

RESEARCH ARTICLE

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The Effect of Project-Based Learning and Self-Efficacy towards Students' Entrepreneurial Readiness in Vocational High School

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ABSTRACT

This study investigated the effect of project-based learning and self-efficacy on students' entrepreneurial readiness in vocational high school. Quasi-experimental method was used as a quantitative research design for this study. The setting of this study was SMKN 1 Sukasada, Buleleng, Bali in which 76 of eleventh grade students were selected as the research sample. They were selected by using random-matching sampling. The data were obtained through pre-test and post-test by using a performance test rubric as a research instrument. The obtained data were analyzed quantitatively through descriptive statistics and inferential statistics. The results showed that project-based learning along with self-efficacy contributed to students' entrepreneurial readiness. Project-based learning boosted students' entrepreneurial readiness since they became the center of the learning process.

Keywords: entrepreneurial readiness, project-based learning, self-efficacy

INTRODUCTION

A growing demand of economic development persuades educational institutions to enable their graduates in having more than cognitive skills but also promote their career readiness. Students are supposed to be prepared with career readiness instead only expanding their cognitive skills allowing them to open an opportunity in the economic field (Rodriguez & Lieber, 2020). This phenomenon is adapted in education as a way to increase the competitiveness and quality of human resources in working world where they are expected to be able to open career opportunities rather than just searching for vacancies (Amidjono et al., 2022; Hendrayanti & Fauziyanti, 2021; Renaningtyas et al., 2021). Education and training has a strong association in determining an individual's career readiness to face the economic transmission (Sandirasegarane et al., 2016). It leads many educational stakeholders including government to take a step in preparing a skilled, intelligent, and competitive graduate (Karani, 2023; Kurish, 2020; Prihatna, 2017).

Vocational high school is one of formal educations which concerns on this recent phenomenon by strengthening entrepreneurship as students' expertise. It is perceived as the anticipation to build students becoming skilled and competitive graduates who are able to open employment opportunities (Hariyanto et al., 2017; Nugroho et al., 2020). Entrepreneurship learning program is emphasized as a strategy in vocational high school to transform students' orientation as a job seeker into a job creator (Dardiri et al., 2019). It is supported by the government including Indonesian Ministry of Education and Culture which stimulates the vocational high schools to enable the graduates as entrepreneurs (Sumarno & Gimin, 2019; Setiawan & Lestari, 2021). The entrepreneurship course has been amended through Merdeka curriculum in which it is recognized as a productive course to improve

vocational students' entrepreneurial interests (Vhalery et al., 2022). It becomes a resolution occurs in vocational high schools in building a competent individual for the industrial era.

Entrepreneurship has been regarded as a complex ability covering physical and mental readiness. Syaifuddin argues that entrepreneurship is broader than a skill but it is an individual's ability, attitude, and mental readiness in handling business as a new scope of producing a product and service (Hakim & Ratnawati, 2021). Teachers are required to consider several dimensions in teaching entrepreneurship since the students are expected as an entrepreneur bringing fresh ideas, creative solutions, and opening employment opportunities (Al-Qadasi et al., 2023; Hutasuhut, 2018; Sukardi, 2016). It demonstrate that entrepreneurship is taught by enhancing students' self-efficacy, critical and creative thinking, and entrepreneurial readiness (Wardana et al., 2020). It indicates that teaching entrepreneurship tends to be more challenging.

The common issue discussed in entrepreneurship education is the lack of students' entrepreneurial readiness. There are many

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students who do not have high self-entrepreneurial readiness in which it can be a serious problem affected their willingness and interest in studying entrepreneurship (Renaningtyas et al., 2021; Setiawan & Lestari, 2021). Entrepreneurial readiness has been a critical global concern where most of students tend to have low entrepreneurial readiness (Adeniyi et al., 2022). It is relevant to the entrepreneurship learning process conducted at SMKN 1 Sukasada, Buleleng, Bali. The students have low self-entrepreneurial readiness viewed from their learning performance. Students' readiness can be reflected on their entrepreneurial performance considering that readiness is a factor in determining how well students perform themselves in the learning process (Alqabbani et al., 2020; Marvin et al., 2014; Wei & Chou, 2020).

