



The Effect of Self-Assessment and Students' Learning Autonomy towards Students' Performance in Vocational Education

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Abstrak

Menciptakan proses belajar mandiri yang diwujudkan melalui pembelajaran yang berpusat pada siswa merupakan tantangan yang cukup berat bagi banyak pendidik SMK khususnya dalam memilih metode pembelajaran yang tepat. Oleh karena itu penelitian ini bertujuan untuk menganalisis pengaruh penilaian diri dan kemandirian belajar siswa terhadap kinerja siswa pada pendidikan kejuruan. Quasi-Experimental dengan desain faktorial 2x2 digunakan sebagai model penelitian penelitian ini dengan melibatkan 60 mahasiswa semester empat yang mengambil mata kuliah desain busana. Mereka dipilih dengan menggunakan teknik random-matching sampling. Data dikumpulkan melalui pre-test dan post-test dengan menggunakan rubrik self-assessment dan performance test sebagai instrumen penelitian. Data yang diperoleh dianalisis secara kuantitatif khususnya dengan melakukan analisis statistik deskriptif kuantitatif dan inferensial dengan bantuan SPSS.25. Hasil penelitian menunjukkan bahwa penilaian diri bersama dengan kemandirian belajar siswa berpengaruh terhadap kinerja siswa. Penilaian diri meningkatkan kinerja siswa yang tidak terlepas dari kemandirian belajar sebagai faktor yang mempengaruhi. Selain itu, hasil menarik bahwa siswa terlibat langsung dalam proses pembelajaran dan penilaian diri dimaksimalkan oleh kemandirian belajar siswa dalam mempengaruhi kinerja mereka. Implikasi penelitian ini memperkuat penggunaan penilaian diri dan kemandirian belajar terhadap kinerja mahasiswa dalam mata kuliah desain busana.

Kata Kunci: Kemandirian Belajar, Penilaian Diri, Kinerja, Pendidikan Kejuruan.

Abstract

Creating an independent learning process realized through student-centred learning is quite challenging by many vocational educators particularly in selecting appropriate learning method. Therefore this study was purposed to analyze the effect of self-assessment and students' learning autonomy towards students' performance in vocational education. Quasi-Experimental with 2x2 factorial design was used as the research model of this study by involving 60 fourth semester students who took fashion design course. They were selected by using random-matching sampling technique. The data were collected thorough pre-test and post-test in which self-assessment and performance test rubrics were used as research instruments. The obtained data were analysed quantitatively particularly by conducting descriptive quantitative and inferential statistical analysis with the assistance of SPSS.25. The results showed that self-assessment along with the students' learning autonomy affected students' performance. Self-assessment improved students' performance in which it was inseparable from learning autonomy as the influencing factor. In addition, the results drew that students were directly involved in the learning process and self-assessment was maximized by students' learning autonomy in affecting their performance. The implication of this study strengthens the use of self-assessment and learning autonomy towards students' performance in fashion design course.

Keywords: Learning autonomy, Self-assessment, Performance, Vocational education.

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1. INTRODUCTION

Education and industrial demands emerge as a common phenomenon in society. Both of those fields are inseparable phenomena considering that education has a significant role in building qualified human resources for the world of industry. An observable connection between education and industrial demands presented in the learning process conducted in vocational education. A technical and dynamic change towards the learning process of vocational education is along with the industrial development since the qualified graduates

for business and industry are built through this educational level (Kurniawan et al., 2020; Oviawe et al., 2017; Rusman et al., 2012). Vocational students are offered an opportunity for developing knowledges and skills required by various sectors in industrial field leading them as competitive human resources in industrial development era (Chang & Hsu, 2010; Setiyawami et al., 2020; Sudirtha et al., 2022). Previous study state that vocational education adjusts students' occupational needs and real work experiences into the learning process to shape their special skills requirement related to professional purposes (Berman et al., 2020). Therefore, the learning process conducted in vocational education is relatable and influenced by the industrial development.

