



## **THE VOICES OF STUDENTS AND ENGLISH TEACHERS: SUPPORTING AND INHIBITING FACTORS OF A SMARTPHONE AS A MEDIA TO ACHIEVE OPTIMAL LANGUAGE LEARNING OUTCOMES**

**Nur Fadillah Nurchalis<sup>1</sup>, Nuzamzam<sup>2</sup>, Muhammad Aswad<sup>3</sup>**

<sup>1</sup>Universitas Negeri Makassar

<sup>2</sup>Sekolah Tinggi Agama Islam Negeri Majene

<sup>3</sup>Universitas Sulawesi Barat

Email: [nur.fadillah.nurchalis@student.unm.ac.id](mailto:nur.fadillah.nurchalis@student.unm.ac.id)

### **ABSTRACT**

The consistent increase in smartphone users every year has made many researchers interested in exploring its use in the field of language learning. There are many researches that showed positive and negative trends about it; therefore this study intended to identify supporting factors and their use in language learning so that student learning outcomes could be optimal. This study employed a qualitative approach. There were six informants who participated in this research. They were selected by using a purposive sampling technique. They consisted of two English teachers from the XI classes of MAN 1 and MAN 2 Parepare, as well as 4 students who also came from the two schools who represented the students with the best and vice versa performance. To gain data, the researchers used FGDs as a research instrument and the results were analyzed using thematic analysis. This research found six supporting and inhibiting factors respectively. Therefore, it is important for English teachers to pay attention to these factors when designing English learning in the classroom, particularly when they want to use smartphones as learning media so that student learning outcomes can be optimal.

**Keywords:** *Learning Outcome, Media, Smartphone*

---

### **1.1. Introduction**

In the last decade, a mobile phone has evolved into a smartphone. It developed for personal, academic and work needs. People use it to contact colleagues, record important agendas, set alarms, record moments, find information, read articles, etc. Because it is multifunctional, the number of its users is growing from year to year. According to Statista (2023), the number of smartphone users in Indonesia increase by an average of 22.73 million people per year from 2018 to 2023. The total number of users until 2026 is predicted to reach 238.76 million people.

Among the many types of mobile devices, smartphones are the devices most often owned by adolescents. It ranks first and is followed by laptops (Pratama & Scarlatos, 2020). Due to the large number of their users, including middle-level students, many researchers have conducted research related to the use of smartphones in learning. Aziz et al (2018) found that both teacher and students argued that the smartphone is very



useful, interesting and enjoyable to use in language learning. Students were always excited and successful to learn new vocabularies. In addition, Kurniawa (2018) found that students need transformation in the learning process. By using a smartphone, they can be more actively involved during the class. Those researches demonstrate that a smartphone brings benefits for language learning.

Howbeit, several research results stated that the use of smartphones in learning could also be a threat. Sunday et al (2021) examined whether the use of smartphone in the classroom affected students' learning through meta-analysis. They revealed that the more time spent on a phone while studying, the worse the impact on learning and academic achievement. Besides, Beland & Murphy (2016) found that when smartphones were banned in the classrooms, standardized test scores increased by more than 14% for low-achieving students, but for high achievers it did not show any significant impact. It meant that low-achieving students easily got distracted by the use of smartphones in the classroom; therefore once it was banned, they got focused and performed better.

To design an English teaching and learning scenario in the classroom by using smartphone and by considering the advantages and disadvantages that smartphones have when used in the classroom, it is important for teachers to know its supporting and inhibiting factors based on students' and teachers' voices.

## **1.2. Research questions**

By considering the introduction above, this research proposed a research question as follow: What factors can support and hinder smartphone usage to optimize students' learning outcomes in English classes?

## **2. METHOD**

### *2.1. Research Design*

This research applied qualitative utilized qualitative research to investigate supporting and inhibiting factors of a smartphone as a learning media to achieve optimal language learning outcomes.

### *2.2. Samples/Participants*

The informants who participated in this research were two English teachers, and four students from two different Islamic schools in senior high school level, namely MAN 1 and MAN 2 Parepare. They were selected based on purposive sampling



technique as representation from both schools. The English teachers were who taught in the XI classes and two students were who had highest English performance and the others were who had the contrast performance in the XI classes.

### 2.3. Instruments

To gain the data from the informants, the researchers employed Focus Group Discussion (FGD). The researchers facilitated the teachers and students to discuss the research problems. During the discussion, the researcher recorded the information conveyed by the informants using an audio recording device and noted important points for further discussion in the FGD.