It is undeniable that the problem related to the lack of students' entrepreneurial readiness emerged due to inappropriate learning models applied in the classrooms. The preliminary observation also shows that entrepreneurship education is mostly conducted in teacher-cantered learning where the students have more theoretical learnings instead than practical learnings. The implementation of learning model has been a main concern in entrepreneurship education in which most of teachers only focus on improving students' understanding rather than providing a real learning environment through a practical learning activity (Jusmin, 2012; Hidayat et al., 2019). Applying a learning model which provides students-centred learning is essential in conducting entrepreneurship learning process particularly in vocational education (Radianto & Wijaya, 2017). As an educational institution aims at developing students' technical and practical skills, it is necessary for vocational teachers to conduct entrepreneurship education which allows students to practically involve in the learning process (Yusuf et al., 2020).

21st century learning offers various innovative learning models for the teachers in enhancing students' active participations in the classroom. One of the models is project-based learning perceived as 21st century learning model underlined by students-centred learning approach (Handrianto et al., 2018). Project-based learning leads students to have active participation in the classrooms by working collaboratively and cooperatively in finishing a project (Darmawan & Soetjipto, 2016). It is added that the implementation of project-based learning in entrepreneurship education fosters students' critical thinking, creative thinking, and problem-solving skills in investigating and finishing their business project (Affandi et al., 2021; Hakim & Ratnawati, 2021; Permana, 2018). It strengthens that project-based learning can be an alternative way for improving the quality of entrepreneurship education.

In order to optimize the implementation of project-based learning in entrepreneurship education, teachers

are suggested to consider students' self-efficacy during its implementation. Students with a strong self-efficacy tend to achieve a more effective influence from the learning strategy (Mills, 2009). They are willing to expand greater effort in accomplishing their learning process (Amini et al., 2019). Self-efficacy is also perceptualized as an essential factor for prospective entrepreneurs in improving their confidence to face competitive business world (Suharto & Hidayati, 2020). Putra and Sari (2022) prove that self-efficacy is a mediator in entrepreneurship education controlling students' learning interest. The higher students' self-efficacy, then the higher impact given by project-based learning towards students' learning motivation (Shin, 2018). Those findings show that project-based learning implementation is inseparable with students' self-efficacy.

Thus, the current issue related to students' entrepreneurial readiness and project-based learning implementation has become an interesting issue to discuss in entrepreneurship education field. A study points out that project-based learning improves students' readiness and directly influences their learning outcomes in entrepreneurship classroom (Affandi et al., 2021). It is continued by the recent findings showing that project-based learning is adaptable in stimulating students' entrepreneurial readiness (Daragmeh & Halabi, 2023). It can be seen that project-based learning is beneficial for conducting entrepreneurship education. Further investigation is considerable to be conducted since project-based learning is associated with self-efficacy in entrepreneurship learning process. Therefore, this study is conducted due to the recent problem related students' entrepreneurial readiness and project-based learning in entrepreneurship learning process moderated by students' self-efficacy. Briefly, this study aims at investigating the effect of project-based learning and self-efficacy towards students' entrepreneurial readiness.

Research Questions

Based on the research background above, four research questions are formulated as follows.

- Q1: Is there any different effect on students' entrepreneurial readiness between students who were taught by using project-based learning and conventional model?
- Q2: Is there any interactional effect between project-based learning model and self-efficacy?
- Q3: Is there any difference on related students' entrepreneurial readiness between students with high self-efficacy who are taught using project-based learning and conventional learning model?
- Q4: Is there any difference on related students' entrepreneurial readiness between students with low self-efficacy who are taught using project-based learning and conventional learning model?

