

THE EFFECT OF PROJECT-BASED LEARNING MODEL AND KINESTHETIC LEARNING STYLE ON THE LEARNING OUTCOMES OF IPAS (NATURAL AND SOCIAL SCIENCE) GRADE 4 AT INPRES WESTMAPANGET ELEMENTARY SCHOOL

Charlalianthy Hiellary Liuw¹,

Email: charlalianthy312@guru.sd.belajar.id;

Universitas Negeri Manado

Harol Reflie Lumapow²

Email: Haroldlumapow@unima.ac.id

Universitas Negeri Manado

Jeanne M. Mangangantung³

Email: mangangantungj@gmail.com

Universitas Negeri Manado

ABSTRACT

IPAS (natural and social sciences) education is a very important field of science at all levels of education, from primary to secondary, to enable students to develop knowledge, understanding and skills. This study aims to analyze the effect of Project Based Learning (PjBL) model and Kinesthetic Learning Style on the achievement of IPAS (natural and social sciences) learning outcomes in grade 4 students at Inpres West Mapanget Elementary School. The research method applied was an experiment with a non-randomized control group pretest and posttest design. The population in the current study is from students who have taken grade 4 at Inpres West Mapanget Elementary School, with 15 students for the experimental group and 16 students for the control group. The results of this study indicate that; first, there is a significant difference in the learning outcomes of control class students before and after the application of conventional learning models, second, there is a sustainable difference in the learning outcomes of experimental class students before and after the Project Based Learning (PjBL) model and Kinesthetic Learning Style; Third, the Project Based Learning (PjBL) model and Kinesthetic Learning Style have a sustainable effect on student learning outcomes, with a significance coefficient.

Keywords: Learning outcomes, Kinesthetic Learning Style, PjBL Model

INTRODUCTION

IPAS (natural and social sciences) learning is a very important area of science at all levels of education, from primary to secondary, to enable students to develop their knowledge, understanding and skills. It should be efficient and entertaining, allowing students to solve problems related to natural phenomena and their environment. Student participation in the IPAS learning process is a must, observing and solving problems independently through reading and writing activities. It is important for teachers to adapt the IPAS (natural and social sciences) learning to the students' environment, allowing students to learn according to their ability to feel happy and not pressured.

Project Based Learning (PjBL) is a learning approach that emphasizes students and focuses on project implementation. In Project Based Learning (PjBL), students are faced with a challenging project that must be completed within a certain period of time (Yuniarti, 2021). Project Based Learning (PjBL) has several advantages, including increasing student enthusiasm and involvement in the learning process, developing skills relevant to the modern era such as critical analysis, problem-solving, communication, and cooperation, and supporting a deeper and more practical understanding of science concepts (Nugraha et al., 2023).

The use of an appropriate model also depends on other factors such as classroom management, material presentation, teaching aids, and so on. The low participation of students, as well as the lack of development of students' abilities to analyze, understand, and solve problems in lessons, is a matter of concern because learning conditions like this tend to cause boredom in students in the teaching and learning process. This then has a negative impact on the achievement of learning outcomes, where optimal achievement becomes difficult to achieve (Tombokan, 2021).

Learning style refers to the consistent pattern followed by a student in absorbing information, remembering, thinking, and solving problems (Mursari, 2019). Kinesthetic Learning Style is a learning style that involves movement and physical activity. Students with Kinesthetic Learning Style find it easier to understand and remember information when they are directly involved in learning activities (Labu, 2021). The characteristics of students with Kinesthetic Learning Styles include liking to move and be active, learning more easily through practice and experimentation, and enjoying physical activities such as sports, dancing, and role playing (Septianto et al., 2022). The Project Based Learning (PjBL) model and Kinesthetic Learning Style have the potential to improve students' science learning outcomes. Therefore, science teachers in elementary schools need to consider using the Project Based Learning (PjBL) model and accommodating Kinesthetic Learning Styles in their learning (Sumarah et al., 2023).

Learning outcomes are the main goal of school learning that can be improved through systematic efforts to achieve positive changes in the teaching and learning process (Wahyuningsih, 2020). Learning outcomes play a vital role in the teaching and learning process as the final stage of learning. Achieving adequate learning outcomes is the main goal, which reflects students' abilities that they acquire through mental activity (Lumapow et al., 2023). In Merdeka Curriculum, the importance of learning outcomes is in the context of character development, particularly character as a Pancasila students. Learning is understood as a gradual process that involves a conscious effort to acquire knowledge and prepare oneself as an active participant in learning activities (Leny, 2022).

According to previous research conducted by Mayuni et al. (2019), there is an explanation that there is a significant difference in science learning achievement between two groups of students taught using two different learning models. The average score of science learning outcomes of students who participated in Project Based Learning (PjBL) reached 22.15, indicating a very high level of achievement. Meanwhile, the average science learning outcome of students who followed conventional learning was 17.21, which is still included in the high achievement category. In addition, research conducted by Aprilia et al. (2022) provided an explanation that the majority of students showed a fairly high achievement in biology cognitive learning outcomes, with 109 students reaching that level, representing 72% of the total. The results of data analysis show that there is a significant influence of visual, auditorial, and kinesthetic learning styles on student learning outcomes in biology subjects at SMAN 1 Pujut. The analysis showed a regression F value of 5.183, R^2 of 0.095, and p of 0.002. In conclusion, learning styles contribute 9.5% to the achievement of student learning outcomes.

