ONLINE TEACHING IN MATHEMATICS AND NATURAL SCIENCES FACULTY, UNIVERSITAS NEGERI SURABAYA IN EARLY PANDEMIC OF COVID-19: PREPARATION, IMPLEMENTATION, AND ASSESSMENT

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Abstract

The study aims to evaluate teaching in Mathematics and Natural Sciences Faculty of Universitas Negeri Surabaya during early pandemic of Covid-19. The evaluation was based on three aspects, that were, preparation of teaching, implementation of teaching, and assessment conducted by lectures. The design of the study was evaluation research adapted from Kirkpatrick Evaluation Design and focused on learning processes. The study evaluated 26 lectures through observation in each class. There were findings that 98% of teaching preparations met criteria. Also, implementation of teaching aspect got good score, that was, 97%. On the other hand, the lectures were scored in lower percentage for assessment aspect compared to the other two aspects. The aspect got 87%. The study found that 13% of lectures was lack of feedback.

Keywords: Online teaching, Universitas Negeri Surabaya, Pandemic of Covid-19

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INTRODUCTION

At the beginning of 2020 until now, the Covid-19 pandemic occurred with the number of sufferers reaching 3.1 million. This phenomenon has changed the way of life of humans from the conditions before the pandemic, including how to learn and teach (Cauchemez et al., 2009). The teaching and learning method currently applied is to emphasize physical distancing, thus requiring learners and teachers to carry out learning and teaching activities from home. This method is used to reduce the spread of the corona virus in the community (Blake et al., 2010; Jones et al., 2020; Uscher-Pines et al., 2018).

This is in line with the government, through the Ministry of Education and Culture (2020), which has issued Circular Number 3 of 2020 concerning the Prevention of Covid 19 in the Education Unit in anticipation of the spread of the Corona virus in schools and colleges. Following up on this circular, the Rector of Universitas Negeri Surabaya (Unesa) also issued a Circular Letter of the Rector of Unesa with No. B / 15254 / UN38 / TU.00.02 / 2020 concerning Prevention Measures for the Spread of the Corona Virus Disese-19 (Covid-19) at Unesa. the Rector instructed that all teaching and learning activities in class be carried out by e-learning, either through a platform provided by Unesa or other e-learning platforms, even online seminars / conferences are recommended (Unesa, 2020).

The Faculty of Mathematics and Natural Sciences which is one of the faculties in Unesa gave a quick response in responding to the Rector's Circular. All learning in the faculty is transformed into online form. Not only learning, supporting activities are also carried out online. Online learning is carried out starting from the 7th meeting to the final semester exams for the 2019/2020 even semester period. There are several components that need to be considered in order to achieve an ideal online lecture. One of the essential element is lecturer readiness during online taching.

Therefore, it is necessary to conduct a study related to the evaluation on teaching in Math. and Nat. Sci. Faculty of Universitas Negeri Surabaya during early pandemic of Covid-19. The evaluation was based on three aspects, that were, preparation of teaching, implementation of teaching, and assessment conducted by lectures.

METHOD

This research was a program evaluation research. The evaluation model used in this study was adapted from the Kirkpatrick Evaluation Model (Kirkpatrick, 1959). The evaluation was carried out when the teaching takes place online. There were three parts evaluated at this stage, namely teaching preparation, teaching implementation, and assessment conducted by lectures.

The sample of this study was 26 online teaching conducted at the faculty during the Covid 19 pandemic for the 2019/2020 even semester. The sample selection technique was in accordance with the SOP of Online Learning Monev issued by the Unesa Quality Assurance Center (2020).

Online teaching implementation data were obtained by observation using the learning monitoring and evaluation (monev) instrument. The instrument consisted of three part, namely teaching preparation, teaching implementation, and assessment. For teaching preparation, there were 7 evaluated aspects. For teaching implementation, there were 11 aspects. The assessment part consisted of 7 aspects. The online teaching is said to be successful, if the results of monev show a maximum of 25% mismatch. The evaluation was carried out when the online teaching takes place.