Purpose of the Present Study

In the present study we examined to reveal four main points, namely 1) examining the difference on students' entrepreneurial readiness between students who were taught by using project-based learning and conventional model; 2) examining the interactional effect between project-based learning model and self-efficacy; 3) examining difference on related students' entrepreneurial readiness between students with high self-efficacy who are taught using project-based learning and conventional learning model; and 4) examining difference on related students' entrepreneurial readiness between students with low self-efficacy who are taught using project-based learning and conventional learning model.

METHOD

Research Design

This study was conducted in the form of quantitative research in which it was designed by adapting pre-test and post-test Quasi Experimental with 2x2 factorial model. There were three main variables investigated in this study; project-based learning method as independent variable, students' self-efficacy as moderator variable, and students' entrepreneurial readiness as dependent variable.

Samples

The setting of this study was SMKN 1 Sukasada by involving 76 eleventh grade students as the research sample. They were selected by using random-matching sampling. The sample was divided into four groups; 1) control group with high self-efficacy, 2) control group with low self-efficacy, 3) experimental group with high self-efficacy, 4) experimental group with low self-efficacy.

Instruments

Pre-test and post-test were conducted to obtain the data in which students' entrepreneurial performance test used as research instruments. The instrument was used to find out students' entrepreneurial readiness considering that students' performance reflects their readiness.

Data Analysis

The obtained data were tested through perquisite testing before conducting quantitative data analysis. Descriptive and

inferential statistic were used as a qualitative data analysis technique in which SPSS 25 was used as the assistance media.

Hypothesis

There were four hypothesis tested in this study, such as; 1) there is a different effect on students' entrepreneur readiness between students who were taught by using project-based learning and those who are taught by using a conventional method, 2) there is an interactional effect between the implementation of project-based learning and self-efficacy on students' entrepreneur readiness, 3) there is a difference in students' entrepreneurial readiness between the students with high self-efficacy taught by using project-based learning and those who were taught by using a conventional teaching method, 4) there is a difference in students' entrepreneurial readiness between the students with low self-efficacy taught by using project-based learning and those who were taught by using a conventional teaching method.

RESULTS

The obtained data in this study were describe descriptively. The mean score of students who were taught by project-based learning was 84.37 with a standard deviation of 6.523. In contrary, the mean score of students who were taught by using the conventional method was 73.06 with a standard deviation of 5.110. Specifically, the mean score of students who were taught using project-based learning with high self-efficacy was 89.75 with a standard deviation of 3.796, whereas the mean score of students with low self-efficacy was 79.00 with a standard deviation of 3.479. On the other hand, the mean score of students who were taught using the conventional method with high self-efficacy was 76.11 with a standard deviation of 4.391, whereas the mean score of students with low self-efficacy was 70.00 with a standard deviation of 3.835. Then, in order to know the effect of project-based learning on students' entrepreneurial readiness, inferential analysis was done in the following description.

Different Effect Between Project-Based Learning and Conventional Method

Table 1 shows the result of the One-way ANOVA test. It showed that the significant value (Sig.) was 0.000 and F was 91.051. This significant value was less than 0.05. It indicated that H1 was accepted. It means that the student's entrepreneurial

Table 1: Different Effect Between Project-Based Learning and Conventional Method

	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
Between Groups	5185.197	3	1728.399	118.519	.000
Within Groups	1050.000	72	14.583		
Total	6235.197	75			

readiness taught by project-based learning is significantly different from students who are taught by the conventional method. It shows that the involvement of project-based learning in the learning process gives an impact on students' entrepreneurial readiness. Therefore, there is different effect between project-based learning and conventional method in the learning process.

Interactional Effect Between Project-Based Learning and Self-Efficacy

Table 2 shows the result of Two-Way ANOVA test. It showed the interactional effect between project-based learning and self-efficacy. The significant value between project-based learning and self-efficacy was 0.011 with $F = 6.786$. It was lower than 0.050. It indicated that H_1 was accepted. It means that there is an interaction effect between project-based learning and self-efficacy toward students' entrepreneurial readiness.