The emergence of 21st century learning model is one of the effects caused by the industrial developments which revolutionize the education system. It signs all the educational levels including vocational education to conduct a learning process reflecting 21st century learning (Susilo & Sarkowi, 2018; Widiartini et al., 2023). The realization of 21st century learning is shown through the dominant participant from the students where they become the main subject in the learning process (Sulistyaningsih et al., 2019; Widyastuti & Utami, 2018). Previous study argue that this condition is perceived as students-centred learning where the students are supposed to participate actively and learn independently (Novalinda et al., 2020). It means that the students have a different place and role in 21st century learning where they are actively involved in all activities including assessment and evaluation process ((Chuntala, 2019; Coşkun & Deniz, 2021; Kivunja, 2014). Students' active involvement is purposed to create independent learning as the demand of 21st century learning where they are able to use their critical thinking, creativity, collaboration, and problem-solving to improve their performances. The shifting from conventional learning into 21st century learning in vocational education is an issue discussed by many parties in education field. Creating an independent learning process realized through student-centred learning is quite challenging by many vocational educators particularly in selecting appropriate learning method (Miniawi & Brenjekjy, 2015; Mutohhari et al., 2021). The passive habits covering the limited problem-solving skills which pointedly influences students' competences and performances is the problem appears due to this issue (Keiler, 2018; Nurtanto et al., 2021; Winatha & Abubakar, 2018). A relevant condition is found in the learning process of fashion design conducted by 4th semester students of Family Welfare Education study program at Universitas Pendidikan Ganesha. A limitation of students' problem-solving skills and their passive habits becomes the challenges for the educators who teach technical courses in that study program. It also causes by the lack of appropriate learning method implemented by the educators. This condition can obstruct the realization of independent learning as the demands of 21st century.

Self-assessment is a learning method for implementing student-centred learning to achieve a successful independent learning. Students' engagement can be stimulated by using self-assessment as an alternative way for students to evaluate their own works (Purnomo & Munadi, 2005; Vasileiadou & Karadimitriou, 2021). Self-assessment provides students an evaluation process by integrating self-regulation, self-observation, and self-instruction (Ross & Bruce, 2007; Yan & Brown, 2017). It is also added that students' metacognition and self-regulation can be improved through the use of self-assessment during evaluation process in which it directly affects students' academic and practical performances (Black & Wiliam, 2006; Brown & Harris, 2014). It shows that students-centred learning is explicitly provided through self-assessment leading students to be independent learners (Panadero et al., 2012; Ratminingsih et al., 2018). However, how students do self-assessment also depends on their learning autonomy. Previous study states that learning autonomy and self-assessment have a strong relation since learning autonomy is students' abilities in controlling the learning process which encourages them to assess themselves (Badrinathan, 2015). It is a long to the definition which presents self-assessment as a part of learning autonomy guiding students to

make a decision, planning, realization, and evaluation towards their works (Beer & Mulder, 2020; Reyes & Torio, 2021). Previous study argue that the common perspective about learning autonomy is the emphasize of students' control on their learning process and how they highlight the learning condition which allows them in having independent learning based institutional context (Shen et al., 2020). It implies that how well students do self-evaluating towards their works is determined by their learning autonomy (Fotiadou et al., 2017; Ibrahim-González & Noordin, 2012). It is undeniable that self-assessment is restricted by learning autonomy.

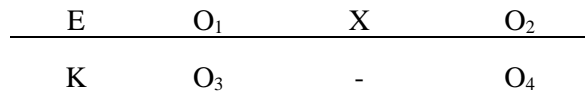
The relation between self-assessment and learning autonomy has attracted the interest of many researchers. Previous study points out that the relation between self-assessment and learning autonomy viewed from the positive perceptions given by the students and the use of self-assessment which improves their proficiency (Gholami, 2016). The other one reveal that self-assessment affects students' independence and writing competence which implies that self-assessment has a connection with learning autonomy (Ratminingsih et al., 2018). Another finding strengthens this finding by showing that self-assessment improves the autonomous learning of college students (Huda et al., 2020). There are also study that brings another finding to show the effect of self-assessment on students' performance revealing that self-assessment significantly improves students' performance (Vasileiadou & Karadimitriou, 2021). Those studies indicate that self-assessment and students' learning autonomy is a great dealt towards students' performance. Previous study concern the existence of self-assessment in vocational education by investigating the effect of self-assessment and students' motivation towards their learning performance in practicum classrooms (Widiartini et al., 2023). It is found out that there is a simultaneous effect between self-assessment and learning motivations towards students' learning performance. A further study is still required to be conducted to investigate how self-assessment and learning autonomy affect students' performance particularly in vocational education relevant to the recent problem and there is still limited study concerning on this phenomenon. Therefore, this study is conducted to analyze the effect of self-assessment and learning autonomy towards students' performance in vocational education particularly 4th semester students who take fashion design course at Family Welfare Education, Universitas Pendidikan Ganesha.

