



Optimization of movement skills assessment in physical education learning using online self and peer assessment

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Abstract: : The obstacle for physical education (PE) teachers during COVID-19 was conducting video assessments of students' movement skills one by one so that the teacher's focus was dominant on assessing. This study aims to examine the effectiveness of self-and peer assessment of the skills of Pencak silat front kicks in Physical Education subjects. The method used is a comparative causal method with a quantitative approach. The selection of the sample is by using the incidental sample technique in class VIII students of SMP Negeri 3 Malang. The data obtained was in the form of self-, peer, and teacher assessments on the material for Pencak silat front kicks using an online application. The results of the different tests using the Wilcoxon Signed Test obtained a P value > 0.05 so that the data did not differ between the comparison of self- (SA) and peer assessments (PA) and the teacher's assessment (TA). Self-assessment and peer assessment was declared effective in assessing movement skills, especially the material for the Pencak silat front kick.

Keywords: self assessment; peer assessment; movement skills; physical education.

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INTRODUCTION

Assessment in a learning process is very familiar and even required to measure development. Zahro (2015) defines assessment as processing information in a systematic, periodic, sustainable, and comprehensive manner regarding a result of the changes achieved by students in carrying out the learning process and applying the information obtained in making a provision. Hadiana (2015) distinguishes several types of assessment, including: according to its function, assessment is divided into formative assessment and summative assessment. Formative assessment is the process of giving feedback and improving learning outcomes, while summative assessment is giving value to learning outcomes in a certain period. In addition, there are three aspects of assessment, namely affective, cognitive and psychomotor assessment. Then based on the research, the assessment is divided into internal assessment and external assessment. Internal assessment is an assessment that is applied directly by the teacher and external assessment, namely an assessment that is applied outside the school environment.

The process of learning will continue to change. As is well known at this time, with the Covid 19 pandemic, learning through face-to-face meetings has been changed to online meetings. This condition made the teacher also change the strategy from the assessment used to be an online-based assessment. In PE lessons, the teacher assesses movement skills from the practice videos sent by students. The assessment carried out by PE teachers is less efficient because it makes the duration of assessing student assignments

longer. The impact of this assessment strategy makes teachers focus on assessment and ignore effective online learning strategies.

Self Assessment and Peer Assessment have been used for a long time and there has been previous research on this matter. [Adachi et al. \(2018\)](#) conducted research on the perceptions and challenges of self and peer assessment in higher education and the results demonstrated a strong belief in the power of self and peer assessment as formative assessment. In peer assessment it can minimize the possibility of errors in carrying out the learning process and this enters into the learning process from peer assessment ([Nahadi & Khilda, 2017](#)). The effect of using self and peer assessment has also been studied by [Sahin-Taskin \(2018\)](#) with active learning outcomes supported by the self and peer assessment method. Then online assessments are popular with students, high flexibility accessibility and fast feedback without reducing the quality of the assessment itself ([Fitriady et al., 2020](#)). Online learning is quite effectively used in learning in lectures in the Physical Education Health and Sports program ([Kurniawan & Hasan, 2021](#)). Online learning also makes students more flexible in accessing their learning, because students can adjust the time and can study anywhere, compared to classroom learning where students have to obey a lot of certain rules. comfortable for students ([Daradoumis et al., 2019](#)). The application of online self and peer assessment has been discussed in several articles, including Self-assessment in Massive Open Online Courses ([Ventista, 2018](#)), Online self-assessment and peer-assessment as a tool to enhance student-teachers' assessment skills ([Seifert & Feliks, 2019](#)). There is no doubt about the use of online self- and peer-assessment in learning. As for research on the application of online assessment ([Cahyanto et al., 2022](#)) and on online learning strategies ([Jaya et al., 2022](#)). However, in the above article it is known that this effectiveness is still only carried out in the knowledge or cognitive domain, it has not been carried out in other domains, namely skills or psychomotor.

METHOD

The effectiveness of online self and peer assessments was tested by comparing them with teacher assessments. The research design uses a comparative causal research design using a quantitative approach. The research procedure is to first select research subjects in 4 classes in one school. Then the subject or students do PE learning online first. After that, the subject or student performs the assignment of movement activities according to the directions given and is obliged to record the video. When all of that has been completed and has been collected, the subject or students carry out online self and peer assessments and the teacher also conducts an expert-based assessment of the movement skills that have been given. 67 students and 2 PE teachers at SMPN 3 Kota Malang were the research samples which were taken using the Incidental Sampling technique. The data collection instrument uses an online assessment form. The data analysis technique uses the Wilcoxon Signed Test technique to compare self- and peer assessments with teacher assessments.