Difference between Students with High Self-Efficacy Taught by Using Project-Based Learning and Conventional Teaching Method

Table 3 shows the difference on students' entrepreneurial readiness between experimental and control group with high self-efficacy. The significant value was 0.000 which was lower than 0.050. It indicated that H_1 was accepted. It means that there is a difference on students' entrepreneurial readiness

between students who were taught using project-based learning and those who were taught by the conventional method. Students with high self-efficacy who are taught by using project-based learning outperformed compared to students who are taught using the conventional method.

Difference between Students with Low Self-Efficacy Taught by Using Project-Based Learning and Conventional Teaching Method

Table 4 shows that the significant value was 0.00 which was lower than 0.05. It indicated that H_1 was accepted. It means that there is a significant difference on students' entrepreneurial readiness between students who were taught using project-based learning and those who were taught by conventional method. It shows that the use of project-based learning for students with low self-efficacy outperformed compared to students who are taught using the conventional method.

DISCUSSION

The results of the findings in this study show that there is difference result between experimental and control group. It shows that students who are taught by using project-based learning outperformed than students who are taught by conventional method. It shows that the use of project-based learning give impact on students' entrepreneurial readiness. This impact can be obtained due to the essence of project-based learning which promotes students-centred learning

Table 2: Interactional Effect Between Project-Based Learning and Self-Efficacy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3919.459a	3	1306.486	86.976	.000	.784
Intercept	469598.776	1	469598.776	31262.361	.000	.998
Project-based learning	2427.723	1	2427.723	161.620	.000	.692
Self-efficacy	1346.670	1	1346.670	89.651	.000	.555
Project-based learning * Self-efficacy	101.933	1	101.933	6.786	.011	.086
Error	1081.528	72	15.021			
Total	479475.000	76				
Corrected Total	5000.987	75				

a. R Squared = .784 (Adjusted R Squared = .775)

Table 3: Difference in Students' Entrepreneurial Readiness between Students with High Self-Efficacy in Experimental Group and Control Group

Scheffe					
		Mean Difference (I-J)	95% Confidence Interval		
(I) Group	(J) Group		Std. Error	Sig.	
High Experimental	High Control	13.639 *	1.259	.000	
					Lower Bound Upper Bound
					10.03 17.24

*. The mean difference is significant at the 0.05 level.

Table 4: Difference in Students' Entrepreneurial Readiness between Students with Low Self-Efficacy in Experimental Group and 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	9.000*	1.259	.000	5.40	12.60

*. The mean difference is significant at the 0.05 level.

approach (Handrianto et al., 2018). The students become active and participate the learning process. In addition, this method also promotes cooperation and collaboration (Darmawan & Soetjipto, 2016). The students can work collaboratively and cooperatively in finishing a project with their friends. Moreover, project-based learning also students' critical thinking, creative thinking, and problem-solving skills in investigating and finishing their business project project (Affandi et al., 2021; Hakim & Ratnawati, 2021; Permana, 2018). It is clearly seen that project-based learning led students to prepare themselves to finish their project creatively. In this study, project-based learning can enhance students' entrepreneurial readiness since they have to solve and think creatively to prepare their entrepreneur project.

Apart from the learning method, self-efficacy is also viewed as important factor in this study to influence students' entrepreneurial readiness. It is because students with a strong self-efficacy tend to achieve a more effective influence from the learning strategy (Mills, 2009). When, students have their own willingness to do something, they can achieve their goals. Self-efficacy boosts students' willingness to expand greater effort in accomplishing their learning process (Amini et al., 2019). Students take their best action to accomplish their goals. In addition, self-efficacy becomes an essential factor for prospective entrepreneurs in improving their confidence to face competitive business world (Suharto & Hidayati, 2020). It boosts their willingness to compete with others. Self-efficacy is a mediator in entrepreneurship education controlling students' learning interest (Putra & Sari, 2022). Students tend to participate in the learning process. The higher students' self-efficacy, then the higher impact given by project-based learning towards students' learning motivation (Shin, 2018). Those findings show that project-based learning implementation is inseparable with students' self-efficacy. It can be seen clearly that project-based learning and self-efficacy have interactional effect.

