ISSN: 2339-2940
E-ISSN: 2614-8633

Students' Engagement in Online Learning Using Whatsapp Group During Covid-19 Pandemic

Nugroho[a,1*]

[a] *University of Indraprasta PGRI, Jakarta, Indonesia*
[1*] *Nugroho2210@gmail.com*

ARTICLE INFO

Article history:
Received: 18/05/2022
Revised:30/06/2022
Accepted: 30/06/2022

Keywords:
engagement, online Learning, Covid-19

ABSTRACT

Starting in the odd semester of 2020/2021, the University of Indraprasta PGRI will provide online or distance learning. Because of government laws on Large-Scale Social Restrictions, online learning is finished. Distance learning has always used technology to apply its knowledge, beginning with the most basic methodology and progressing to the most advanced. According to PDDIKTI 2020, the study sample is 206 of 4106 active students of the Indraprasta PGRI University with language and arts majors in English education. One of the reasons student participation on campus should be a concern is that it is a crucial factor in learning and academic success. Learning performance is measured in academic achievement, character development, and satisfaction in the classroom. The study aims to learn about students' participation in online Learning during Covid-19. The study employs a survey approach with a degree of descriptive interpretation and quantitative data analysis. The study results conclude that most English education students have very high engagement in online learning using WhatsApp application with 69% or as much as 144 students. Twenty-seven percent of the students have high, 3% have moderate, and 1% have low engagement.

I. Introduction

The University of Indraprasta PGRI conducts online learning starting in the odd semester of 2020/2021. Online learning is carried out due to government regulations regarding Large-Scale Social Restrictions (PSBB). PSBB stands for Large-Scale Social Restrictions, a regulation issued by the Ministry of Health in the context of the Acceleration of Handling COVID-19 so that it can be immediately implemented in various regions. PSBB rules are published in the Minister of Health Regulation No. 9/2020. These restrictions include school and work holidays, religious activities, public places or facilities, socio-cultural activities, modes of transportation, and other related defense and security activities.

Online learning is distance learning (PJJ). The distance learning system is a system that has existed since the mid-18th century. Online learning is one of the fastest-growing fields of education globally because it offers flexible access to educational opportunities to students from all backgrounds and geographical regions who would otherwise be unable to obtain higher education by other means (Belawati, 2019). In brief, the history of distance learning development can be grouped based on the dominant technology it uses. It proposed that distance education be divided into five generations: First, the Correspondence Model is based on print technology. Second, the Multi-media Model is based on print, audio, and video technologies. Third, the Tele-learning Model is based on telecommunications technologies to allow synchronous communication. Fourth, the Flexible Learning Model is based on online delivery. Lastly, Intelligent Flexible Learning is based on online delivery via the Internet (Taylor, 2001).

Online learning is an approach that uses digital devices such as computers, smartphones, iPads, the Web, and managed learning environments to organize or fulfill the teaching and learning process

ISSN: 2339-2940
E-ISSN: 2614-8633

(McConnell, 2017). E-learning is resource-based learning, which provides an educational environment where students can access educational materials anytime and anywhere (Premlatha & Geetha, 2015). This approach is learner-centered, developing individual and adaptive learning courses and bringing students into the learning process, tailored to students' needs and goals (Hwang, Lai, & Wang, 2015).

Increasing student engagement in learning is one of the efforts that the campus can make to reduce problems that occur to students. A literature study explained that problems such as low student achievement increased levels of student boredom and increased the dropping out cases from school resulting from the disengagement of students in school (Fredricks, Blumenfeld, & Paris, 2004). It explained that besides there being students involved in the teaching and learning process, some students are not involved, such as being apathetic, chatting with friends, not excited, not focused, or even sleeping while the learning process is taking place (Appleton, Christenson, & Furlong, 2008). It added that student engagement in school is significant because many students feel bored, unmotivated, and uninvolved. It makes them detached (not involved) from the academic and social aspects of the environment (Appleton et al., 2008).

