



Student Science Entrepreneurship Attitude Perspective Through Science Learning Based on Reyog Ponorogo Local Potential

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Abstract: Science learning that is oriented towards entrepreneurship has not been able to produce students who have an entrepreneurial attitude. This study aims to identify the effect of local potential-based science learning in Reyog Ponorogo, the Dhadak Merak dance on the entrepreneurial attitude perspective of junior high school students. The research method used is quantitative descriptive with a one-group pretest-posttest design at SMP Negeri 3 Depok Sleman. The sample used was 20 students who were selected using the cluster random sampling technique. Entrepreneurial attitude perspective data collection was carried out using an entrepreneurial attitude questionnaire. Data analysis used paired sample t-test. Based on the results of the study, the paired sample t-test sig (2-tailed) was 0.000, so there are differences in pretest and posttest. It can be concluded that science learning based on local potential in Reyog Ponorogo has an effect on the entrepreneurial perspective of junior high school students.

Keywords: Entrepreneurial Attitude Perspective; Local Potential; Reyog Ponorogo; Science Learning.

Introduction

Entrepreneurial attitudes are part of the 21st-century skills which are very important for students to face the current era of globalization (Yavuz et al., 2020). An entrepreneur can be defined as an individual who builds and manages a business for profit and growth. Entrepreneurship has two goals, the first is to generate economic benefits and the second is to focus on creating value (Capella-Peris et al., 2020). Entrepreneurship is more than just creating a business, but rather creating an entrepreneurial mindset. The entrepreneurial attitude of students needs to be prepared so that they are able to develop their potential and be able to face all problems. An entrepreneurial attitude is an expression of a creative and innovative attitude with the characteristics of having high self-confidence, initiative, achievement, and

daring to take risks (Bolton & Lane, 2012; Robinson et al., 1991; Rukmana, 2018).

Local potential that is around the environment of students can be used as a learning material to motivate students in the learning process. Integration of local potential is very important so that students have respect, a sense of belonging, higher thinking skills compared to memorizing, and don't forget their region of origin. Integration of local potential can make learning more meaningful and can solve problems in daily life (Hekmah et al., 2019; Utami & Aznam, 2020). Local potential is an identity that is owned by a certain area that can help the economy of that area and can be valuable when compared to other regions (Fuadati and Wilujeng, 2019; Tamimiya and Suryadarma, 2019).

Reyog is a traditional dance that comes from Ponorogo. The Reyog tradition is still very much preserved among the people with the aim of

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strengthening relations between the Ponorogo people. Reyog Ponorogo is an Indonesian cultural heritage that must be preserved. One way to preserve Reyog is to introduce through science learning to students. The Dhadak Merak dance is one of the dances in Reyog. The Dhadak Merak peacock dance has a mask that can weigh up to 50-60 kg. The analysis of the science concept that can be integrated from the Dhadak Merak dance is the material of Force and Newton's Laws. Newton's Forces and Laws in the Dhadak Merak dance occur when the dancer lifts and moves the mask (Wulansari and Admoko, 2021a, 2021b). In addition, the urgency of this research is that currently students are not familiar with the local potential of Reyog Ponorogo. This is due to several factors, one of which is the development of technology that has an impact on students. Therefore, it is necessary to introduce the local potential of Reyog Ponorogo, one of which is from the entrepreneurial aspect so that students can be interested in and love it.