### 2.4. Data analysis

The data obtained from the FGD were then analyzed using thematic analysis in which the themes patterned in a group phenomenon were identified.

## 3.FINDINGS AND DISCUSSION

### 3.1. Finding

Based on the data from FGD, it was found that there were supporting factors and inhibiting factors of the smartphone usage in English instructional activities to achieve optimal students' learning outcome.

- R : What factors do you think that support the use of smartphones in English Instructional activities to achieve students' learning outcome optimally?
- S1 : One thing that makes learning optimal when using a smartphone is the interaction that it can create. For example, after discussing a topic, the teacher gave a quiz using *Kahoot* or *Mentimeter*. Through the quiz, there was interaction between the teacher and students. The teacher asks for a response through a question or a statement and the students respond it via the button on the smartphone.
- S2 : The use of smartphone in learning activities has high flexibility. Students can access teaching materials sent to their smartphones anytime and anywhere. So, if there are students who are constrained to follow the lessons in class, then he can access it at his place or at another time. Thus, teachers do not need to waste time repeating the explanations in



the class again just to make sure no students are left behind. Its flexibility has the potential to promote independent learning by students.

S3 : For me, what makes a smartphone able to optimize learning activities is its attractive side. A smartphone has several interesting features, such as games. When students are interested in doing something, their engagement can increase.

S4 : In my opinion, the factor that makes a smartphone able to optimize learning outcomes is its multifunctional ability. By using a smartphone, we can record teacher' explanations, either through voice recordings or audiovisual recordings, so that it helps us to sharpen our memory. If we replay the recording for many times, we can easily memorize and understand the explanation.

R : What about teachers' opinion?

T1 : One of contributing things from a smartphone to optimize students' learning outcomes is its ability to reach many references in various forms. With the search engine on the smartphone, it is easier for students to gain information or new knowledge from various sources, so that students can analyze the differences between each source and draw conclusions. This directly increases students' insight and indirectly sharpens students' higher order thinking skills

T2 : The factor that makes a smartphone is able to support student learning outcomes to the maximum is its ability to respond quickly to student exam results. Students can immediately get feedback on their answers, such as when they answer questions via google forms. When they finish answering, they not only immediately know the score, but they can also immediately know the correct answer when he is wrong. At this point, students can evaluate themselves.

From a number of statements in the FGD, there were different supporting factors conveyed by English teachers and students.



S1 stated that the interactive side of smartphone was very supportive to improve two-way communication between teachers and students, such as when there was a quiz. She mentioned two kinds of quizzes application which could be accessed by the smartphone, *Kahoot* and *Mentimeter*. She described that through the two quizzes, the teacher and students responded to each other. The interaction that existed through the activities of giving questions and answers made students well-trained to recall their lessons.

S2 stated that one factor that supported optimization of students' learning outcomes if utilizing smartphone was its flexible side. Teaching materials obtained in the classroom could be accessed again at different places and times. She illustrated that if a student could not access teaching materials due to illness or absence, the teaching materials sent by the teacher via smartphone could still be accessed by the student at other times. She reported that this flexible side contributed to encourage students' independent learning.

S3 claimed that a smartphone could support the achievement of students' best learning outcome from its attractive side. She said that students' attractiveness had an impact on students' involvement in learning activities. She assumed that students' involvement in learning activities would lead to material comprehension which contributed to students' learning outcome. If the students had no any participation or lack of engagement during the class, they would have no any learning experiences and achievement.

S4 considered that one of the factors that makes a smartphone was able to help achieve good learning outcomes was its multifunctional side. He gave an example of how tools in smartphones such as recording devices could assist students repeat explanations that they might have missed in the classroom. Through the activity of repeating this recording, students were considered being able to more easily remember and understand the explanation. She mentioned that the recording system that could be done by a smartphone was not only in the form of audio but could also be audio-visual so that students could adjust it according to their needs.

For T1, the factor that supported a smartphone to optimize students' learning outcomes was its exploratory side. A smartphone had a search engine which students could use to explore a variety of learning resources. She mentioned that through



searching activities on different sources, students could gain new information and knowledge. After that, students could analyze or synthesize the different information and knowledge that they might find. This kind of activities was considered to contribute to improve students' understanding and critical thinking skills.

For T2, the factor that made a smartphone was able to optimize students' learning outcomes was its reflective side. He mentioned that when students answered questions through an application like *Google Form*, students could immediately find out the score they got and knew what the correct answers of each question were. Thus, he considered that in this way students could evaluate their learning progress, including which questions that he had not been able to answer correctly. In this way, students could identify their weaknesses and strength. He emphasized that a smartphone could give immediate feedback to students' works.

