



The Awareness of Junior High School Students in Malang Towards Online Learning: Post-Pandemic Effect

Citra Kurniawan^{1(*)}, Shirly Rizki Kusumaningrum², Deka Dyah Utami³, Agus Sholeh⁴, Zuhkhriyan Zakaria⁵

^{1,3}Departement of Educational Technology, Universitas Negeri Malang, Malang, Indonesia

²Basic Education, Postgraduate School (SPs), Universitas Negeri Malang, Malang, Indonesia

⁴Department of English Language, Universitas PGRI Kanjuruhan Malang, Malang, Indonesia

⁵Department of Islamic Elementary School Teacher Education, Universitas Islam Malang, Malang, Indonesia

Abstract

Received : July 30, 2023

Revised : September 14, 2023

Accepted : March 14, 2024

Online learning was one of the preferred learning strategies during the COVID-19 pandemic. Due to restrictions on face-to-face teaching, changes in learning orientation occur very quickly and almost without force, forcing educational institutions to develop appropriate learning strategies. Students as one learning component certainly try to adjust their activities in online learning. Adapting to online learning often causes failure in the learning process because of their unpreparedness for online learning. Finding a suitable role model in adapting to online learning was a problem in this study. This study aims to design student models in online learning during the learning process. This study method uses a data visualization approach with data mining and involves as many as 350 students from various junior high schools in Malang. The results showed differences in students' tendencies towards choosing online learning platforms. In addition, skills in using technology are a determining factor in the formation of student profiles. Implementation of study results is one of the keys to the development of online learning in the future.

Keywords:

online learning; learning strategies; student profile; learning model

(*) Corresponding Author:

citra.kurniawan.fip@um.ac.id

How to Cite: Citra Kurniawan, Shirly Rizki Kusumaningrum, Deka Dyah Utami, Agus Sholeh, & Zuhkhriyan Zakaria. (2024). Junior High School Student Models in Online Learning as A Post-Covid Effect. *JTP - Jurnal Teknologi Pendidikan*, 26(1), 1-11. <https://doi.org/10.21009/jtp.v26i1.37560>

INTRODUCTION

Online learning is no longer a recent trend in pedagogy. Long before the COVID-19 outbreak, the first Massive Open Online Courses (MOOC) was introduced in 2012 (Kentnor, 2015; Sarkar, 2020) and it was implemented alongside the traditional teaching method (Kentnor, 2015). However, the emergence of the COVID-19 pandemic has closed the possibility of running face-to-face classes and spread the word about online learning. Yet, the sudden appraisal creates a gap in the context of teachers and students, particularly in Indonesia, in which they need to adapt to the new environment. Before the online classes started, many teacher training programs or seminars focused on using online learning platforms. Not only the teachers who were forced to adjust to the technology but also the students who



have never previously used online learning inevitably must use online learning platforms. This, of course, confuses students when determining the right online learning platform.

There are several previous studies on online learning platforms with varied variables, such as the age of users (Wulan Sari et al., 2021), the gender of users (Ambarwati et al., 2020), its functionality (Oliwa, 2021), and points related to self-efficacy and student's technology readiness (Bouilheres et al., 2020; Cakrawati, 2017; Villa, 2022a). In technology readiness, the subjects are mostly university students (Gherhes et al., 2021). From the age of users (Wulan Sari et al., 2021), it is mentioned that those users under 25 years old are more interested in using Google Classroom since there is a tendency for older users to face more difficulties in responding to new and complex information. In addition, students' success in online learning mostly depends on the student's prior experiences, personalities, and personal circumstances. Students with high computer self-efficacy perform better (Bouilheres et al., 2020) than students with low computer self-efficacy, as they tend to engage in online activities more than their counterparts.

The study results have caught the studyers' attention to investigate further junior high school students and their relation to the choice of online learning platform (OLP). As we know, junior high students are under their parent's guidance in operating the OLP, while junior high students are expected to be more independent. Not only are they expected to familiarize themselves with the OLP, but the students are also expected to overcome various obstacles and difficulties that might arise during the adaptation process. A lot of research has discussed the consideration of determining online learning platforms. However, few studies have addressed determining online learning platforms based on students' learning experiences.