Previous research conducted by Epinur et al. (2022) stated that entrepreneurship-oriented science learning materials were practical for use in learning. In addition, research conducted by Nuramalina et al. (2022), stated that there were differences in learning science before and after using the PjBL method in increasing entrepreneurial-oriented learning motivation. Another study conducted by Sasmita et al. (2021), stated that the use of STEM LKPD can increase student entrepreneurial innovation and Research conducted by Roswita et al. (2021), states that science learning based on entrepreneurship can improve students' soft skills. Another study also conducted by Diniaty and Atun, (2015) regarding the development of entrepreneurial-oriented science worksheets states that entrepreneurial-oriented worksheets are appropriate for learning. In addition, research conducted Adlim et al. (2015) regarding the development of entrepreneurship-integrated STEM modules stated that entrepreneurship-integrated STEM modules are appropriate for use in learning. The description of the research examines entrepreneurship which is taught in science learning. Based on the description of the research, it is believed that science learning to improve entrepreneurial attitudes is still focused on integration in general or has not yet integrated with local potential, especially in the reyog Ponorogo. However, the difference with this research is the integration of local potential, especially the Reyog Ponorogo culture. Research conducted by Khoerunnisa et al. (2016) regarding the development of a science module that integrates the local potential of regional food to increase entrepreneurial interest, states that the integrated science module of regional food can increase students' entrepreneurial interest. Nevertheless, the difference with this research is the integration of local potential between regional food and regional culture.

It is very important to instill an entrepreneurial attitude in students from an early age, but the optimization of entrepreneurship learning is still lacking in its application (Jena, 2020; Wirawan et al., 2020). Particularly, current problem is that entrepreneurship being taught has not been able to produce students who have an entrepreneurial attitude. In addition, most students after graduation prefer to work in a company. The weakness of science learning currently places more emphasis on cognitive aspects without emphasizing affective and psychomotor aspects (Astawan and Agustiana, 2020; Wijayama, 2020; Wilujeng, 2020). Science learning in schools is more oriented towards material in books without integrating local potential. Science learning that is integrated with local potential is expected to be a place for students to be able to explore themselves and their surroundings.

Based on the results of observations at SMP Negeri 3 Depok Sleman, the entrepreneurial attitude of students is still lacking and entrepreneurship-oriented learning is rarely taught. Science learning problems are caused by learning that is still monotonous and less interesting. Students' difficulties with less contextual learning are still a problem. Students are also still required to memorize the material provided. In addition, science learning that is integrated with local potential is still rarely taught.

Based on the description above, this study aims to identify the influence of local potential-based science learning in Reyog Ponorogo, the Dhadak Merak dance on the perspective of entrepreneurial attitudes of junior high school students. Indicators of entrepreneurial attitude consist of (1) self-confidence, (2) independence, (3) hard work, (4) creativity, and (5) risk-taking.

Method

This research method uses quantitative descriptive. The research design uses one group pretest and posttest (Deepak & Sondhi, 2015). The research design can be seen in table 1. The samples were selected using the cluster random sampling technique, namely class VII students at SMP Negeri 3 Depok Sleman with a total of 20 students. The data collection technique uses an entrepreneurial attitude questionnaire consisting of 20 statement items. The questionnaire has been validated by experts. The questionnaire used was a Likert scale 4. The data collection process was carried out before and after learning science in class.

Table 1. Research Design

Subject	O ₁	X	O ₂
One Group	Pretest	Treatment	Posttest

The data analysis technique was paired sample t-test using SPSS version 25. The prerequisite test was

carried out using the normality test. The decision of the normality test is that the data is normally distributed if the sig. > 0.05. Test paired sample t-test which aims to determine the effect of learning science based on local potential Reyog Ponorogo Dhadak Merak dance on the perspective of entrepreneurial attitudes of junior high school students. The hypothesis for the paired sample t-test:

H_0 : There is no difference between the pretest and posttest results from the perspective of students' entrepreneurial attitudes

H_1 : There is a difference between the pretest and posttest results from the perspective of students' entrepreneurial attitudes

With the criteria, if sig. (2-tailed) < 0.05 then H_0 is rejected and H_1 is accepted and if sig. (2-tailed) > 0.05 then H_0 is accepted and H_1 is rejected.

Result and Discussion

Science learning that is integrated with the local potential of Reyog Ponorogo to increase the perspective of entrepreneurial attitude is carried out by introducing the value and business potential of Reyog, one of which is souvenirs. At the time of the Reyog celebration, many people take the opportunity to make a profit from Reyog souvenirs.