RESULTS AND DISCUSSION

There are 3 assessment data obtained from assessing the movement skills of the pencak silat front kick, namely self-assessment, peers and teachers who use the assessment application. The results of the Wilcoxon Signed Test in table 1 obtained $P_{SA} = 0.150$ and $P_{PA} = 0.931$, meaning that the P value of SA and PA > 0.05 . Based on the data above, online self- and peer assessments were found to be no different from teacher assessments, so self- and peer assessments were declared effective for assessing pencak silat front kick skills in PE subjects.

Table 1. Wilcoxon Signed Test Result

Assessment	P value
Self Assessment (SA) – Teacher Assessment TA	0.150
Peer Assessment (PA) – Teacher Assessment TA	0.931

The findings of this study can be declared effective, judging from the results of the analysis which explains that there is no significant difference between SA and PA conducted by students and TA. The degree of effectiveness of the use of SA and PA is strengthened from existing research, 1) the study entitled "Massive Online Peer and Self-Assessment in Classroom" the result is that the difference in assessments made by students and teachers is not much different, the average percentage of students rated 7% higher than the TA, 9.9% of student assessment errors (Kulkarni et al., 2013); 2) research entitled "Independent and Peer Online Assessment as a Tool to Improve Student-Teacher Assessment Skills" states the results that students produce grades closer to the grades produced by teachers (Seifert & Feliks, 2019); 3) research entitled "Self-Assessment in Massive Open Online Courses" states that not only peer assessment can be an alternative online assessment as a formative assessment between teachers and students but self-assessment is the only assessment that is also appropriate to use (Ventista, 2018); 4). This agrees with the research entitled "Academics' Perceptions About the Benefits and Challenges of Self and Peer Assessment in Higher Education" the results state the strong results of self-assessment and peer assessment as formative assessments between teachers and students to determine the extent of students' abilities (Adachi et al., 2018); 5) research entitled "Online Self and Peer Assessment for Group Work" Discusses the advantages of online self-assessment and peer assessment over paper-based offline self-assessment and peer-review (Thompson & McGregor, 2009); 6) the application of online self-assessment and peer-to-peer assessment is also applied in universities such as a study entitled "The Role of Self and Peer Assessment in Higher Education" shows that students perform well as evaluators of strong congruence between student and teacher assessments (Iglesias Pérez et al., 2022). From the results of this study and according to the findings of previous research, it is concluded that self- and peer-to-peer online assessments are effective to use.

The results of this study indicate that self and peer assessments are effective in assessing movement skills. There are several factors that make the assessment effective, including detailed implementation

instructions and providing direction and training before the assessment is carried out by students. Implementation instructions are references or guidelines in doing something so that it goes according to plan. Implementation instructions have a positive influence in increasing student understanding so as to make learning outcomes increase (Murti et al., 2022). With the implementation instructions make it easier for students to do an activity. Students read the instructions for implementing self-assessment and peer assessment and the teacher provides direction to students on self- and peer-assessment.

The teacher provides detailed direction and training for students before conducting an assessment so that students can better understand how to do self-assessment and peer assessment. In conducting self-assessment and peer assessment, in addition to the importance of providing direction, students also need extra training or practice before conducting an assessment in order to obtain accurate and consistent results (Erdogan et al., 2018). Giving direction is a process that gives instructions to work according to a specified plan and achieve the planned goals. From the directive process, it will lead to the same thoughts or perception similarities to achieve a goal.

In conducting self-assessment and peer-to-peer equality, the perception is very influential on the results of the assessment. The common perception equates different points of view and thoughts for the same goal. The following is the definition of perception according to experts: 1) perception is information received by the human brain (Goh et al., 2017); 2) According to Desiderato perception is the inference of information obtained from the experience of events (Rakhmat, 2007); 3) If the perceptions between individuals are more the same, the result will be a cultural group or identity group. A similar opinion was conveyed by John and William, namely the way someone gives meaning is called perception. From this understanding the perception obtained by students is obtained from the teaching teacher during learning.

In conducting self and peer assessments carried out by students, it is the teacher's job to explain in detail. The teacher plays an important role, in this case in line with the opinion that the motor learning process is the influencing factor, one of which is the teacher. Detailed implementation instructions and giving directions before the assessment is carried out by students so that there is a common perception, this is a factor in the results of this study, the results of which there is no significant difference between self-assessment and peer-assessment with teacher assessment.

CONCLUSION

Based on the results of the research and discussion, it can be concluded that the use of online self- and peer-assessment instruments in the realm of Pencak Silat front kick movement skills is declared effective. Suggestions for further research are to test whether the procedure for this research is correct, namely the implementation instructions and giving directions which are the factors in the results of this study, there is no difference between self-assessment, peer-assessment and teacher assessment.