The result of this research is significant because it becomes a recommendation for using the platform for students, especially junior high school students. Therefore, this research aims to provide recommendations for using platforms that support the implementation of online learning.

METHOD

The use of online learning platforms is influenced by several factors that become a learning experience. Learning experience influences determining a suitable learning platform as well as providing recommendations to other people to use the same platform.

This study involved 350 students at a junior high school in Malang, East Java, Indonesia, where they voluntarily participated in this study. This study explores the types of platforms used to undergo learning during the COVID-19 pandemic. Students revealed the use of technology in learning during the COVID-19 pandemic. There were 111 female students and 239 male students involved in the study. A total of 380 questionnaire sheets were distributed to determine the readiness of technology and online learning platforms used during the COVID-19 pandemic, of which around 350 questionnaire sheets were returned. A total of 30

questionnaires were returned because respondents did not complete the questions by the time limit given so they could be considered not participating in the research.

The technology readiness measurement instrument was adopted from the instrument developed by (Geng et al., 2019), and the self-efficacy technology was adopted from the instrument developed by (Villa, 2022b). The approach to the study method is quantitative, whereas the analysis used is descriptive statistics. The question indicators used to determine student responses are demographic questions such as gender, technology readiness, online learning experiences, platforms for online learning, and technology self-efficacy. In addition, data is visualized by using data mining techniques to create student profiles in online education. Each indicator was compared to get information on students' platforms during the COVID-19 pandemic.

RESULTS

This study has several findings that can be considered student modeling in online learning. Study indicators are used to determine the tendency to use online learning platforms as follows: (1) Gender; (2) Technology Readiness (TR); (3) Online Learning Experiences; (4) Platform for Online Learning; and (5) Technology Self Efficacy. The research results show that some data is processed in a scatter plot diagram. The data obtained shows a tendency towards the use of online learning platforms. The trend presented is the determination of online learning platforms for students who have previous experience or no learning experience. The first study's findings aim to determine the use of online learning platforms on Gender and Online Learning Experiences (OLE) indicators, as in Figure 1.

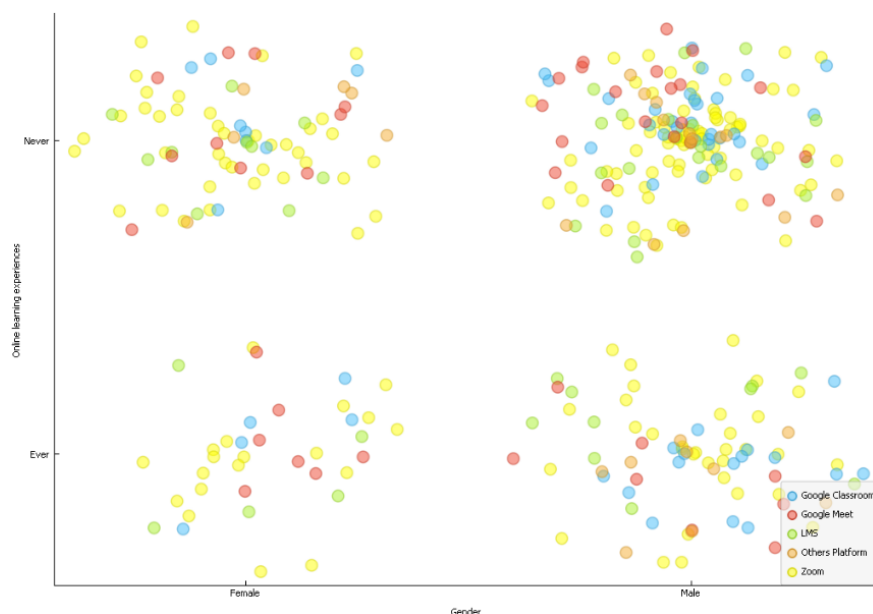


Figure 1. Use of online learning platforms (Gender Vs. OLE)

Figure 1 shows most male students have never had the experience of using online learning. As many as 239 students had never used online learning before the COVID-19 pandemic, as shown in Table 1. Face-to-face learning experiences dominated the previous learning experience. Figure 1 shows that most of the participants representing some junior high schools had not implemented online learning before the COVID-19 pandemic. This is an interesting fact related to the readiness of educational institutions and students involved in this study. The 239 students who had never had experience were divided into 75 female and 164 male students. Meanwhile, the students with previous experience are 111 students, as shown in Table 2.