In addition to the supporting factors, there were also inhibiting factors that could affect the achievement of students' learning outcomes optimally. These factors are stated in the statement in the following FGD section.

- R : What factors do you think that inhibit the use of smartphones in English Instructional activities to achieve optimal students' learning outcome?
- S3 : A smartphone has many features which can be used to optimize learning activities. This is really a concern if it is used but only in limited activities, such as just sending teaching materials and doing assignments. English has four skills that must be mastered. There are many good features that support the improvement of these skills. If it is only use to support certain skills, then the mastery cannot be optimal.
- S1 : One of the most determining factors for a smartphone to work optimally is the internet network. If there is no internet network, the smartphone features that can be used are very limited, such as accessing offline dictionary applications. Attractive activities through online games cannot be done.
- S2 : The use of smartphones in the classroom requires monitoring from the teacher. If not monitored, students tend to do other activities which are not relevant to learning activities, such as taking selfies, or chatting with



their friends virtually. The way teachers monitor also have to be strict, since it is impactful on students' focus in learning.

S4 : One thing that hinders a smartphone from functioning as a supporting tool in learning activities is its limited ability to archive learning materials. Each smartphone has a different capacity. If a student has a smartphone with a limited capacity, then he or she must be more active in moving the materials to another larger storage. If he didn't do it, then he would skip some materials that could no longer be stored. Besides that, saving of study materials on smartphone is actually also vulnerable to viruses, so students have to anticipate by backing up their data.

T1 : The use of smartphones has the potential to create cheating practices in exam activities. For example, when a student does not know the answer of a question, he or she can search for the answer by utilizing a search engine like *Google* or contact his colleague whom he thinks can answer the question. He simply took a screenshot of the question and sent it to his colleague.

T2 : There are many features available in a smartphone. Those features make students easily distracted. For example, if a student is currently reading a text, suddenly a message or call notification appears on his smartphone, then he may immediately click and check it in detail. It can break his concentration. One thing that is very influential to distract students is social media. Students prefer checking update information through their social media, so that it should be a big concern if a teacher wants to use it as a learning tool in the classroom.

The statements from data of FGD above shows a number of factors that make a smartphone cannot work well as a learning tool which support optimal instructional activities which affect on students' learning outcomes.

S3 mentioned that a smartphone could not work optimally to support learning activities in the classroom when the wealth of features was not used properly by teachers. He illustrated how the neglect of the use of these features became a matter. The illustration he provided implied that learning activities by using a smartphone was





not much different from learning activities by using a printed textbook when a student only relied on reading activities and doing assignments. Therefore, he stressed that it should be a concern. It indicated that he expected the teacher to do more explorations to features available on the smartphone, so that all students' language skills could be honed.

S1 said that what makes a smartphone work maximally was the internet network. If the smartphone did not have an internet network, it could not function maximally. Activities which can be done on smartphones only access offline features, such as application of offline dictionary. She stated that a number of features in smartphone required an internet network. She demonstrated how attractive games could not run without it. If students' smartphone could not connect to the internet network, then it was considered unable to promote learning which had direct impact on student learning outcomes.

S2 stated that a smartphone could not function optimally in supporting the implementation of learning activities in the classroom when its use was not monitored by the teacher. He revealed that students tend to use their smartphones to carry out activities which were not related to learning activities, such as taking their own pictures or communicating virtually with their relatives. He believed that low supervision or monitoring of the use of smartphones was the trigger for the malfunctioning of smartphone as a good learning medium which could contribute to improving student learning outcomes.

S4 implied that in order to achieve good learning outcomes, students must archive the materials they had learned to be re-learned at other times, particularly before exam took place. He said that smartphones were tools that could not be fully relied upon to store learning materials that had been distributed by the teachers. It was because each smartphone had a different capacity. He mentioned that students who had limited capacity on their smartphones must actively transfer their data to devices with larger capacities, in order that they would not have incomplete archive of learning materials. In addition, he considered that smartphones were very vulnerable to being attacked by viruses, so materials stored on smartphones could be lost.

T1 considered that one thing that made the use of smartphones as an inhibiting factor in achieving students' maximum learning outcomes was their vulnerability to





creating cheating practices that students could do during exams. Students had the potential to be lazy to study because they can easily cheat on exams. There were two ways of cheating that she gave an example. The first was that students searched for the answers through search engines such as *Google*, and the second was that they took screenshots of screens containing exam questions and sent them to their relatives to be answered. When students relied on that ways, then there would no improvement in learning that they could achieve.

