

# Student Performance on Online Learning During Covid-19 Pandemic

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**Abstract:** The covid-19 pandemic in Indonesia has made major changes to the learning process in higher education. Learning that is usually done face-to-face has turned into online learning to prevent the spread of the covid-19 virus. Learning outcomes are one aspect that needs to be considered because of this transition in learning methods and the learning media. The research objective is to determine how student learning outcomes during online learning, what learning media are most widely used, and which learning media have the best learning outcomes. The research method used is quantitative research with a descriptive approach. The research was conducted at IAIN Takengon, involving 40 courses that were conducted online. The results showed that student learning outcomes were in good categories with an average score of 83.25 when used as letters; student learning outcomes were category B. Based on student performance, it was seen that online learning did not make learning outcomes low. WhatsApp is the most widely used learning media for online learning and has the best learning outcomes is WhatsApp. Based on a large number of WhatsApp uses as an online learning media with good learning outcomes, it can be recommended to use WhatsApp in online learning.

**Keyword:** Student Performance; Online Learning; Covid-19 Pandemic

## 1 Introduction

Learning outcomes are one very important aspect of education [1,2]. Learning outcomes will be a reference; whether a learning process is successful or not, good learning outcomes can reflect that the learning process has gone well, and poor learning processes could cause poor learning outcomes. [3,4]. The Covid-19 pandemic has spread throughout the world; in Indonesia, this pandemic has started in March 2020 [5]. IAIN Takengon, as one of the universities in the Central Aceh region in Indonesia, is one of the universities affected by the Covid-19 pandemic. The most significant impact is on the learning aspect; learning is usually done face-to-face and must be turned into online learning [6]. It is feared that this change in learning methods will cause poor student learning outcomes; this could be due to the lack of readiness of lecturers and students to carry out lectures online. Previous research has shown that the comparison of learning outcomes between face-to-face learning and online learning has no

significant difference [7,8]; when referring to the two studies, then the learning outcomes will not be affected, and changes in the way of learning should not be too worrying.

Lectures that are conducted online automatically require learning media that can accommodate online learning [9,10]. This learning also requires lecturers to have learning media that can be used to meet learning needs [11,12]. In practice, each lecturer has different choices in learning media. Social media is a learning medium that can be used in distance learning, where currently, social media is one of the communication technologies used by all students. [13]. This study will later provide an overview of student learning outcomes during online learning and appropriate learning media to use to be material for future learning improvements because there is no certainty that learning will return as usual considering that the Covid-19 pandemic has not ended. This study aims to find out how the student learning outcomes during online learning, which learning media have the best learning outcomes, and what learning media are most widely used during online learning.

## 2 Methodology

The research method used is quantitative research methods with a descriptive approach. The research data in the form of student scores were taken from the SIAKAD (Academic Information System) website at IAIN Takengon. To be precise, in July 2020, after all, lecturers entered student scores. The value used in this research is the value in the even semester of the 2019/2020 academic year, which runs from February to July 2020; the reason for choosing it is because the learning was carried out right when the Covid-19 pandemic broke out in Indonesia and Takengon in particular, so that all Lectures are conducted online starting in March 2020 until the end of the semester in July 2020. For data about the learning media used during online lectures, it was collected by conducting interviews with students. Student scores at the IAIN Takengon are given on a scale of 0-100 with the categorization of values being 5, namely A (86-100), B (72-100), C values (60-71), D values (50-59), and E values (0-49). For the passing category of courses, grades A, B, and C are in the graduated category, while grades D and E are in the failing category. For more details about the categorization of values, see table 1.

**Table 1.** Value categorization.

| Numbers | Alphabet | Category  |
|---------|----------|-----------|
| 86-100  | A        | Graduated |
| 72-85   | B        | Graduated |
| 60-71   | C        | Graduated |
| 50-59   | D        | Not pass  |
| 0-49    | E        | Not pass  |

### 3 Result and discussion

#### 3.1 Student Performance

This study involved 40 courses at IAIN Takengon; of the 40 subjects, some classes have the same number of students, and there are different numbers of students; this is because not all students take the same courses. The class consists of at least 18 students, while the most filled class is 41 students. Student learning outcomes in the 40 subjects which are the research data show that the lowest and highest scores vary, from the E category to the A category score, for the lowest score of 5.00 in the E grade category in 35 courses, while the highest score namely 99.10 in category A in subject 10. For the average score, the lowest average score is 74.61 in category B in subject 35, while the highest average score is 88.68 in category A in the subject. Lecture 11. The average score for the entire course is 83.25 in the category B grade. Looking at these data, it can be concluded that student learning outcomes are in a Good category. For complete data can be seen in Table 2.