Table 2. Online learning experiences

Online Learning Experiences	Gender	
	Female	Male
Ever	36	75
Never	75	164

Based on Table 2, most students stated that they had never used learning before. This is an exciting thing because most of the study participants who joined this study have never used an online learning platform so that the learning experience can be ascertained a new one has happened. Learning experiences can occur if there is interaction between students and teachers where the teacher's presence in the online learning process is an essential factor in the learning process (Park & Kim, 2020). Learners' readiness needs to be observed to know to what extent they are ready to face new experiences in the form of online learning. Most students have a technology (TR) at the intermediate level, as shown in Figure 2.

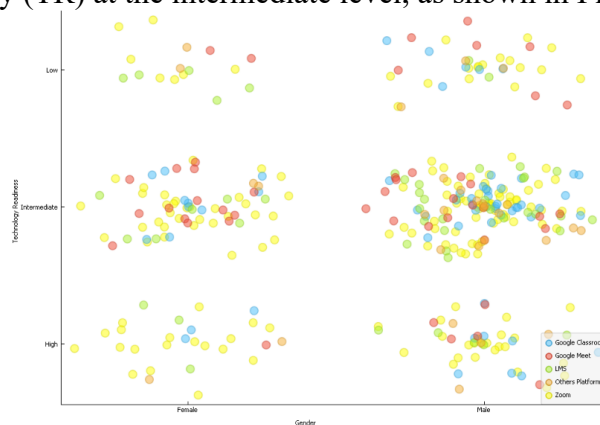


Figure 2. Use of online learning platforms (Gender Vs TR)

The use of online learning platforms is closely related to students' readiness to use technology. Most students are ready for the use of technology at the intermediate level. A total of 225 students has technology readiness at the intermediate level, while students with low technology readiness are 51 students and students with a height of 74 students. The study found that most students have intermediate technology readiness. Technology readiness greatly affects students' confidence in using technology where students who have low technology readiness report low self-confidence and are afraid to use technology (Warden et al., 2022). The student model on this study can be seen in Table 2.

Table 2. Technology readiness

Technology Readiness	Frequency	Percent
Low	51	14.6
Intermediate	225	64.3
High	74	21.1

In addition, this study provides findings in the form of the use of online learning platforms on the relationship between gender and technologists self-efficacy (TSE). Student modeling uses a gender linkage approach and TSE provides an approach that overall students who use online learning platforms have three levels: low, intermediate, and high. Most students have technology self-efficacy at an intermediate level as shown in Figure 3.

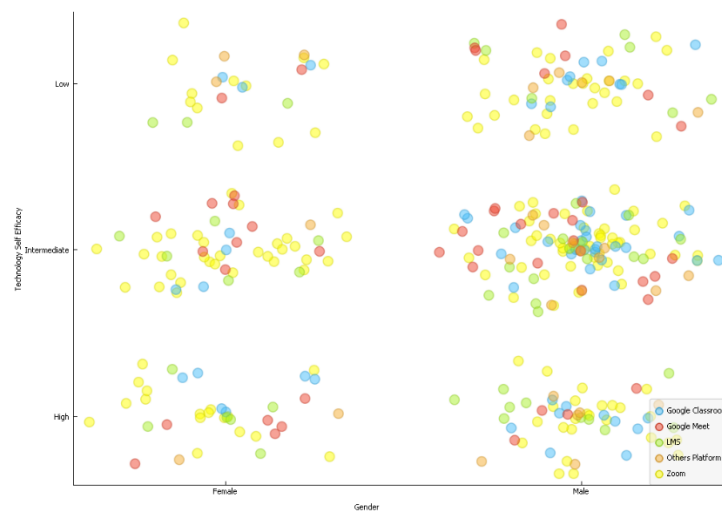


Figure 3. Use of online learning platforms (Gender Vs TSE)

Figure 3 shows a visualization of the use of online learning platforms where most students or as many as 178 students have technology self-efficacy with an intermediate level. Meanwhile, students with a low TSE of 80 and a high TSE of 92 students, as shown in Table 4. Technology self-efficacy looks like an indicator that yang can be used to determine the ability of students to adapt to the use of technology. TSE has a significant influence on students' ease of access to technology to help them achieve learning objectives (Alharbi & Drew, 2018) A total of 92 students have high technology self-efficacy, 178 students have medium self-efficacy technology and 80 students have low self-efficacy technology, as shown in Table 4.