The result of the study is supported by the previous studies in which project-based learning improves students' readiness and directly influences their learning outcomes in entrepreneurship classroom (Affandi et al., 2021). In addition, another study shows that project-based learning is adaptable in stimulating students' entrepreneurial readiness (Daragmeh & Halabi, 2023). Thus, it can be concluded that that project-

based learning is beneficial for conducting entrepreneurship education.

CONCLUSION

The present study concludes that project-based learning along with self-efficacy contribute to students' entrepreneurial readiness. Project-based learning can boost students' entrepreneurial readiness since they become the center of the learning process. They have to prepare themselves in joining the learning process. The self-efficacy is an essential factor affecting students' entrepreneurial readiness since it directs students to be willing in doing something. The results of the study implicate that students must be the center of learning process and boost their attention to follow the learning process. It is suggested to use project-based learning and consider self-efficacy to prepare students to be ready in joining the learning process.

REFERENCES

- Adeniyi, A. O., Derera, E., & Gamede, V. (2022). Entrepreneurial self-efficacy for entrepreneurial readiness in a developing context: A survey of exit level students at TVET Institutions in Nigeria. *SAGE Open*, 12(2). <https://doi.org/10.1177/21582440221095059>
- Affandi, M., Mitsuru, T., Kamil, M., & Suryadi, A. (2021). The effect of project based learning models on improving student learning results on entrepreneurship education. *Proceedings of the First Transnational Webinar on Adult and Continuing Education (TRACED 2020)*, 548(Traced 2020), 122–128. <https://doi.org/10.2991/assehr.k.210508.023>
- Al-Qadasi, N., Zhang, G., Al-Awlaqi, M. A., Alshebami, A. S., & Aamer, A. (2023). Factors influencing entrepreneurial intention of university students in Yemen: The mediating role of entrepreneurial self-efficacy. *Frontiers in Psychology*, 14(January), 1–14. <https://doi.org/10.3389/fpsyg.2023.1111934>
- Alqabbani, S., Almuwais, A., Benajiba, N., & Almoayad, F. (2020). Readiness towards emergency shifting to remote learning during COVID-19 pandemic among university instructors. *E-Learning and Digital Media*, 18(5), 460–479. <https://doi.org/10.1177/2042753020981651>
- Amidjono, D. S., Husodo, Z. A., & Muchtar, A. (2022). The readiness of indonesian youths towards the era of digital economy and business. *Jurnal Pendidikan Ekonomi Dan Bisnis (JPED)*, 10(2), 158–180. <https://doi.org/10.21009/jped.010.2.6>
- Amini, R., Setiawan, B., Fitria, Y., & Ningsih, Y. (2019). The difference of students learning outcomes using the project-based learning and problem-based learning model in terms of self-efficacy.