**Table 2.** Learning outcomes.

| Courses | Number of Students | Lowest Value | The highest score | Average Score |
|---------|--------------------|--------------|-------------------|---------------|
| 1       | 34                 | 85,80        | 89,75             | 87,45         |
| 2       | 36                 | 7,00         | 87,10             | 80,80         |
| 3       | 25                 | 72,00        | 88,00             | 77,84         |
| 4       | 31                 | 81,50        | 91,00             | 87,27         |
| 5       | 36                 | 25,00        | 86,25             | 82,40         |
| 6       | 36                 | 65,50        | 89,00             | 80,57         |
| 7       | 36                 | 85,50        | 87,75             | 86,42         |
| 8       | 35                 | 74,86        | 94,61             | 86,74         |
| 9       | 37                 | 75,55        | 88,05             | 82,42         |
| 10      | 37                 | 85,55        | 99,10             | 87,52         |
| 11      | 41                 | 85,50        | 92,00             | 88,68         |
| 12      | 37                 | 73,00        | 87,25             | 83,03         |
| 13      | 37                 | 75,75        | 89,00             | 85,42         |
| 14      | 37                 | 82,80        | 85,15             | 83,71         |
| 15      | 37                 | 85,50        | 90,70             | 86,17         |
| 16      | 26                 | 73,80        | 84,60             | 78,82         |
| 17      | 27                 | 78,00        | 85,25             | 81,69         |
| 18      | 23                 | 72,00        | 86,00             | 76,26         |
| 19      | 22                 | 72,00        | 86,00             | 77,92         |
| 20      | 21                 | 78,00        | 86,00             | 84,86         |
| 21      | 23                 | 82,00        | 87,00             | 85,74         |
| 22      | 23                 | 86,00        | 92,80             | 87,65         |
| 23      | 27                 | 9,50         | 91,00             | 85,05         |
| 24      | 23                 | 51,75        | 98,50             | 82,55         |
| 25      | 27                 | 70,00        | 96,00             | 82,10         |
| 26      | 21                 | 72.70        | 87,00             | 81,44         |

|    |    |       |       |       |
|----|----|-------|-------|-------|
| 27 | 20 | 78,85 | 86,70 | 82,43 |
| 28 | 25 | 82,40 | 88,20 | 85,31 |
| 29 | 19 | 79,05 | 87,25 | 85,17 |
| 30 | 23 | 80,00 | 86,40 | 82,29 |
| 31 | 23 | 80,00 | 84,50 | 81,02 |
| 32 | 22 | 25,00 | 92,55 | 81,77 |
| 33 | 18 | 27,80 | 86,00 | 80,04 |
| 34 | 23 | 67,80 | 92,30 | 84,60 |
| 35 | 27 | 5,00  | 85,85 | 74,61 |
| 36 | 23 | 85,55 | 86,70 | 86,08 |
| 37 | 19 | 77,80 | 86,58 | 85,58 |
| 38 | 23 | 73,00 | 87,00 | 83,23 |
| 39 | 36 | 29,00 | 86,90 | 78,57 |
| 40 | 35 | 20,95 | 92,55 | 81,49 |

Based on learning outcomes in the good category, learning that occurs from face-to-face learning to online learning does not need to be worried because it appears that students are ready for these changes. This is a positive signal for ongoing learning because this learning can produce good learning values so that in the future, only improvements are needed if needed.

### 3.2 Learning Media

The results showed six learning media types used in learning: the WhatsApp application, telegram application, Edmodo application, google classroom application, zoom application, and youtube. In principle, the use of learning media is used for different designations with different characteristics. Still, because at IAIN Takengon, learning media selection is left to the respective lecturers, the lecturers use learning media tailored to their respective learning needs.

For learning media, the most widely used in the WhatsApp application, this application is used in 35 learning classes. Edmodo is used in 1 class, telegram is used in 1 class, youtube is used in 1 class, WhatsApp and zoom are used in 1 class, and youtube and google classroom are used in 1 class. Currently, youtube is one of the learning media used in the classroom; youtube is not only on the educational side but also on the aspects of student morning entertainment. [14]. So by looking at these data, it can be said that the learning media that is most widely used in the teaching and learning process is the WhatsApp application. Whatsapp is a learning medium that is effectively used in learning; in its use, WhatsApp is commonly used in blended learning [15–17]. Students who are currently generation Z can integrate social media as a learning medium in their learning; this is supported by the fact that generation Z is already accustomed to using social media in their daily activities [18]. For more details, see table 3.