The data obtained from the pretest and posttest were analyzed to determine the effect of learning science based on the Reyog Ponorogo Dhadak Merak dance on

the perspective of students' entrepreneurial attitudes using a paired sample t test. Before the paired sample t test was carried out, the prerequisite test was carried out, namely the normality test. Based on the results of data analysis, it was known that the pretest and posttest data were normally distributed. It can be seen in table 2 the results of the pretest normality test with a significance value of 0.691 and a posttest of 0.11. Decision making is based if the significance value exceeds the value of 0.05. The Shapiro-Wilk normality test was chosen because the sample size is less than 100 samples.

Table 2. Result of Normality Test

Test	Statistic	Shapiro-Wilk	
		df	Sig.
Pretest	0.967	20	0.691
Posttest	0.868	20	0.110

After the data is declared to be normally distributed, it can be continued in the analysis of the paired sample t-test. The results of the paired sample t-test can be seen in table 3. Decision making is based on a sig (2-tailed) value less than 0.05. Based on the results of data analysis, a sig (2-tailed) value of 0.000 is obtained. Then H_0 is rejected and H_1 is accepted or in other words, there is a difference between the pretest and posttest scores, so it can be seen that science learning based on Reyog Ponorogo, the Dhadak Merak dance has an effect on the entrepreneurial attitude perspective of junior high school students.

Table 3. Result of Paired Sample t-Test

Test	Mean	Std. Deviation	Std. Mean Error	Paired Differences				
				95% Confidence Interval of The Differences				
				Lower	Upper	t	df	Sig. (2-tailed)
Pretest-Posttest	-7.500	4.501	1.007	-9.607	-5.393	-7.451	19	0.000

The results showed that science learning based on the local potential of Reyog Ponorogo, the Dhadak Merak dance, could increase the perspective of entrepreneurial attitudes among junior high school students. This was due to the fact that before the pretest the students only knew Reyog as a local culture. After learning students know the value and potential of entrepreneurship. Research conducted by Mujahidin et al. (2023), explained that learning integrated with the local potential of Reyog Ponorogo can improve student learning outcomes. Furthermore, the study by Muliadi et al. (2020), explained that learning science based on local potential can improve students' entrepreneurial attitudes. In addition, research conducted by Khoerunnisa et al. (2016) states that local potential can also increase students' entrepreneurial interest. It can be concluded that the local potential which is integrated into science learning can increase the entrepreneurial

attitude of students, especially the local potential of Reyog Ponorogo.

It should be noted that this research was conducted outside the area of origin of the local potential of Reyog Ponorogo, so it cannot be generalized if it is carried out in other areas or even in the area of origin of the local potential because Reyog Ponorogo is a local culture originating from a certain area. But it can be used as a basis that science learning based on the local cultural potential of Reyog Ponorogo can influence the perspective of students' entrepreneurial attitudes.

Conclusion

Based on the results of the study, the researchers concluded that science learning based on the local potential of Reyog Ponorogo, the Dhadak Merak dance, could improve the entrepreneurial attitude perspective

of class VII students at SMP Negeri 3 Depok, Sleman. Researchers have suggestions for further research to be carried out in the area of origin of the local potential and the research to be carried out with a comparison class.

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Author Contributions

Gagan Ganiya Aulia Rahman contributed as the main author of this article, conceptualizing ideas, research design methodology, and collecting and analyzing data. Gus Rijal Mujahidin and Sofyan Dwi Nugroho contributed to help collect the data. Sri Rejeki Dwi Astuti, Suyanta, and Insih Wilujeng contributed as lecturers who guided this research and the writing of the article.

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Conflict of Interest

The authors declare no conflict of interest.