2. METHODS

The study was conducted by adapting pre-test and post-test Quasi-Experimental with 2x2 factorial design focusing on the investigation of three main variables; self-assessment as independent variable, learning autonomy as moderator variable, and students' performance as dependent variable. The sample of this study was selected by using random-matching sampling in which there were 60 of 4th semester students who took fashion course design at Family Welfare Education study program, Universitas Pendidikan Ganesha. They were divided into four groups, namely 1) control group with high learning autonomy, 2) control group with low learning autonomy, 3) experimental group with high learning autonomy, 4) experimental group with low learning autonomy.

The data collection method was conducted by using the non-questionnaire in the form of a Likert-scale model in which polytomy used as the scoring technique. The data were gained through pre-test and post-test by using the performance test. The research instrument was adapted from the lesson plans and syllabus used in fashion design course particularly with the learning topic "designing plural ideas fashion". The performance test was also designed in the form of project-based. The collected data were analysed by using descriptive and inferential statistics with the assistance of SPSS 25. The descriptive quantitative analysis was conducting by obtaining the mean scores differences among the groups meanwhile the

inferential analysis was conducted by using One-Way Anova. In addition, the research design of this study was displayed in Figure 1.



Note: E: Experimental Group; K: Control Group; O₁ : Pre-test for Experimental Group (Before the treatment); O₂: Post-test for Experimental Group (After the treatment); O₃: Pre-test for Control Group; O₄: Post-test for Control Group.

Figure 1. The Research Design of This Study

3. RESULTS AND DISCUSSION

Result

The obtained data in this study was analysed quantitatively. The descriptive analysis showed that the mean score of students who were taught by using self-assessment was 84.83 with a standard deviation of 6.757. On the other side, the mean score of students who were taught by using the conventional method was 70.83 a standard deviation of 6.170. Furthermore, the mean score of students who were taught using self-assessment with high learning autonomy was 90.33 with a standard deviation of 3.994, whereas the mean score of students with low learning autonomy was 79.33 with a standard deviation of 3.716. Besides, the mean score of students who were taught using the conventional method with high learning autonomy was 75.33 with a standard deviation of 4.806, whereas the mean score of students with low learning autonomy was 66.33 with a standard deviation of 3.519. After the descriptive analysis, the inferential analysis of the effect of self-assessment and learning autonomy on students' performance was show in Table 1.

Table 1. Different Effects on Students' Performance between Self-Assessment and Conventional Method

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4455.000	3	1485.000	91.051	0.000
Within Groups	913.333	56	16.310		
Total	5368.333	59			

Table 1 showed the result of the One-way ANOVA test. The significance value (Sig.) was 0.001 which was less than 0.05 (F= 91.051 and p<0.05). It indicated that H0 was rejected and H1 was accepted. It means that the student's performance taught by self-assessment is different from students taught by the conventional method. It shows that the provision of self-assessment in the learning process gives an impact on students' performance. It can be concluded that there is a different effect between self-assessment and conventional method in the learning process. The interactional effect between the implementation of self-assessment and learning autonomy on students' performance is show in Table 2.

Table 2 showed the result of Two Way ANOVA. The significant value between self-assessment and learning autonomy was 0.011 (F= 6.830), which was lower than 0.050. It indicated that H0 was rejected and H1 was accepted. It means that there is an interaction effect between self-assessment and learning autonomy toward students' performance. Differences on students' performance between high experimental and high control group is show in Table 3.

Table 2. The Interactional Effect between Implementation of Self-Assessment and Learning Autonomy on Students' Performance

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3541.250 ^a	3	1180.417	53.597	0.000	0.742
Intercept	368950.417	1	368950.417	16752.343	0.000	0.997
Self-Assessment	2470.417	1	2470.417	112.170	0.000	0.667
Learning Autonomy	920.417	1	920.417	41.792	0.000	0.427
Self-Assessment * Learning Autonomy	150.417	1	150.417	6.830	0.011	0.109
Error	1233.333	56	22.024			
Total	373725.000	60				
Corrected Total	4774.583	59				

Table 3. Differences on Students' Performance between High Experimental and High Control Group

Scheffe (I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
High Experimental	High Control	15.000	1.475	0.000	10.75	19.25

Table 3 showed that the significant value was 0.000 which was lower than 0.050. It indicated that H0 was rejected and H1 was accepted. It means that there is a difference on students' performance between students who were taught using self-assessment and those who were taught by the conventional method. It indicates that the provision of self-assessment in the learning process gives an impact on students' performance. Students who are taught by using self-assessment outperformed compared to students who are taught using the conventional method. Differences on students' performance between low experimental and low control group is show in Table 4.