RESULTS AND DISCUSSIONS

Based on Figure 1 above, it appears that the largest percentage of non-conformities is Item 25 of 28%, which is about the results of USS scores announced to students.
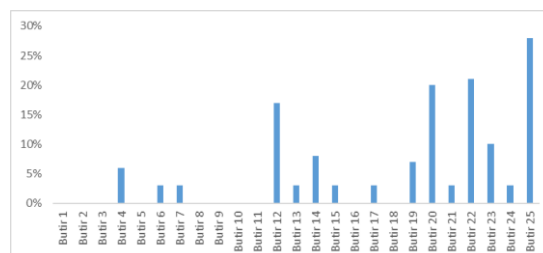

Figure 1. Mismatch of Monev Results

If you pay attention to the components or question items in the Learning Monitoring Instrument, that the biggest mismatch is based on the results of monitoring learning in FMIPA, namely in the aspect of Learning Evaluation. Thus, it is necessary to monitor the return of assignments to students, Mid-semester scores, and increase awareness of the importance of feedback to students and assessment rubrics.

Based on Figures 2, 3, and 4, it appears that the largest percentage of mismatches based on the three teaching domains is the assessment domain at 13%. Then followed, respectively, the domain of the implementation of teaching (3%) and the domain of teaching preparation (2%).
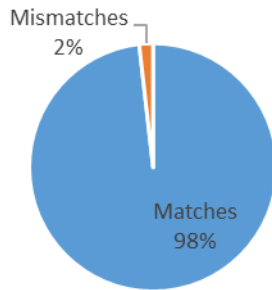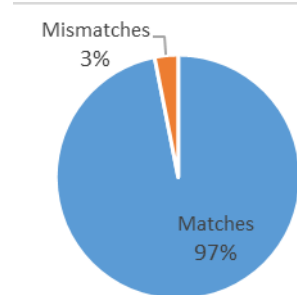
Figure 2. Diagram of Teaching Preparation
Mismatches

Figure 3. Diagram of Teaching
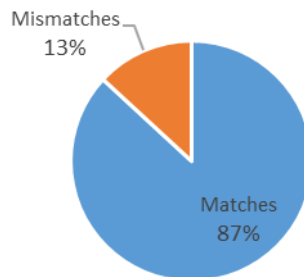Implementation Mismatches

Figure 4. Diagram of Assessment Mismatches

Table 1. Mismatches in Assessment

Aspects No.	Mismatches	Percentages of Mismatch
20	Giving feed-backs on students' tasks	20%
22	Constructing a rubric for assessing mid-semester test	21%
25	Giving feed-backs on students' mid-semester test results	28%

Other Findings

Finding 1: "The learning created by the lecturer was very fun, students were not tense and seemed to be actively learning. Lecturers are always there at every stage of learning that arouses students' active enthusiasm." Gainnakos (2013), Learning is influenced by three things, namely comfort, joy and intensity. The three of them affect learning attitudes and can increase student performance.

Finding 2: "Even though it is online learning, lecturers are always there face-to-face when giving student's worksheet and class discussions." Sabtiawan, Yuanita, and Rahayu (2019) found that the opportunity for discussion and feedback from the teacher will have a positive impact on learning attitudes and student performance. The study states that learners assume that with discussions they can share ideas and complement each other's understanding. Learners also think that the feedback from teachers will improve the quality of their understanding and work.

Finding 3: "Lecturers provide motivation to create peer-teaching learning." For the motivation aspect, a study also found that learners who are less motivated also tend to have lower performance than learners who are highly motivated (Lim & Morris, 2009). Motivated learners will also have better metacognitive skills and have more resilience in doing tasks (Pintrich & De Groot, 1990). In addition, learners who are motivated will also spend a lot of time trying and achieving higher learning achievement than those who are less / not motivated (Salili et al., 2001).

CONCLUSION

The findings represented that the online teaching in Faculty of Math. and Nat. Sci. Unesa was arguably successful, with detail: (1) 98% of teaching preparations met criteria; (2) implementation of teaching aspect got good score, that was, 97% (only 3% mismatches); and assessment aspect got 87%. The study found that 13% of lecturings was lack of feedback.

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