References

- Adlim, M., Saminan, S., & Ariestia, S. (2015). Pengembangan Modul STEM Terintegrasi Kewirausahaan Untuk Meningkatkan Keterampilan Proses Sains Di SMA Negeri 4 Banda Aceh. *Jurnal Pendidikan Sains Indonesia*, 3(2), 112–130. Retrieved from <https://jurnal.usk.ac.id/JPSI/article/view/7700/0>
- Astawan, I. G., & Agustiana, I. G. A. T. (2020). *Pendidikan IPA Sekolah Dasar di Era Revolusi Industri 4.0*. Nilacakra.
- Bolton, D. L., & Lane, M. D. (2012). Individual Entrepreneurial Orientation: Development of a Measurement Instrument. *Education and Training*, 54(2-3), 219–233. <https://doi.org/10.1108/00400911211210314>
- Capella-Peris, C., Gil-Gómez, J., Martí-Puig, M., & Ruíz-Bernardo, P. (2020). Development and Validation of a Scale to Assess Social Entrepreneurship Competency in Higher Education. *Journal of Social Entrepreneurship*, 11(1), 23–39. <https://doi.org/10.1080/19420676.2018.1545686>
- Deepak, C., & Sondhi, N. (2015). *Research Methodology: Concepts and Cases* (2nd Edition). Vikas Publishing House PVT LTD.
- Diniaty, A., & Atun, S. (2015). Pengembangan Lembar Kerja Peserta Didik (LKPD) Industri Kecil Kimia Berorientasi Kewirausahaan Untuk SMK. *Jurnal Inovasi Pendidikan IPA*, 1(1), 46. <https://doi.org/10.21831/jipi.v1i1.4531>
- Epinur, E., Yusnidar, Y., & Minarni, M. (2022). Development of Basic Chemistry Teaching Material Chemical Education Based on Entrepreneurship. *Jurnal Penelitian Pendidikan IPA*, 8(6). <https://doi.org/10.29303/jppipa.v8i6.2456>
- Fuadati, M., & Wilujeng, I. (2019). Web-Lembar Kerja Peserta Didik IPA Terintegrasi Potensi Lokal Pabrik Gula untuk Meningkatkan Rasa Ingin Tahu Peserta Didik. *Jurnal Inovasi Pendidikan IPA*, 5(1), 98–108. <https://doi.org/10.21831/jipi.v5i1.24543>
- Hekmah, N., Wilujeng, I., & Suryadarma, I. G. P. (2019). Web-Lembar Kerja Siswa IPA Terintegrasi Lingkungan untuk Meningkatkan Literasi Lingkungan Siswa. *Jurnal Inovasi Pendidikan IPA*, 5(2), 129–138. <https://doi.org/10.21831/jipi.v5i2.25402>
- Jena, R. K. (2020). Measuring The Impact of Business Management Student's Attitude Towards Entrepreneurship Education on Entrepreneurial Intention: A case Study. *Computers in Human Behavior*, 107. <https://doi.org/10.1016/j.chb.2020.106275>
- Khoerunnisa, R. F., Murbangun, N., & Sudarmin, S. (2016). Pengembangan Modul IPA Terpadu Etnosains Untuk Menumbuhkan Minat Kewirausahaan. *Journal of Innovative Science Education*, 5(1), 45–53. Retrieved from <http://journal.unnes.ac.id/sju/index.php/jise>
- Mujahidin, G. R., Rahman, G. G. A., Wilujeng, I., & Nugroho, S. D. (2023). Profil Literasi Sains Aspek Kompetensi Peserta Didik Melalui Pembelajaran Berbasis Budaya Lokal Reyog Ponorogo. *Jurnal Penelitian Pendidikan IPA*, 9(2), 965–970. <https://doi.org/10.29303/jppipa.v9i2.2753>
- Muliadi, A., Sarjan, M., & Rokhmat, J. (2020). Pembelajaran IPA Berbasis Bioentrepreneur Pada Etnosains Poteng Jaje Tujak: Perspektif Filsafat. *Jurnal Pendidik Indonesia*, 5(2), 2022. <https://doi.org/10.47165/jpin.v5i2.338>
- Nuramalina, A. R., Rahmatan, H., Safitri, R., Pada, A. U. T., Nurmaliah, C., & Evendi, E. (2022). Using Project-Based Learning Model with Mind Mapping Method to Increase Students' Learning Motivation. *Jurnal Penelitian Pendidikan IPA*, 8(6), 2712–2716. <https://doi.org/10.29303/jppipa.v8i6.2152>
- Robinson, P. B., Stimpson, D. V., Huefner, J. C., & Hunt, H. K. (1991). An Attitude Approach to the Prediction of Entrepreneurship. *Entrepreneurship Theory and Practice*, 15(4), 13–32. <https://doi.org/10.1177/104225879101500405>
- Roswita, F., Sulastri, S., & Khaldun, I. (2021). Application of the Science Technology Society (STS) Model to Craft and Entrepreneurship Materials to Develop Soft Skills of Students. *Jurnal Penelitian Pendidikan IPA*, 7(1), 67. <https://doi.org/10.29303/jppipa.v7i1.525>
- Rukmana, T. Y. (2018). Analisis Faktor-Faktor yang Mempengaruhi Sikap Kewirausahaan. *Jurnal*