Table 4. Differences on Students' Performance between Low Experimental and Low Control Group

Scheffe (I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Low Experimental	Low Control	13.000	1.475	0.000	8.75	17.25

Table 4 showed that the significant value was 0.00 which was lower than 0.05. It indicated that H1 was accepted and H0 was rejected. It means that there is a significant difference on students' performance between students who were taught using self-assessment and those who were taught by conventional technique. It shows that the use of self-assessment for students with low learning autonomy outperformed compared to students who are taught using the conventional method.

Discussions

From the findings above, it can be seen that self-assessment gives an impact on students' performance. It is due to the involvement of students to evaluate and judge themselves for their own learning growth (Gholami, 2016; Yusuf et al., 2020). It provides immediate feedback to determine to reflect on the learning process. In addition, self-assessment involves judgment about students' performance and learning outcomes (Roediger et al., 2011; Sosibo, 2019). It means that the students do not only concern with the obtained score during the learning process but also consider their learning development to be better. Moreover, the provision of self-assessment boosts students-centred learning (Sosibo, 2019; Widiartini et al., 2023). It is due to the involvement of the students in assessing their progress during the learning process so that they can be active to contribute to the learning process. Furthermore, previous study proposes some benefits of self-assessment (Badrinathan, 2015). Firstly, it creates a pleasurable learning atmosphere between teachers and students to discuss the mechanism for assessment. Secondly, it creates an interesting learning activity since students are directly involved. Lastly, it provides a chance for students to deliver their arguments about the learning process. It can be concluded that self-assessment can impact students' performance since the students have a chance to contribute directly to the learning process.

The effect of self-assessment on students' performance has been proven by some previous studies. They found that self-assessment influenced students' writing competence (Ebrahimi et al., 2021; Javaherbakhsh, 2010; Ratminingsih et al., 2018; Vasileiadou & Karadimitriou, 2021). The use of self-assessment in the learning process allows students to get a reflection on their writing. It provides opportunity for the students to improve and correct their writing to be better. In addition, there is study that found self-assessment can increase the interest and motivation level of students which enhances students' critical thinking skill to improve academic performance (Sharma et al., 2016). It shows that self-assessment allows students to analyse and make interpretation of their works. Moreover, other study found that self-assessment has positive effect on students' speaking performance (Sintayani & Adnyayanti, 2022). Besides that other study found that self-assessment gives an impact on students' student's achievement (Khizer et al., 2021). From the results of the previous studies above, it can be seen that self-assessment is an effective method to be used in improving student's performance. In spite of the use of self-assessment, learning autonomy is one of the factors affecting students' performance. Learning autonomy is essential in the 21st century learning since it promotes students-cantered learning. Learning autonomy deals with the ability in creating and controlling students' learning environment to take appropriate decisions in reaching the goals for their progress (Challob, 2021; Reyes & Torio, 2021). In addition, learning autonomy requires students to be responsible for their learning (Andina et al., 2020; Lee, 2009; Orakci & Gelisli, 2019; Shen et al., 2020). Students become independent learners to decide and design what they should do in the learning process. Moreover, learning autonomy also provides a comprehension about students' goals. They focus on their performance and do not just complete the tasks (Febriyanti, 2021; Mican & Medina, 2017). Students are required to know what they do during the learning process. Considering the essence of learning autonomy, it is clearly viewed that self-assessment can promote students' learning autonomy since they take a part during the learning process. Previous study proves that self-assessment is effective to boost learning autonomy (Huda et al., 2020).

The consideration of learning autonomy also influences students' performance. Previous study found out that learning autonomy becomes essential contribution to support students' academic achievement (Feri et al., 2016). It shows that students with high learning autonomy promote better level of students' academic achievement. Specifically, other study

found that learning autonomy can enhance students' reading achievement since they spare their time to read more (Marshik et al., 2017). It can be seen learning autonomy boost students' awareness to be involved in the learning process. The implications of this study indicate that self-assessment plays an important role in improving student performance in vocational education. Therefore, teachers and educators may consider using self-assessment as a tool to increase student morale in the subject being taught. One of the limitations of this research was conducted using a limited sample from one vocational education institution in Indonesia. Therefore, the results of this study may not be directly applicable to student populations elsewhere. Therefore, it is expected that other researchers can conduct similar research.

4. CONCLUSION

The present study concludes that self-assessment along with the students' learning autonomy contribute to students' performance. Self-assessment can boost students' performance since they can do reflection and take part in the learning process. The learning autonomy is also a factor affecting students' performance since students have their own responsibility to control their learning environment. The results of the study implicate that students need to be involved directly during learning process. They do not receive feedback from their teachers but also students also give feedback on their work and performance. It is suggested to use self-assessment and consider learning autonomy to maximize the role of students in the learning process.

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