- Journal of Physics: Conference Series*, 1387(1), 8–14. <https://doi.org/10.1088/1742-6596/1387/1/012082>
- Daragmeh, A., & Halabi, A. (2023). A diagnostic study of entrepreneurial education readiness in the humanities and social sciences in Palestine. *Journal of Entrepreneurship, Business, and Economics*, 11(1), 63–101.
- Dardiri, A., Irsyada, R., & Sugandi, M. (2019). Contributions of understanding of entrepreneurship, interest in entrepreneurship, and self-efficacy to entrepreneurial readiness in the age of the industrial revolution 4.0. *Advances in Social Science, Education and Humanities Research*, 242, 23–26. <https://doi.org/10.2991/icovet-18.2019.6>
- Darmawan, I., & Soetjipto, B. E. (2016). The implementation of project-based learning to improve entrepreneurial intention and entrepreneurship learning outcome of economics education students. *Journal of Business and Management*, 18(10), 98–102. <https://doi.org/10.9790/487X-18100798102>
- Hakim, M. L., & Ratnawati. (2021). Entrepreneurship creative projects as an effort to improve interest in entrepreneurship students. *Journal of Economics, Finance And Management Studies*, 04(11), 2191–2197. <https://doi.org/10.47191/jefms/v4-i11-10>
- Handrianto, C., Rahman, M. A., Islam, U., & Antasari, N. (2018). Project based learning: A review of literature on its outcomes and implementation issues. *LET: Linguistics, Literature, and English Teaching Journal*, 8(2), 110–129. <https://doi.org/10.18592/let.v8i2.2394>
- Hariyanto, V. L., Usman, H., & Pardjono, P. (2017). The implementation of integrated learning for developing the entrepreneurship readiness for the students of vocational high school majoring in architecture engineering. *Jurnal Pendidikan Vokasi*, 7(2), 228. <https://doi.org/10.21831/jpv.v7i2.14842>
- Hendrayanti, S., & Fauziyanti, W. (2021). Entrepreneurship readiness towards the industrial revolution 4.0. *Journal of International Conference Proceedings*, 4(2), 7–18. <https://doi.org/10.32535/jicp.v4i2.1220>
- Hidayat, H., Tamin, B. Y., Herawati, S., Khairul, K., & Syahmaidi, E. (2019). The contribution of technopreneurship scientific learning and learning readiness towards the entrepreneurship learning outcomes in higher vocational education. *Jurnal Pendidikan Vokasi*, 9(1), 21–32. <https://doi.org/10.21831/jpv.v9i1.20466>
- Hutasuhut, S. (2018). The roles of entrepreneurship knowledge, self-efficacy, family, education, and gender on entrepreneurial intention. *Dinamika Pendidikan*, 13(1), 90–105. <https://doi.org/10.15294/dp.v13i1.13785>
- Jusmin, E. (2012). Pengaruh latar belakang keluarga, kegiatan praktik di unit produksi sekolah, dan pelaksanaan pembelajaran kewirausahaan terhadap kesiapan berwirausaha siswa SMK di Kabupaten Tanah Bumbu. *Jurnal Kependidikan: Penelitian Inovasi Pembelajaran*, 42(2), 132629.
- Karani, A. O. (2023). Sustainability plans for resources meant for teaching vocational agriculture for competence-based grade four agriculture in public primary schools Njoro sub-county. *International Journal of Education, Technology, and Science*, 3(2), 136–147.
- Kurish, N. (2020). Criteria, indicators and levels of the readiness of teachers of natural specialties to develop the entrepreneurship competence of high school students. *Journal ScienceRise: Pedagogical Education*, 36(3), 47–51. <https://doi.org/10.15587/2519-4984.2020.202135>
- Marvin, M. E., Pentang, T., & Flora, C. (2014). An investigation of students' readiness towards entrepreneurial intentions at Kigali Independent University (ULK). *International Journal of Education and Research*, 2(10), 263–276.
- Mills, N. (2009). A guide du routard simulation: Increasing self-efficacy in the standards through project-based learning. *Foreign Language Annals*, 42(4), 607–639. <https://doi.org/10.1111/j.1944-9720.2009.01046.x>
- Nugroho, S. B., Sumarto, S., & Abdullah, A. G. (2020). Analysis of entrepreneurial interest in Dumai Agricultural Vocational students. *IOP Conference Series: Materials Science and Engineering*, 830(4). <https://doi.org/10.1088/1757-899X/830/4/042086>
- Permana, A. A. J. (2018). Projects based learning to increase entrepreneurial interest for student entrepreneurship program. *Journal of Education Research and Evaluation*, 2(2), 99. <https://doi.org/10.23887/jere.v2i2.14762>
- Prihatna, K. A. (2017). The effect of AEC in shaping entrepreneurial motivation for vocational high school prospective graduates. *Binus Business Review*, 8(2), 85. <https://doi.org/10.21512/bbr.v8i2.2013>
- Putra, S., & Sari, P. O. (2022). The Influence of entrepreneurship education and family environment on interest in entrepreneurship with self efficacy as a mediation variable for undergraduate students in East Java. *Asia Pacific Journal of Business Economics Technology*, 2(1), 77–85.
- Radianto, W. E., & Wijaya, O. Y. (2017). Project based learning and innovation in entrepreneurship education. *International Journal of Applied Business and Economic Research*, 15(25), 129–140.
- Renaningtyas, D. L., Wahyudin, A., & Khafid, M. (2021). The effect of entrepreneurial knowledge, industrial work practices (internship), and family environment on entrepreneurial readiness through self-efficacy. *Jee (Journal of Economic Education)*, 10(2), 173–184.
- Rodriguez, S., & Lieber, H. (2020). Relationship between entrepreneurship education, entrepreneurial mindset, and career readiness in secondary students. *Journal of Experiential Education*, 43(3), 277–298. <https://doi.org/10.1177/1053825920919462>
- Sandirasegarane, S., Sutermaister, S., Gill, A., Volz, J., & Mehta, K. (2016). Context-driven entrepreneurial education in vocational schools. *International Journal for Research in Vocational Education and Training*, 3(2), 106–126. <https://doi.org/10.13152/IJRVT.3.2.3>
- Setiawan, G. T., & Lestari, E. D. (2021). The effect of entrepreneurship education to student's entrepreneurial intention self-efficacy as mediating variable. *DeReMa (Development Research of Management): Jurnal Manajemen*, 16(2), 158. <https://doi.org/10.19166/derema.v16i2.3884>
- Shin, M.-H. (2018). Effects of project-based learning on students' motivation and self-efficacy. *English Teaching*, 73(1), 95–114. <https://doi.org/10.15858/engtea.73.1.201803.95>
- Suharto, & Hidayati, U. (2020). The influence of e-marketing learning and self efficacy toward students' interests in entrepreneurship. *International Journal of Advanced Research and Publications*, 4(5), 103–107.