Table 4. Technology self-efficacy

Technology Self Efficacy	Frequency	Percent (%)
Low	80	22.9
Intermediate	178	50.9
High	92	26.3

Data visualization was also carried out in this study by comparing several indicators, namely (1) technology readiness (TR) and online learning experiences (OLE); (2) technology self-efficacy (TSE) and online learning experiences (OLE);

(3) technology self-efficacy (TSE) and technology readiness (TR). The use of online learning platforms based on technology readiness (TR) and online learning experiences (OLE) led to the finding that most students use zoom and google meet platforms as shown in Figure 5.



Figure 5. Use of online learning platforms (TR vs OLE)

The use of online learning platforms is influenced by students' readiness to use technology. In addition, the experience possessed by each student can also affect students' readiness to use online learning platforms. Students with previous online learning experience will naturally have no difficulty if they participate directly in online learning. Of course, this differs from students with little experience using technology, where they find it difficult when faced with online learning. Most students have never used online learning before, so how they adapt to online learning is known, as shown in Table 5.

Table 5. Online learning platform against TR

Technology Readiness	Online Learning Experiences	
	Ever	Never
High	25	49
Google Classroom	7	4
Google Meet	3	3
Zoom	10	33
LMS	3	5
Other Platform	2	4
Intermediate	69	156
Google Classroom	12	31
Google Meet	11	20
Zoom	28	73
LMS	11	21
Other Platform	7	11
Low	17	34
Google Classroom	2	4
Google Meet	1	8
Zoom	13	11
LMS	1	6
Other Platform		5

Table 5 shows that previous experience is practical for determining the platform used. In addition, technological readiness is very helpful to overcome technical problems that occur during the learning process. Meanwhile, the use of technology self-efficacy (TSE) and online learning experiences (OLE) presents the finding that most students use the ZOOM application whether they have previous learning experiences, such as those shown in Table 6.

Table 6. Online learning platform against TSE

Technology Self Efficacy	Online Learning Experiences	
	Ever	Never
High	27	65
Google Classroom	6	10
Google Meet	3	7
Zoom	12	30
LMS	4	12
Other Platform	2	6
Intermediate	56	122
Google Classroom	9	23
Google Meet	10	17
Zoom	26	60
LMS	6	15
Other Platform	5	7
Low	28	52
Google Classroom	6	6
Google Meet	2	7
Zoom	13	27
LMS	5	5
Other Platform	2	7

One of the reasons obtained in this study is the use of online learning platforms in students who have low to high TSE levels, most of whom use the Zoom platform to conduct online learning. Zoom is one of the most popular learning platforms, presenting features like share screens, chat, and group workspaces (Kohnke & Moorhouse, 2022). Zoom usage dominates about 48% of all students, followed using the Google Classroom platform at 17.1%, as shown in Table 7.

Table 7. Types of platforms used

Platform for Online Learning	Frequency	Percent (%)
LMS	47	13.4
Google Classroom	60	17.1
Google Meet	46	13.1
Zoom	168	48.0
Others Platform	29	8.3
Total	350	100.0

Students with no experience in online learning use have a low level of technology self-efficacy. In contrast, students who have used online learning before tend to have intermediate technology self-efficacy, as shown in Figure 6.



Figure 6. Use of online learning platforms (TSE vs OLE)

Figure 6 shows that learning experiences can help students increase their confidence in the learning process (Zimmerman, 2016).

DISCUSSION

Several online learning platforms (OLP) have been addressed since the commencement of online class or school from home; those are Google Classroom (A'yun et al., 2021; Moonma, 2021, p. 38; Setiadi et al., 2021), School Learning Management System (LMS) (Ambarwati et al., 2020; Moonma, 2021, p. 39), Google Meet (Gherhes et al., 2021), Zoom (Marsiding, 2021), and other educational platforms (i.e. Edmodo, Quipper (Cakrawati, 2017)). Compared with social media platforms (Facebook, WhatsApp, LINE), OLP are reported as less popular (UNICEF, 2020).