T2 strongly believed that a smartphone had a very strong distraction power, because there were many activities that could be done on smartphone. He gave an example of how students could be distracted while studying by using smartphones. When students were reading on their smartphone screens, suddenly a number of notifications appeared. They might be inform of incoming messages, incoming calls or updated information from social media, etc. He considered that at that time the students' concentration could be broken. Their curiosity about the content of the message from the notification made them close the reading tab and opened the message tab. He assumed that this had a negative impact on the achievement of students' learning outcomes.

From the teacher and student statements, it was found that there were six supporting factors that made a smartphone as a medium that could optimize learning activities. They were interactive, flexible, attractive, multifunctional, exploratory, and reflective sides. Besides that, there were also six factors which inhibited it to reach optimal learning activities which affected on students' learning outcome. They were features that are not optimized for use, internet network availability, weak monitoring of their use, archiving capabilities, and distraction power.

### *3.2. Discussion*

It was found that there were six supporting factors that made a smartphone as a medium that could optimize learning activities. They were interactive, flexible, attractive, multifunctional, exploratory, and reflective sides.

Firstly, a smartphone encourage interactive communication between students and teachers. Through various applications in a smartphone, both teachers and students can initiate interactive communications. For examples, teachers send materials in a WhatsApp group, then students download them and read them. For students who had



difficulties to understand the materials, they are allowed to ask questions. After that, teachers will provide feedback either in the form of emoticon (pictorial signs) or in the form of texted comments. Some students also will do the same when they would like to respond to their teachers' or friends' comments (Wasino & Priyanto, 2020). Those activities promote interaction to both parties.

Secondly, it also offers flexibility. Learning by using smartphones is often associated with online learning. One interesting aspect of online learning is flexibility. Students are able to manage their time regarding when they have to do their assignments (Dhawan, 2020). For instance, if they are sick, they can take a break and turn off their smartphone. After they feel better, they can turn on again their smartphone and access the teaching materials that have been provided by the teacher.

In addition, when students have to go on a trip with their parents, they do not need to be afraid of missing lessons just because they are not present in the class. They can take a part in virtual learning through virtual face-to-face applications on their smartphone, such as Zoom or Google Meet. They can even continue to follow the formative evaluation by filling out a test via Google form. Distance does not prevent them from still being able to study together with other friends.

Flexibility of a smartphone is also seen when students run out of internet quota. They do not have to worry about missing materials or assignments, because once they have purchased an internet quota, they can access the materials and assignments that have been sent to the learning platform. This shows that space and time do not restrict students from accessing learning materials and assignments that have been shared by the teacher.

Thirdly, language learning become attractive by utilizing a smartphone. Ahmed and Kabir (2018) found in their research that most of young students were willing to utilize a smartphone as a learning tool. It is an attractive learning tool for education. Numerous features, platforms and applications available in a smartphone makes both young and old people attractive. (Nikhita et al., 2015). It provides multimedia for its user, either visual, aural, or audiovisual. Students are free to choose the type of media they want to use according to their preferences. Nikhita et all (2015) even said that since it is attractive, trend of smartphone usage among students even gets increased.



Fourthly, it is multifunctional. As technology grows spectacularly, a design of smartphone is getting multifunctional. Students cannot only play audio and video materials, but they also can search information, read audiobooks, record voices, listen to different accents from different native speakers, write notes, perform calculation, set alarm to prevent deadlines, and others (Toktarova1 & Shpak, 2021). These activities support language learning. For example, to improve listening skill, students can listen to audio or watch videos on their smartphones. To improve their reading skill, students can explore reading exposures. To improve speaking skills, students can practice recording themselves and doing self-evaluation, and to improve their writing skills, students can consistently practice writing their diaries via smartphones.

Fifthly, it is explorative. Students are able to explore more information through search engines available in a smartphone. Students claim that search engines offer tremendous assistance to them. The most frequent search engine used by students is Google (Judith, 2018). By typing the keywords in Google, a bunch of information regarding them will be available. Google will provide more specific information when people include more specific keywords.

In language learning, students are able to utilize search engines to explore many things to sharpen their language skills. For example, when students feel that their expressions used to express gratitude are too monotonous, then search engines will help them to explore other expressions that can be used to express gratitude. So, students have varied ways of expressing their gratitude. The more exploration, the more variety of language students have.