One of the reasons students' engagement on campus should be of concern is that engagement is an essential factor in the learning and educational process (Fredricks, Filsecker, & Lawson, 2016). Students' engagement in a classroom is a crucial factor that influences several educational outcomes (Subramainan & Mahmoud, 2020). Engagement is influenced by the interactions between student factors and institutional factors and, by applying a cultural lens, represents the place that these interactions occur as the educational interface (Kahu & Nelson, 2018). It concludes that students and institutional factors influence the students' engagement. Students' engagement influences the learning process and outcomes.

It is manifested in the components that make up students' engagement on campus, which is multi-dimensional. It consists of three components: cognitive, behavioral, and emotional (Jimerson, 2003). Although there is agreement on the relationship between student engagement and learning outcomes and researchers agree that the engagement construct is multi-dimensional, there are mixed opinions about the amount and type of students' engagement (Fredricks et al., 2016). Behavioral, cognitive, and emotional engagement are the types of engagement that are mainly discussed in most of the literature.

a. Behavioral engagement

Behavioral engagement leads to participation and direct engagement in academic activities at school, such as attendance, participation in learning activities, obeying rules, and doing assignments (Jimerson, 2003). This component can be defined through three categories: compliance with regulations, engagement in learning activities (paying attention to lessons, asking questions, and participating in discussions), and participating in sports and organizational activities in schools (Fredricks et al., 2004).

b. Cognitive Engagement

Cognitive engagement refers to how students spend time, energy, and effort in learning. It includes using complex higher-order thinking skills to understand the material being taught more deeply. Cognitive engagement involves students' willingness to work harder in managing self-strategies for task completion to master the material (Fredricks et al., 2016).

c. Emotional Engagement

Emotional engagement is compatible with affective characteristics. It refers to how students show positive and negative reactions to campus, learning, teachers, and peers. Emotional engagement is also conceptualized as a sense of belonging and feeling valued as a class and campus member. Students show positive emotions and appreciation for completing campus assignments with enthusiasm, curiosity, interest, and willingness. It is also the absence of a sense of emotion, such as fear, frustration, anger, anxiety, or distress (Reeve, 2012).

In this research, online learning is applied WhatsApp application. It was chosen because of succeeding in reaching the market. People around the world use the application. According to a survey conducted by (APJII, 2020) on 2-25 June 2020, Internet users in Indonesia for the 2019-11th Quarter 2020 are proof. The survey results stated that Internet users in this republic rose from 8.9

ISSN: 2339-2940
E-ISSN: 2614-8633

percent to 73.7 percent of the population. The number is equivalent to 196.7 million users. There is an increase of 25.5 million users compared to the number of users in 2018 ago.

Based on the explanation above, this research investigated "how are students engaged in online learning with the WhatsApp group during the COVID-19 pandemic?"

II. Method

This type of research uses a survey method with descriptive explanation level and quantitative data analysis. The survey approach is research done on large and small populations, but the data analyzed is from surveys taken from specific populations to find relative events, distributions, and interactions between sociological and psychological variables (Sugiyono, 2019).

The population in this study was 4106 active students of the Indraprasta PGRI University with language and arts majors in English education, according to data from PDDIKTI 2020. Several considerations in determining the proposed sample (Zuriah, 2009) include cost, time, research accuracy, data collection, data recording, and analysis. To determinate the number of samples can also be based on the percentage as shown in the sampling percentage table stated by Yount below

Table 1. Yount Table

Number of population	Number of samples
0 – 100	100%
101 – 1.000	10%
1.001 – 5.000	5%
5.001 – 10.000	3%
>10.000	1%

The total population is 4106, so the sample required is 5% or 205.3 students. In this study, the author uses the probability sampling technique using the simple random sampling method. (Sugiyono, 2019) The definition of simple random sampling is the taking of sample members from the population, which is done randomly without paying attention to the strata in the population.

The data collection technique used by the researcher used an online questionnaire. The questionnaire is a data collection technique done by giving a set of questions or written statements to the respondent to be answered. The questionnaire is an efficient data collection technique if the researcher knows what aspects to measure and what the respondent expects. Besides, a questionnaire is also suitable if the number of respondents is large enough and spread over a large area. Questionnaires can be closed / open questions/statements that can be given to respondents directly or sent by post or the Internet (Sugiyono, 2019). From distributing questionnaires, the researcher hoped that data would be obtained, including cognitive engagement, emotional engagement, and behavioral engagement.