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REFERENCES

- Adachi, C., Tai, J. H.-M., & Dawson, P. (2018). Academics' perceptions of the benefits and challenges of self and peer assessment in higher education. *Assessment & Evaluation in Higher Education*, 43(2), 294–306.
- Cahyanto, A., Heynoek, F., & Fitriady, G. (2022). Analisis Penerapan Asesmen Berbasis Daring pada Mata Pelajaran PJOK pada Masa Pandemi. *Sport Science and Health*, 4(1), 65-74-65–74.
- Daradoumis, T., Puig, J. M. M., Arguedas, M., & Liñan, L. C. (2019). Analyzing students' perceptions to improve the design of an automated assessment tool in online distributed programming. *Computers & Education*, 128, 159–170.
- Erdogan, T., Yurdabakan, I., & Senemoglu, N. (2018). Self-and peer assessment in PBL: A higher education example. *Proceedings of IAC in Budapest 2018*, 53–59.
- Fitriady, G., Sugiyanto, S., & Sugiarto, T. (2020). Online Assessment of Cognitive Aspects in Higher Education. *Gelanggang Pendidikan Jasmani Indonesia*, 4(2), 25–30.
- Goh, C. F., Leong, C. M., Kasmin, K., Hii, P. K., & Tan, O. K. (2017). Students' Experiences, Learning Outcomes and Satisfaction in e-Learning. *Journal of E-Learning and Knowledge Society*, Vol 13, No 2 (2017): Journal of eLearning and Knowledge Society. <https://doi.org/10.20368/1971-8829/1298>
- Hadiana, D. (2015). Penilaian Hasil Belajar untuk Siswa Sekolah Dasar. *Jurnal Pendidikan Dan Kebudayaan*, 21(1), 15–26.
- Iglesias Pérez, M. C., Vidal-Puga, J., & Pino Juste, M. R. (2022). The role of self and peer assessment in Higher Education. *Studies in Higher Education*, 47(3), 683–692.
- Jaya, K., Heynoek, F., & Fitriady, G. (2022). Strategi Pembelajaran Online Mata Melajaran PJOK di SMK pada Masa Pandemi Covid-19. *Sport Science and Health*, 4(1), 75-82-75–82.
- Kulkarni, C., Wei, K. P., Le, H., Chia, D., Papadopoulos, K., Cheng, J., Koller, D., & Klemmer, S. R. (2013). Peer and self assessment in massive online classes. *ACM Transactions on Computer-Human Interaction (TOCHI)*, 20(6), 1–31.
- Kurniawan, A. W., & Hasan, A. N. H. (2021). Survei Efektifitas Proses Pembelajaran Online Akibat Pandemi Coronavirus (Covid-19) Pada Mata Kuliah Senam Lantai. *Journal Coaching Education Sports*, 2(2), 177–194.
- Murti, W., Maya, S., & Lestari, P. I. (2022). Pengaruh Penggunaan Buku Pedoman Praktikum Ekologi Tumbuhan Terhadap Hasil Belajar Mahasiswa. *Binomial*, 5(1), 13–24.
- Nahadi, F. H., & Khilda, K. (2017). Pengembangan Instrumen Penilaian Diri dan Penilaian Teman Sejawat untuk Menilai Kinerja Siswa SMK pada Praktikum Kimia. *Jurnal Penelitian Pendidikan Kimia*, 4, 111–118.
- Rakhmat, J. (2011). Psikologi komunikasi. Bandung: Remaja Rosdakarya
- Sahin-Taskin, C. (2018). Effects of active learning environments supported with self-and peer assessment on pre-service teachers' pedagogical and self-efficacy beliefs. *Asia-Pacific Journal of Teacher Education*, 46(5), 421–440.
- Seifert, T., & Feliks, O. (2019). Online self-assessment and peer-assessment as a tool to enhance student-teachers' assessment skills. *Assessment & Evaluation in Higher Education*, 44(2), 169–185.

- Thompson, D., & McGregor, I. (2009). Online self-and peer assessment for groupwork. *Education+ Training*, 51(5/6), 434–447.
- Ventista, O. M. (2018). Self-assessment in massive open online courses. *E-Learning and Digital Media*, 15(4), 165–175.
- Zahro, I. F. (2015). Penilaian dalam pembelajaran anak usia dini. *Tunas Siliwangi: Jurnal Program Studi Pendidikan Guru PAUD STKIP Siliwangi Bandung*, 1(1), 92–111.