Finally, it is reflective. Students can reflect on their learning outcomes through the feedback given by the teacher to them. Feedback aims at providing information about the use of language target to students. It may come in the form of correction regarding students' mistakes or errors, so that students can realize the mismatch between their language production and target expression (Ko, 2019). As technology develops to facilitate the implementation of learning, current feedback can also be applied using technology assistance.

Smartphones serve as a meaningful tool for providing feedback in a second language teaching environment. Along with that, social media also has the opportunity to function that way (Gibson & Musti-Rao, 2016). When a teacher uses a smartphone as



a learning tool, it is likely that the feedback will also be provided by using a smartphone. For example, when the teacher sends material through the WhatsApp group, and students respond to the material using WhatsApp, then the teacher will usually provide feedback via WhatsApp as well. Giving feedback via smartphone can be in various forms, such as voice notes, emoticons, stickers or expressions in written text. The fast response via smartphone gives students quick insight to correct their language production.

Besides that, there were also six factors which inhibited a smartphone to facilitate students to reach optimal learning activities which affected on their learning outcome. They are features that are not optimized for use, internet network availability, weak monitoring of their use, archiving capabilities, and distraction power.

To begin with, features that are not optimized for use. A smartphone has many features that have different functions. Mohammad et al (2012) stated that Its numerous features lead it as a promising learning device. Unfortunately, if the teacher uses a smartphone in learning, some of these features are not used optimally. For instance, teachers only use smartphones to send teaching materials. After that, learning activities in the classroom are still carried out manually where they continue to explain at length, so that learning that occurs is still teacher-centered.

The second is internet network availability. Some of influential factors of smartphone's readiness to use as a learning device are internet availability and affordability (Ogamba & Peters, 2015). Internet availability is not enough to carry out language learning by using smartphones. Its affordability must also be considered. If the internet network available but is not affordable, then students still cannot access it. If students cannot access the internet network, then there are a number of applications on the smartphone that cannot run properly.

The third is weak monitoring of the usage. Basically, both face-to-face and online learning require monitoring from the teacher, because students sometimes carry out additional activities other than those directed by the teacher. However, the potential for distraction that can be generated by learning activities using a smartphone makes teachers have to do extra monitoring. Unfortunately, Uğur & Koç, (2015) found that students assumed that instructors did not know that they had Phubbing habits in the classroom. It means that teachers or instructors were often unaware that their students



were using smartphone for activities which were irrelevant with instructional learning activities.

The fourth is archiving capabilities. One of barriers of smartphone performance is the capacity of its storage are limited (Haque et al., 2020). In learning a language, students need supportive storage capacity because they have to repeat the learning materials until they are proficient. For example, students save a number of audio or video files sent by the teacher for them to play in order to improve their listening skill. However, if their smartphone memory is limited, then they have to delete it and replace it with new materials. Thus, they do not have much opportunity to play back the files in a longer period of time.

The last is distraction power. Nowadays, people can do many activities flexibly only in one device, namely smartphone. People can listen to music, play games, book tickets, shop daily needs, perform banking transactions, watch movies, take notes, etc. Due to its versatility, there are several activities which can be integrated. At the same time, however, it can interfere people's focus since there are too many potential distractions (David et al., 2015). In the classroom, students acted innocently, but the majority of them checked WhatsApp and Facebook, surfed websites, and sent messages (Uğur & Koç, 2015). Thus, teachers should not be easily tricked by the innocent faces shown by students. They may look serious when studying in the classroom, but they are actually being distracted by surfing activities on their smartphones.

## **4. CONCLUSIONS**

### *4.1. Conclusion*

This research has revealed that there were six supporting factors that made a smartphone as a medium that could optimize students' learning outcomes. They were interactive, flexible, attractive, multifunctional, exploratory, and reflective sides. In addition, there were also six factors which inhibited a smartphone to facilitate students to reach optimal learning activities which affected on their learning outcome. They were the features that were not optimized to use, internet network availability, the weak monitoring of their usage, archiving capabilities, and distraction power.



#### 4.2. Suggestions

Based on those factors, English teachers are expected to be able to consider them when designing English learning in the classroom particularly when they choose using smartphones as learning media..