There are 29 statements in the questionnaire. It includes cognitive, emotional, and behavioral engagement. The researcher conducts a validity and reliability test to ensure the eligible instrument. The validity instrument test measures what is supposed to and performs as designed. The instrument reliability test measures the consistency of the instrument. In surveying student engagement in online Learning with WhatsApp, questionnaires/questionnaires were distributed using google Forms from November 2, 2020, to November 30, 2020. Then on December 1 - 05, 2020, data management was carried out from the survey results. Two hundred six respondents filled out a questionnaire.

First, the researcher collected data and determined the tools to obtain data from the elements to be studied. The tool used in this research is a questionnaire. The Likert scale measures attitudes and respondents' opinions about social phenomena. In a Likert scale, the variables to be measured are translated into variable indicators and used as a starting point for arranging instrument items where the alternative is a question. The answer for each instrument item that uses a Likert scale has a gradient from very positive to very negative.

These indicators are then used as a starting point for compiling instrument items in the form of questions or statements (Sugiyono, 2019). For quantitative analysis, the researcher can give a score from the Likert scale, namely:

ISSN: 2339-2940
E-ISSN: 2614-8633

Table 2. Likert Scale Score

Positive Statements		**Negative statements**	
Alternative Answers	Score	Alternative answers	Score
Strongly Agree	5	Strongly Agree	1
Agree	4	Agree	2
Neutral	3	Neutral	3
Disagree	2	Disagree	4
Strongly disagree	1	Strongly disagree	5

The data will be grouped into five categories: Very high, high, moderate, low, and very low. Categorization is done by comparing the mean score and standard deviation regarding the following criteria.

Table 3. Categorization Criteria Scale

No	**Formula**	**Criteria**
1	X ≥ Mi + 1,5 SDi	Very high
2	Mi + 0,5 SDi ≤ X< Mi + 1,5 SDi	High
3	Mi - 0,5 SDi ≤ X < Mi + 0,5 SDi	Moderate
4	Mi - 1,5 SDi ≤ X <Mi – 0,5 SDi	Low
5	X< Mi – 1,5 SDi	Very low

III. Findings And Discussion

Since student participation is an essential factor in active and cooperative learning and a critical success factor in student learning, it is necessary to create an online learning student participation by combining the elements of online learning and using it for analysis. From the validity test of the research instrument (questionnaire), it was found that 26 statements got a r_{count} value of more than 0.1144, so it was said to be valid and three invalid statements. So only valid statements will be used.

Table 4. Validity Test Result

Variable	Number of statement	Invalid	Invalid Statement Number	Total of Valid Statement
Student's behavior engagement in distance learning using WhatsApp group during pandemic covid-19	10	0	0	10
Student's social engagement in distance learning using WhatsApp group during pandemic covid-19	10	0	0	10
Student's cognitive engagement in distance learning using WhatsApp group during pandemic covid-19	9	3	24, 28, 29	6

The total number of statements in the questionnaire before a validity test was 29. It consists of 10 behavioral engagement statements, ten social engagement statements, and nine cognitive engagement statements. After having a validity test, three cognitive statement statements are found invalid. The total amount of valid statements is 26.

Reliability test refers to an understanding that an instrument can be trusted enough to be used as a data collection tool because the instrument is good (Arikunto, 2011). Reliability test with Alpha Cronbach formula assisted by SPSS. The instrument is reliable if it has a reliability coefficient or reliability of 0.6 or more. On the other hand, if the instrument has a coefficient below or less than 0.60 the instrument used is unreliable. The results of the variable reliability test can be presented in the table below:

Tabel 5. Reliability test result

Reliability Statistics	
Cronbach's Alpha	***N of Items***
.923	26

ISSN: 2339-2940
E-ISSN: 2614-8633

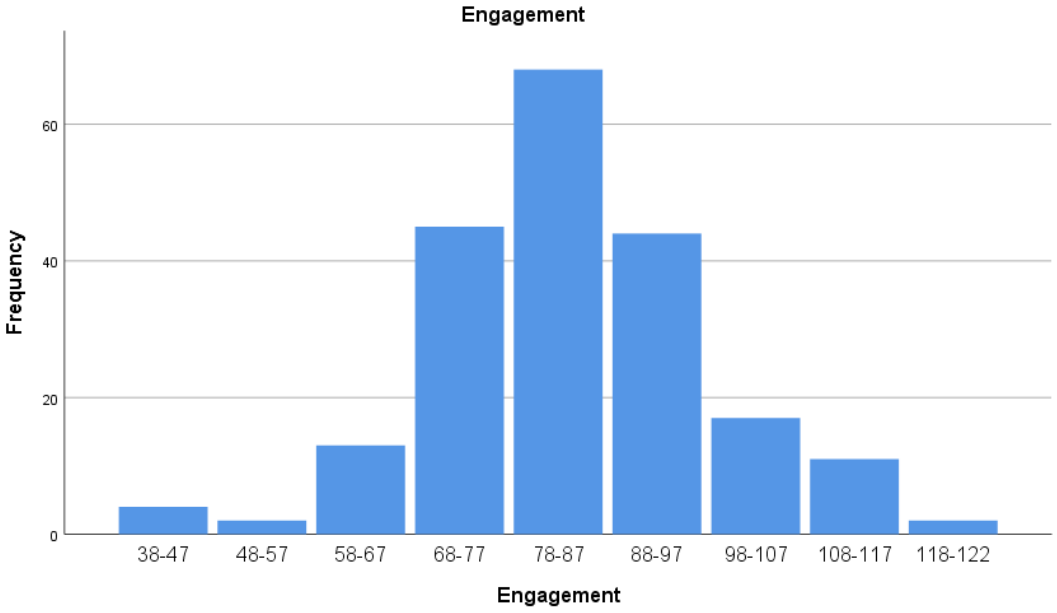
The reliability test results are reliable because the Cronbach Alpha value is more significant than 0.60.

A frequency distribution shows the frequency of repeated items in a graphical form or tabular form. It gives a visual display of the frequency of items or shows the number of times they occurred.

Table. 6. Frequency Distribution

Engagement					
		Frequency	***Percent***	***Valid Percent***	***Cumulative Percent***
Valid	38-47	4	1.9	1.9	1.9
	48-57	2	1.0	1.0	2.9
	58-67	13	6.3	6.3	9.2
	68-77	45	21.8	21.8	31.1
	78-87	68	33.0	33.0	64.1
	88-97	44	21.4	21.4	85.4
	98-107	17	8.3	8.3	93.7
	108-117	11	5.3	5.3	99.0
	118-122	2	1.0	1.0	100.0
	Total	206	100.0	100.0	

The frequency distribution table above shows the number of most respondents is 33 % in the range score of 78 – 87. It visualizes in the chart below:



Picture 1. Frequency Distribution of Engagement

The instrument or questionnaire used consists of 26 items valid statements. The alternative answers to the instrument consist of 5 kinds ranging from 1 to 5. The scores range from 26 to 130. Based on the calculation results above, the categorization criteria can be seen in the following table:

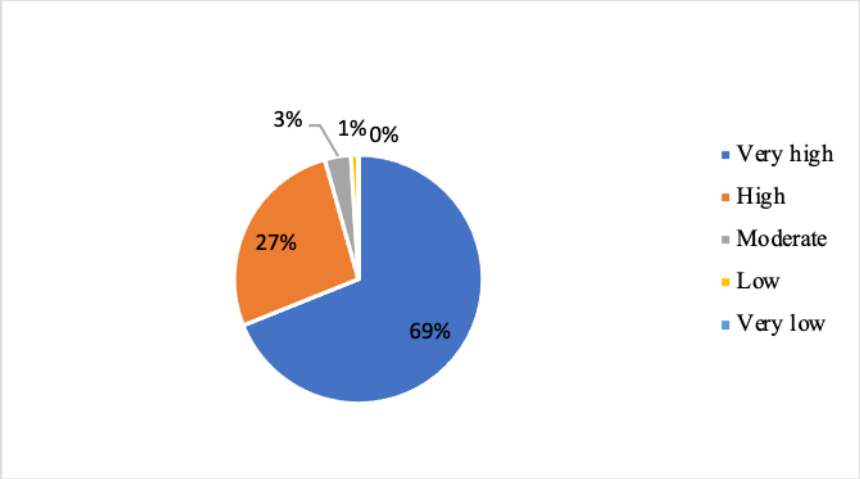
Table 7. Categorization Criteria

Score	Frequency	Criteria
$X \geq 78$	144	Very high
$61 \leq X < 78$	55	High
$43 \leq X < 61$	7	Moderate

