwhile, the interview results exposed that during the post-pandemic period, students preferred the learning process, finding it easier to grasp the learning material. One significant contributing factor was the presence of adequate learning facilities in the classroom, enabling direct interactions without the need for additional costs on personal gadgets. Cindy et al. (2022) highlighted that the availability of facilities and infrastructure in the classroom is crucial for the effectiveness of learning activities. The positive outcomes were evident in students' active participation during classroom interactions with teachers. This aligns with Loi et al.'s (2022) previous study, which emphasized the need to improve the quality of learning during the pandemic era to achieve more positive student learning outcomes. These findings underscore the importance of classroom resources and interactive teaching methodologies in enhancing the learning experience and outcomes.

The research findings indicated that E-learning crack-up impacted students' English learning post-pandemic. However, the impact could have been more profound due to the successful implementation of Kurikulum Merdeka. Providing adequate and standardized facilities and infrastructure in schools is essential to effective learning. Moreover, exemplary educators are crucial in creating an appealing and comfortable classroom atmosphere. In the current post-pandemic era, students must reignite their enthusiasm for learning to achieve optimal learning outcomes. These insights underscored the significance of well-equipped schools and skilled educators in ensuring a successful learning experience during and beyond challenging periods like the pandemic. Implementing Kurikulum Merdeka is promising to make Education better. Lase (2019) revealed that the most appropriate curriculum for the industrial revolution era was one that elaborated student abilities in the pedagogical dimension, such as life skills, the ability to live together (collaboration), and the ability to think critically yet creatively. As Dewi et al. (2023) claimed, a curriculum that focuses on material essentials, student character development and learning competence. It is aligned with the key principles of Kurikulum Merdeka that the teacher needs to be more flexible, competence-based, character-building focused, and soft-skills oriented in the teaching process.

6. Conclusion

The result of the research implied that the E-learning crack-up impacts students' learning process in the post-pandemic period. Despite the challenging transition, most students preferred face-to-face learning to online learning. However, the students' adaptation issue is appropriately handled well through the excellent implementation of Kurikulum Merdeka in SMAN 1 Nunukan, which successfully boosts students' adaptation skills. The researchers also concluded that the observation, document review, and interviews are aligned in showing positive results regarding the learning quality at SMAN 1 Nunukan. It is reflected by the activeness of student participation, improvement of understanding, and the teacher's efforts to create exciting learning situations. It results from the teachers' flexibility in the learning process to optimize the learning outcomes.

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