- Pendidikan Ekonomi*, 6(2).
<https://doi.org/10.26740/jupe.v6n2.p%25p>
- Sasmitha, D., Adlim, M., Gani, A., & Syukri, M. (2021). Implementation of STEM-based Student Worksheet to Increase Student Entrepreneurial Innovation through the Development of Candied Nutmeg Products. *Jurnal Penelitian Pendidikan IPA*, 7(1), 112.
<https://doi.org/10.29303/jppipa.v7i1.551>
- Tamimiya, K. T., & Suryadarma, I. G. P. (2019). Potensi Lokal Gunung Ijen untuk Pemahaman Konsep dan Berpikir Kreatif Pengurangan Resiko Bencana. *Jurnal Inovasi Pendidikan IPA*, 5(1), 117-128.
<https://doi.org/10.21831/jipi.v5i1.25702>
- Utami, D. N., & Aznam, N. (2020). Pengembangan LKPD IPA “Pesona Pantai Parangtritis” berbasis Learning Cycle 7E beserta Efeknya Terhadap Critical Thinking. *Jurnal Inovasi Pendidikan IPA*, 6(1). <https://doi.org/10.21831/jipi.v6i1.30404>
- Wijayama, B. (2020). *Pengembangan Perangkat Pembelajaran IPA Bervisi SETS dengan Pendekatan SAVI*. Qahar Publisher.
- Wilujeng, I. (2020). *IPA Terintegrasi dan Pembelajarannya*. UNY Press.
- Wirawan, P. A., Wesnawa, I. G. A., & Kertih, I. W. (2020). Pengembangan Materi Ajar IPS untuk Menumbuhkan Sikap Wirausaha Siswa Berbasis Studi Kelayakan Bisnis. *Jurnal Pendidikan IPS Indonesia*, 4(1), 16-23.
<https://doi.org/10.23887/pips.v4i1.3143>
- Wulansari, N. I., & Admoko, S. (2021a). Eksplorasi Konsep Fisika pada Tari Dhadak Merak Reog Ponorogo. *PENDIPA Journal of Science Education*, 5(2), 163-172.
<https://doi.org/10.33369/pendipa.5.2.163-172>
- Wulansari, N. I., & Admoko, S. (2021b). Identification of Physics Concepts in Reog Ponorogo’s Dhadak Merak Dance as A Source of Learning Physics: An Analytical Study. *Berkala Ilmiah Pendidikan Fisika*, 9(1), 105. <https://doi.org/10.20527/bipf.v9i1.9862>
- Yavuz, M., Hasançebi, M., & Hasançebi, F. Y. (2020). The Effect of STEM Application on 21st-Century Skills of Middle School Students and Student Experiences. *Journal of Soft Computing and Artificial Intelligence*, 1(1), 28-39. Retrieved from <https://dergipark.org.tr/en/pub/jscai/issue/54043/744198>