ISSN: 2339-2940
E-ISSN: 2614-8633

26 ≤ X < 43	2	Low
X < 26	0	Very low

The table above shows the frequency distribution of scores for categorizing student engagement in online learning using the WhatsApp group during the CIVID-19 pandemic. The visualization can be seen in the form of a pie chart as shown below:



Picture 2. Students' Engagement

It can be concluded that most English education students have very high engagement in online learning using the WhatsApp application, with a percentage of 69% or as much as 144 students. Twenty-seven percent of the students have high, 3% have moderate, and 1% have low engagement. Analysis of students' engagement in online learning using WhatsApp application during COVID-19 pandemic viewed from each indicator can be explained as follows:

a. Students' behavioral engagement

Behavioral engagement is a specific behavior of a learner in the learning process. Although student behavior in online learning environments is somewhat inaccurate and deceptive, behavioral engagement's frequency, breadth, and depth can still reflect student engagement. There are ten statements in the questionnaire, and 206 students were involved in this study.

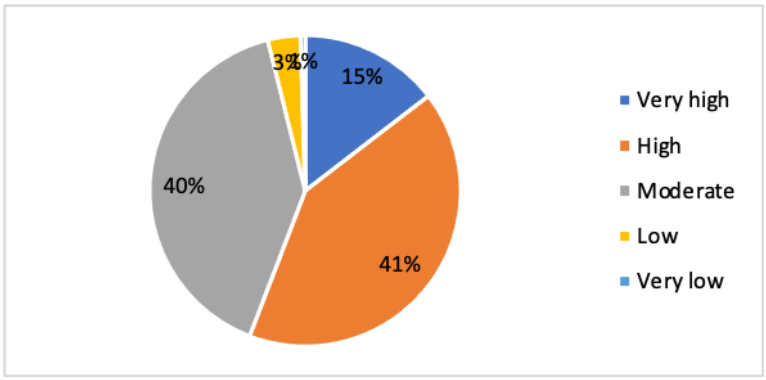
Categorizing criteria of students' behavioral engagement in online learning using WhatsApp application during COVID-19 pandemic is in the table below:

Table 8. Behavioral Engagement Criteria

Score	Frequency	Criteria
X ≥ 40	30	Very high
33.4 ≤ X < 40	85	High
26.7 ≤ X < 33.4	83	Moderate
20 ≤ X < 26.7	7	Low
X < 20	1	Very low

The table above shows the students who are behaviorally engaged in online learning. Thirty students are categorized as very high, 85 students are high, 83 students are moderate, seven students are low, and one is very low. Following the chart, visualizes the behavioral engagement.

ISSN: 2339-2940
E-ISSN: 2614-8633



Picture 3. Behavioral engagement

We conclude from the picture above that 15% of the students are very high behavioral engaged. There is 41% of the students categorized in high behavioral engagement. 40% of students are in moderate behavioral engagement. There is 3% of the students in low-level behavioral engagement. 1% of the students are at a very low level of behavior engagement.

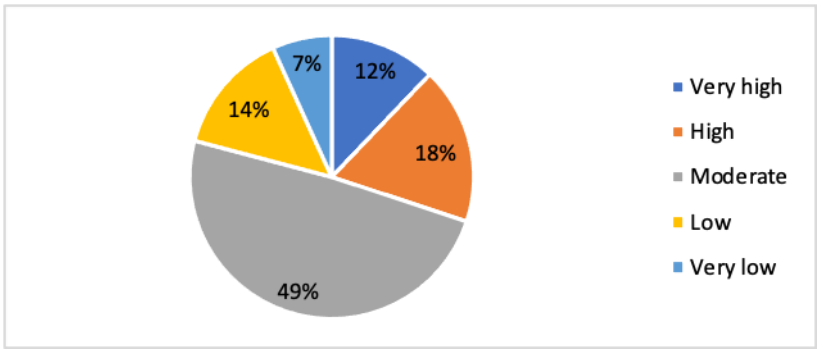
b. Students' Emotional Engagement

Emotional engagement refers to a student's emotional response in the learning process. Students will exhibit a variety of emotional experiences while engaging in specific tasks. There are ten statements in the questionnaire and 206 respondents. Categorizing criteria of students' emotional engagement in online learning using WhatsApp application during the COVID-19 pandemic is in the table below:

Table 9. Emotional Engagement Criteria

Score	Frequency	Criteria
$X \geq 40$	25	Very high
$33.4 \leq X < 40$	37	High
$26.7 \leq X < 33.4$	101	Moderate
$20 \leq X < 26.7$	29	Low
$X < 20$	14	Very low

The table above shows that 25 students are in very high emotional engagement. Thirty-seven students are in high emotional engagement. One hundred one students are at a moderate level of emotional engagement. Twenty-nine students are low emotionally engaged. Fourteen students are very low emotionally engaged. The visualization can be seen in the form of a pie chart as shown below:



Picture 4. Emotional Engagement

From the graph above, we find that 12% of the students are very high in emotional engagement.

Cognitive Engagement. 18% of the students are at a high level of emotional engagement. 49% of the students are categorized as moderate. 14% of the students are low emotionally engaged. 7% of the students are very low emotionally engaged.

ISSN: 2339-2940
E-ISSN: 2614-8633

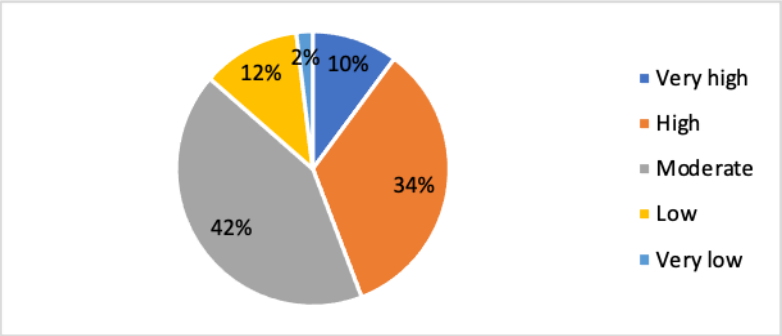
c. Students' Cognitive Engagement

This aspect refers to concepts related to students' willingness to make maximum efforts in each study, to be able to spur themselves according to what is needed even more than what is needed to be able to understand or master their abilities. There are six statements in the questionnaire and 206 respondents. Categorizing criteria of students' cognitive engagement in online learning using WhatsApp application during the COVID-19 pandemic is in the table below:

Table 10. Cognitive Engagement Criteria

Score	Frequency	Criteria
$X \geq 24$	21	Very high
$20 \leq X < 24$	70	High
$16 \leq X < 20$	87	Moderate
$12 \leq X < 16$	24	Low
$X < 12$	4	Very low

We can see from the table above those 21 students in very high criteria of cognitive engagement. Seventy students are in high cognitive engagement. Eighty-seven students are in moderate level, and 24 students are in low cognitive engagement. The pie chart below visualizes the students' cognitive engagement:



Picture 5. Cognitive Engagement

The picture above shows that 10% of the students have very high cognitive engagement. 34% of the students in a high level of cognitive engagement. 42% of the students are categorized in moderate cognitive engagement. 12% of the students are in low cognitive engagement. 2% of the students are in very low cognitive engagement.

IV. Conclusion

In this study, researchers have discussed Student Engagement in Online Learning with WhatsApp Groups during the COVID-19 pandemic. This study was assisted by students as data collectors in the form of data collection on respondents, namely odd semester students who were randomly selected. Researchers selected 206 students as respondents and were given a questionnaire. The questionnaire consisted of 10 emotional engagement statements, ten behavioral engagement statements, and six cognitive engagement. These 26 statements have been tested for validity and reliability.