A platform can be categorized as OLP based on its features that contain educational purposes, such as communicating with students, sharing classroom materials, giving quizzes and assignments, and returning assignments (for teachers), accessing materials, submitting assignments, and interacting with each other (for students) (Moonma, 2021). Most schools and universities use Google Classroom, one of the most popular LMS, to make the most of its features to enhance their teaching and learning (A'yun et al., 2021; Wulan Sari et al., 2021). The features help teachers organize, collect, and mark assignments.

This is considered time-saving since it automatically makes a copy of a Google Docs, Slides, and Forms for each student in one platform. In other words, it helps teachers and students to stay organized, so that the folders for each assignment and the teaching and learning progress are accessible and easier to track. More than that, there is notification to remind students and teachers anytime they have new content, so they are always up to date. The next OLP is the school LMS, which shares the same features and functions as Google Classroom. They differ in the features, in which Google develops Google Classroom, while School LMS is

built by third party. School LMS offers more various learning features depending on the demand. The third OLP is Google Meet, which is affiliated to Google Classroom. It offers video conferencing to facilitate teachers and students to 'meet' virtually. Generally, Google Meet has the same function as Zoom as a platform to facilitate virtual meetings (synchronous learning). The last is other OLPs (e.g. Edmodo, Quipper(Cakrawati, 2017), EdLink, Ruang Guru (Ambarwati et al., 2020)) which share the same features as Google Classroom and School LMS (offers asynchronous learning). It could also be synchronous if it comes with the video conferencing feature.

Previous studies on OLP users (Ambarwati et al., 2020) reported that by the end of 2017, more than 6 million users have already accessed Ruang Guru; meaning that there were significant number of students have already had online learning experiences (OLE) way before the pandemic hit Indonesia. More experiences are assumed can lead to greater familiarity with the OLP and better knowledge to facilitate learning. However, exciting issue comes up with the use of social media, such as Facebook and WhatsApp, which are not learning platforms but are implemented and treated like they are (Setiadi et al., 2021).

Such circumstances showed that teachers and students are more familiar with or have more experiences with social media rather than the OLP. Therefore, OLE is a considerable point for students in choosing their preferred platform. It is necessary to determine how a student's technological readiness affects their choice of OLP. Technology readiness may direct to the choice of preferred OLP due to the two main concepts on using technology: perceived usefulness and ease of use (Villa, 2022a).

Generally, OLP is developed based on its function and ease of use. However, it would be problematic if the user lacked OLE, regardless of the fact that many young people in Indonesia are growing up as 'digital natives' but this is not translating into high levels of digital literacy (UNICEF, 2020). This is in line with the construction on using an online platform as an integrative effort of students, who possess previous knowledge of learning with online platform. So that, it would be easier to demonstrate specific needs concerning their functionalities (Oliwa, 2021).

CONCLUSION

The COVID-19 outbreak has changed the habits of using online learning platforms. Students who have never used technology before are forced to use it to be able to continue learning. Of course, this positively impacts students based on learning experiences during COVID-19. In the post-COVID-19 era, it is believed that students will continue to use online learning with various platforms, and of course the learning strategies provided by teachers are increasingly varied. This study needs to be developed by involving not only students' perspective but also based on the teacher's perspective. With the results of this study, it is expected that the use of online learning platforms is not only a substitute for learning strategies but as a mainstay learning strategy for teachers.