- Sukardi, S. (2016). Desain model prakarya dan kewirausahaan berbasis ekonomi kreatif berdimensi industri keunggulan lokal. *Jurnal Cakrawala Pendidikan*, 1(1), 114–124. <https://doi.org/10.21831/cp.v1i1.8381>
- Sumarno, S., & Gimin, G. (2019). Analisis konseptual teoretik pendidikan kewirausahaan sebagai solusi dampak era industri 4.0 di Indonesia. *Jurnal Pendidikan Ekonomi*, 13(2), 1. <https://doi.org/10.19184/jpe.v13i2.12557>
- Vhalery, R., Setyastanto, A. M., & Leksono, A. W. (2022). Kurikulum merdeka belajar kampus merdeka: Sebuah kajian literatur. *Research and Development Journal of Education*, 8(1), 185. <https://doi.org/10.30998/rdje.v8i1.11718>
- Wardana, L. W., Narmaditya, B. S., Wibowo, A., Mahendra, A. M., Wibowo, N. A., Harwida, G., & Rohman, A. N. (2020). The impact of entrepreneurship education and students' entrepreneurial mindset: The mediating role of attitude and self-efficacy. *Heliyon*, 6(9), e04922. <https://doi.org/10.1016/j.heliyon.2020.e04922>
- Wei, H. C., & Chou, C. (2020). Online learning performance and satisfaction: do perceptions and readiness matter? *Distance Education*, 41(1), 48–69. <https://doi.org/10.1080/01587919.2020.1724768>
- Yusuf, A. R., Mardji, Sutadji, E., Sugandi, M., & Elmunsyah, H. (2020). Vocational learning in industry as a work readiness strategy of industrial era 4.0 : Model of path analysis. *International Journal of Innovation, Creativity and Change*, 14(7), 775–786.