The questionnaire results obtained in the study of student emotional engagement in online Learning with WhatsApp groups during the Covid-19 pandemic were analyzed and categorized. The analysis and categorization results showed that most English education students have very high engagement in online learning using WhatsApp application with a percentage of 69% or as much as 144 students. Twenty-seven percent of the students have high, 3% have moderate, and 1% have low engagement. Respondents are students in odd semester 2020/2021.

Student engagement in online learning using the WhatsApp group media shows promising results. It shows that WhatsApp groups are suitable for use in online learning. This research is expected to be a reference for further research. Comparative research on the effectiveness of using

ISSN: 2339-2940
E-ISSN: 2614-8633

WhatsApp groups with other applications is needed. The effectiveness comparison will enrich teacher references in teaching.

References

[1] APJII. (2020). Buletin APJII. *Asosiasi Penyelenggara Jasa Internet Indonesia*, p. 1. Retrieved from https://apjii.or.id/content/read/104/503/BULETIN-APJII-EDISI-74---November-2020

[2] Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools*, *45*(5), 369–386. https://doi.org/10.1002/pits.20303

[3] Arikunto, S. (2011). *Prosedur Penelitian: Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.

[4] Belawati, T. (2019). *Pembelajaran Online*. Jakarta: Universitas Terbuka.

[5] Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, *74*(1), 59–109. https://doi.org/10.3102/00346543074001059

[6] Fredricks, J. A., Filsecker, M., & Lawson, M. A. (2016). Student engagement, Context, And adjustment: Addressing definitional, Measurement, And methodological issues. *Learning and Instruction*, Vol. 43, pp. 1–4. https://doi.org/10.1016/j.learninstruc.2016.02.002

[7] Hwang, G.-J., Lai, C.-L., & Wang, S.-Y. (2015). Seamless flipped learning: a mobile technology-enhanced flipped classroom with effective learning strategies. *Journal of Computers in Education*, Vol. 2, pp. 449–473. https://doi.org/10.1007/s40692-015-0043-0

[8] Jimerson, S. R. (2003). *Toward an Understanding of Definitions and Measures of School Engagement and Related Terms*. (January). https://doi.org/10.1007/BF03340893

[9] Kahu, E. R., & Nelson, K. (2018). Student engagement in the educational interface: understanding the mechanisms of student success. *Higher Education Research and Development*, *37*(1), 58–71. https://doi.org/10.1080/07294360.2017.1344197

[10] McConnell, D. (2017). E-learning in Chinese higher education: the view from inside. *Higher Education*, *75*(6), 1031–1045. https://doi.org/10.1007/s10734-017-0183-4

[11] Perveen, A. (2016). Synchronous and Asynchronous E-Language Learning: A Case Study of Virtual University of Pakistan. *Open Praxis*, 21-39.

[12] Peterson, C. (2006). *A Primer in Positive Psychology.* New York: Oxford University Press.

[13] Premlatha, K. R., & Geetha, T. V. (2015). Learning content design and learner adaptation for adaptive e-learning environment: a survey. *Artificial Intelligence Review*, *44*(4), 443–465. https://doi.org/10.1007/s10462-015-9432-z

[14] Reeve, J. (2012). Handbook of Research on Student Engagement. In S. L. Christenson, A. L. Reschly, & C. Wylie (Eds.), *Handbook of Research on Student Engagement* (pp. 149–172). https://doi.org/10.1007/978-1-4614-2018-7

[15] Subramainan, L., & Mahmoud, M. A. (2020). A systematic review on students' engagement in classroom: Indicators, challenges, and computational techniques. *International Journal of Advanced Computer Science and Applications*, *11*(1), 105–115. https://doi.org/10.14569/ijacsa.2020.0110113

[16] Sugiyono. (2019). *METODE PENELITIAN KUANTITATIF, KUALITATIF dan R&D* (2nd ed.). Bandung: Alfabeta.

[17] Taylor, J. (2001). Fifth generation distance education. *Higher Education Division*, *40*(40), 1–8. Retrieved from http://ascilite.org.au/ajet/e-jist/docs/vol4no1/contents.htm

[18] Zuriah, N. (2009). *Metodologi Penelitian Sosial dan Pendidikan Teori Aplikasi* (Vol. 3). Jakarta: Bumi Aksara.