**Table 3.** Learning media.

| Learning Media             | Frequency |
|----------------------------|-----------|
| Whatsapp                   | 35        |
| Telegram                   | 1         |
| youtube                    | 1         |
| youtube + google classroom | 1         |
| Edmodo                     | 1         |
| Whatsapp + Zoom            | 1         |

For learning media with the highest or best learning outcomes, the WhatsApp application with an average value of 88.68 in category A in course 11 in Table 1. This average value is the highest average value of all courses which exist. So it can be concluded that the WhatsApp application is an application that produces the highest learning value compared to other learning media.

One of the interesting findings from this study is the tendency for lecturers to use more than one learning media. This can be found in 2 courses, namely in subject six, which uses WhatsApp and zoom simultaneously, and in course 25, which uses YouTube and Google Classroom. For learning outcomes in these two courses, the use of youtube and google classroom has better learning outcomes, namely an average value of 82.10, while learning outcomes on the combined learning media WhatsApp and zoom have an average value of 80.57. This can be seen in Table 2.

## 4 Conclusion

During the pandemic, student performance showed good results, namely an average value of 83.25 in the Grade B category. The learning media that was most widely used during online learning was the WhatsApp application. The learning media that has the highest learning outcomes is the WhatsApp application. Based on this study's results, it can be recommended to use the WhatsApp application during learning. There is an interesting finding that social media has been used as a learning medium and several courses use more than one learning media. Future research is needed to find specific learning designs for social media as a learning media.

## References

- [1] Entwistle N 2005 Learning outcomes and ways of thinking across contrasting disciplines and settings in higher education *Curric. J.* **16** 67–82
- [2] Killen R 2000 Outcomes-based education: Principles and possibilities ... *Univ. Newcastle, Fac. Educ.* 1–24
- [3] Biggs J 1999 What the student does: Teaching for enhanced learning *Int. J. Phytoremediation* **21** 57–75
- [4] Jonassen D H 1997 Instructional design models for well-structured and ill-structured problem-solving learning outcomes *Educ. Technol. Res. Dev.* **45** 65–94
- [5] Djalante R, Lassa J, Setiamarga D, Sudjatma A, Indrawan M, Haryanto B, Mahfud C, Sinapoy M S, Djalante S, Rafliana I, Gunawan L A, Surtiari G A K and Warsilah H 2020 Review and analysis of current responses to COVID-19 in Indonesia: Period of January to March 2020 *Prog. Disaster Sci.* **6** 100091
- [6] Stodel E J, Thompson T L and MacDonald C J 2006 Learners' Perspectives on what is Missing from Online Learning: Interpretations through the Community of Inquiry Framework *Int. Rev. Res. Open Distrib. Learn.* **7**
- [7] Larson D K and Sung C H 2009 Comparing student performance: Online versus blended versus face-to-face *J. Asynchronous Learn. Netw.* **13** 31–42
- [8] Thai N T T, De Wever B and Valcke M 2020 Face-to-face, blended, flipped, or online learning environment? Impact on learning performance and student cognitions *J. Comput. Assist. Learn.* **36** 397–411
- [9] Evans C 2008 The effectiveness of m-learning in the form of podcast revision lectures in higher education *Comput. Educ.* **50** 491–8

- [10] Anderson T 2008 Teaching in an Online Learning Context *Theory Pract. online Learn.* 343–65
- [11] Siragusa L, Dixon K C and Dixon R 2007 Designing quality e-learning environments in higher education *ASCILITE 2007 - The Australasian Society for Computers in Learning in Tertiary Education* pp 923–35
- [12] O’Callaghan F V., Neumann D L, Jones L and Creed P A 2017 The use of lecture recordings in higher education: A review of institutional, student, and lecturer issues *Educ. Inf. Technol.* **22** 399–415
- [13] Friedman H and Friedman L W 2013 Using Social Media Technologies to Enhance Online Learning *J. Educ. Online* **10** 1–22
- [14] Tan E 2013 Informal learning on YouTube: Exploring digital literacy in independent online learning *Learn. Media Technol.* **38** 463–77
- [15] Barhoumi C 2015 The Effectiveness of WhatsApp Mobile Learning Activities Guided by Activity Theory on Students’ Knowledge Management *Contemp. Educ. Technol.* **6** 221–38
- [16] Gon S and Rawekar A 2017 Effectivity of E-Learning through Whatsapp as a Teaching Learning Tool *MVP J. Med. Sci.* **4** 19
- [17] Fattah S F E S A 2015 The Effectiveness of Using WhatsApp Messenger as One of Mobile Learning Techniques to Develop Students’ Writing Skills *J. Educ. Pract.* **6** 115–27
- [18] Nasution A K P 2020 Integrasi Media Sosial Dalam Pembelajaran Generasi Z *J. Teknol. Inf. dan Pendidik.* **13** 80–6