### 5. REFERENCES

- Ahmed, M. S., & Kabir, S. M. A. (2018). The Acceptance of Smartphone as a Mobile Learning Tool: Students of Business Studies in Bangladesh. *Malaysian Online Journal of Educational Technology*, 6(2), 38–47. <https://doi.org/10.17220/mojet.2018.02.003>
- Aziz, A. A., Hassan, M. U., Dzakiria, H., & Mahmood, Q. (2018). Growing Trends of Using Mobile in English Language Learning. *Mediterranean Journal of Social Sciences*, 9(4), 235–239. <https://doi.org/10.2478/mjss-2018-0132>
- Beland, L. P., & Murphy, R. (2016). Ill Communication: Technology, distraction & student performance. *Labour Economics*, 41, 61–76. <https://doi.org/10.1016/j.labeco.2016.04.004>
- David, P., Kim, J. H., Brickman, J. S., Ran, W., & Curtis, C. M. (2015). Mobile phone distraction while studying. *New Media and Society*, 17(10), 1661–1679. <https://doi.org/10.1177/1461444814531692>
- Dhawan, S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018>
- Gibson, L., & Musti-Rao, S. (2016). Using Technology to Enhance Feedback to Student Teachers. *Intervention in School and Clinic*, 51(5), 307–311. <https://doi.org/10.1177/1053451215606694>
- Haque, A. B., Mahmood, S., Ahmed, M., Ali, M. H., & Piyal, N. M. (2020). Challenges and Opportunities in Mobile Cloud Computing. *Preprints*. <https://doi.org/10.20944/preprints202005.0325.v1>
- Judith, I. O. (2018). Awareness and Use of Search Engines by Undergraduate Students in Delta State University, Abraka Nigeria. *Library Philosophy and Practice (e-Journal)*, 1–26.
- Ko, M. H. (2019). Students' reactions to using smartphones and social media for vocabulary feedback. *Computer Assisted Language Learning*, 32(8), 920–944. <https://doi.org/10.1080/09588221.2018.1541360>
- Kurniawan, M. (2018). The Use of Mobile Phone in English Language Lesson: A Shift from Teacher-Centred to Student-Centred through Mobile Learning. *SHS Web of Conferences*, 42, 00076. <https://doi.org/10.1051/shsconf/20184200076>
- Mohammad, N. M. N., Mamat, M. N., & Isa, P. M. (2012). M-learning in Malaysia: Challenges and Strategies. *Procedia - Social and Behavioral Sciences*, 67(November 2011), 393–401. <https://doi.org/10.1016/j.sbspro.2012.11.343>



- Nikhita, C. S., Jadhav, P. R., & Ajinkya, S. (2015). Prevalence of Mobile Phone Dependence in Secondary School Adolescents. *Journal of Clinical and Diagnostic Research*, 9(11), VC06–VC09. <https://doi.org/10.7860/JCDR/2015/14396.6803>
- Ogamba, S. M., & Peters, I. A. (2015). Factors Affecting mobile Learning Readiness Among Students and Lecturers: A Model for Mobile Learning Readiness in Kenyan Universities. *International Journal of Computers & Technology*, 15(1), 6408–6417. <https://doi.org/10.24297/ijct.v15i1.1705>
- Pratama, A. R., & Scarlatos, L. L. (2020). Ownership and Use of Mobile Devices Among Adolescents in Indonesia. *Journal of Educational Technology Systems*, 48(3), 356–384. <https://doi.org/10.1177/0047239519886584>
- Statista. (2023). *Number of smartphone users in Indonesia from 2017 to 2020 with forecasts until 2026*. Statista Research Department. <https://www.statista.com/statistics/266729/smartphone-users-in-indonesia/>
- Sunday, O. J., Adesope, O. O., & Maarhuis, P. L. (2021). The effects of smartphone addiction on learning: A meta-analysis. *Computers in Human Behavior Reports*, 4(March 2020), 100114. <https://doi.org/10.1016/j.chbr.2021.100114>
- Toktarova1, V. I., & Shpak, A. E. (2021). Mobile Learning: Tools and Services, Functions and Opportunities. *International Conference on Education and Education of Social Sciences*, 190–195. <https://doi.org/10.51508/intcess.2021129>
- Uğur, N. G., & Koç, T. (2015). Mobile Phones As Distracting Tools In The Classroom: College Students Perspective. *Alphanumeric Journal*, 3(2). <https://doi.org/10.17093/aj.2015.3.2.5000145549>
- Wasino, W., & Priyanto, A. S. (2020). The Impact of Distance Learning on Students' Interaction Changes of Junior High School 2 Kaliwiro. *Journal of Educational Social Studies*, 9(2), 62–70. <https://journal.unnes.ac.id/sju/index.php/jess/article/view/44085%0Ahttps://journal.unnes.ac.id/sju/index.php/jess/article/download/44085/18197>