REFERENCES

- Alharbi, S., & Drew, S. (2018). The role of self-efficacy in technology acceptance. *Proceedings of the Future Technologies Conference*, 1142–1150. https://doi.org/978-3-030-02686-8_85
- Ambarwati, R., Harja, Y. D., & Thamrin, S. (2020). The Role of Facilitating Conditions and User Habits: A Case of Indonesian Online Learning Platform. *Journal of Asian Finance, Economics and Business*, 7(10), 481–489. <https://doi.org/10.13106/jafeb.2020.vol7.no10.481>
- A'yun, K., Suharso, P., & Kantun, S. (2021). Google Classroom as the Online Learning Platform during he Covid-19 Pandemic for the Management Business Student at SMK Negeri 1 Lumajang. *IOP Conference Series: Earth and Environmental Science*, 747(1). <https://doi.org/10.1088/1755-1315/747/1/012025>
- Bouilheres, F., Le, L. T. V. H., Mcdonald, S., Nkhoma, C., & Jandug-Montera, L. (2020). Defining student learning experience through blended learning. *Education and Information Technologies*, 25, 3049–3069. <https://doi.org/https://doi.org/10.1007/s10639-020-10100-y>
- Cakrawati, L. M. (2017). The Effect of Digital Flashcard on Students' Vovabulary Mastery of the Fourth Grade Students at SD Negeri 1 & 2 Paket Agung in the Academic Year 2016/2017. *ELT-Tech Journal*, 1(1), 22–30.
- Geng, S., Law, K. M. Y., & Niu, B. (2019). Investigating self-directed learning and technology readiness in blending learning environment. *International Journal of Educational Technology in Higher Education*, 16(1), 1–22. <https://doi.org/10.1186/s41239-019-0147-0>
- Gherhes, V., Stoian, C. E., Fărcasiu, M. A., & Stanici, M. (2021). E-Learning vs . Face-To-Face Learning : Analyzing Students ' Preferences and Behaviors. *Sustainability*, 13(4381), 1–15. <https://doi.org/https://doi.org/10.3390/su13084381>
- Kentnor, H. (2015). Distance Education and the Evolution of Online Learning in the United States. *Curriculum and Teaching Dialogue*, 17(1), 22–34.
- Kohnke, L., & Moorhouse, B. L. (2022). Facilitating synchronous online language learning through Zoom. *Relc Journal*, 53(1), 296–301. <https://doi.org/10.1177/0033688220937235>
- Marsiding, Z. (2021). Efektifitas Penggunaan Media Zoom Terhadap Pembelajaran Pada Masa Pandemi Covid-19. *Jurnal Ilmiah Pranata Edu*, 2(1), 33–39. <https://doi.org/10.36090/jipe.v2i1.931>
- Moonma, J. (2021). Google Classroom: Understanding EFL Students' Attitudes towards Its Use as an Online Learning Platform. *English Language Teaching*, 14(11), 38. <https://doi.org/10.5539/elt.v14n11p38>
- Oliwa, R. (2021). The Process of Designing the Functionalities of an Online Learning Platform – a Case Study. *Teaching English with Technology*, 21(3), 101–120.
- Park, C., & Kim, D. (2020). Perception of instructor presence and its effects on learning experience in online classes. *Journal of Information Technology Education: Research*, 19, 475–488. <https://doi.org/10.28945/4611>
- Sarkar, S. (2020). A Brief History of Online Education | Adamas University. In *Adamas University* (pp. 1–5).

- Setiadi, P. M., Alia, D., Sumardi, S., Respati, R., & Nur, L. (2021). Synchronous or asynchronous? Various online learning platforms studied in Indonesia 2015-2020. *Journal of Physics: Conference Series*, 1987(1). <https://doi.org/10.1088/1742-6596/1987/1/012016>
- UNICEF. (2020). *Strengthening Digital Learning across Indonesia : A Study Brief*.
- Villa, S. C. (2022a). Investigating the Effect of Technology Readiness on Self Efficacy and Learning in Computer-Supported Learning Environments. In *Arizona State University: Vol. May*.
- Villa, S. C. (2022b). *Investigating the Effect of Technology Readiness on Self Efficacy and Learning in Computer-Supported Learning Environments*. Arizona State University.
- Warden, C. A., Yi-Shun, W., Stanworth, J. O., & Chen, J. F. (2022). Millennials' technology readiness and self-efficacy in online classes. *Innovations in Education and Teaching International*, 59(2), 226–236. <https://doi.org/14703297.2020.1798269>
- Wulan Sari, N. W., Wulansari, T. T., Yanuartha, W., Sipayung, M. S., & Pribadi, A. S. (2021). Factors Which Influence the Success of Google Classroom Based on Age. *Journal of Physics: Conference Series*, 1807(1). <https://doi.org/10.1088/1742-6596/1807/1/012016>
- Zimmerman, W. A. (2016). Online Learning Self-Efficacy in Students With and Without Online Learning Experience. *American Journal of Distance Education*, 30(3), 180–191. <https://doi.org/10.1080/08923647.2016.1193801>