Based on the results of the research, IPAS (natural and social sciences) learning is still less attractive to students and considers IPAS (natural and social sciences) subjects to be difficult subjects. This is due to the lack of innovation and creativity from teachers in the teaching and learning process, teachers do not understand learning styles in IPAS (natural and social sciences) learning resulting in low student learning outcomes. Therefore, further efforts are needed to improve student interest and learning outcomes in IPAS subjects. Student learning outcomes in IPAS (natural and social sciences) subjects are still not maximally achieved. An educator is expected to provide opportunities for students to learn according to their respective abilities, so that they feel comfortable and do not feel burdened during the learning process (Prasetyo, 2019).

From the results of interactions with grade 4 IPAS (natural and social sciences) teachers at Inpres West Mapanget Elementary School, students still have difficulty understanding IPAS (natural and

social sciences) material, and interest in this subject is still low, which is reflected in the end-of-semester test results which show an average score below the KKM (minimum completeness criteria). The application of the Project Based Learning (PjBL) model at InpresWest Mapanget Elementary School is also still not optimal, due to the lack of teacher understanding of this model and limited resources. Teachers' understanding of students' learning styles is also still lacking, so they have not been able to present learning according to students' learning styles. This research is useful for teachers and students in improving learning outcomes by doing projects, especially in IPAS (natural and social sciences) learning.

Based on the background of the above problems, researchers are interested in conducting research with the title "The effect of Project Based Learning Model and Kinesthetic Learning Style on the learning outcomes of IPAS (natural and social science) grade 4 at InpresWest Mapanget Elementary School". It aims to analyze the effect of Project Based Learning (PjBL) Model on grade 4 IPAS (natural and social sciences) learning outcomes at InpresWest Mapanget Elementary School and analyze the effect of Kinesthetic Learning Style on grade 4 IPAS (natural and social sciences) learning outcomes at InpresWest Mapanget Elementary School. In addition, the main purpose of this study is to analyze the difference in the effect of Project Based Learning (PjBL) Model and kinesthetic Learning Style on grade 4 IPAS (natural and social sciences) learning outcomes at InpresWest Mapanget Elementary School.

This research is useful as input material in adding insight when carrying out an IPAS (natural and social sciences) learning process in schools, especially InpresWest Mapanget Elementary School by applying the Project Based Learning (PjBL) Model. In addition, the benefits of the results of this study are to provide valuable insights and suggestions to teachers to improve the quality of learning and student achievement through the application of the Project Based Learning (PjBL) method, especially in Natural and Social Sciences subjects and other subjects in general. In addition, it is hoped that the results of this study can also provide valuable information for school principals in designing effective and efficient policies related to learning strategies in schools.

METHOD

The research method used in this study uses a quantitative approach. This research applies the experimental method, which refers to a research approach to evaluate the effect of a treatment on other variables under controlled conditions (Sugiyono, 2019). The research design applied is a nonequivalent group pretest-posttest design, which compares two categories, namely the experimental variable with the control variable.

The research subjects involved all grade 4 students at InpresWest Mapanget Elementary School, divided into two classes: class A with 15 students and class B with 16 students. Class 4A was used as the experimental group, while class 4 B became the control group. Thus, the total number of research subjects in this study was 31 students. The instruments used in this study included tests, and non-tests. Some of the steps considered in the preparation of instruments include (Ibrahim et al., 2023): a) Identifying the variables being investigated, b) Describing these variables in several aspects, c) Finding indicators for each aspect, d) Describing the framework of the instrument, e) Developing questions or statements for the instrument, f) Guidelines for filling out the instrument.

RESULT AND DISCUSSION

Result

Before analyzing the data, the prerequisite test was first carried out using the normality test and homogeneity test. From the results of the study, it was found that the pretest data of learning outcomes of the experimental class showed a normal distribution, because the significance coefficient was 0.200

> 0.05. Likewise, the pretest data group of learning outcomes from the control class, which also showed a normal distribution with a significance coefficient of $0.200 > 0.05$. While the posttest data of learning outcomes of the experimental class showed a normal distribution, because the significance coefficient was $0.200 > 0.05$. In addition, the posttest data group of learning outcomes of the experimental class also showed a normal distribution, which was indicated by a significance coefficient of $0.178 > 0.05$.

In addition to the normality test, the results of the homogeneity test showed that the pretest homogeneity test between the control class and the experimental class, it can be concluded that the variance is homogeneous, as indicated by the significance coefficient of $0.258 > 0.05$. In addition, the results of the motivation posttest homogeneity test between the control class and the experimental class, it was found that the variance was balanced in both sample groups. This finding is supported by the fact that the significance coefficient (sig) value is 0.422, which is greater than the normally used threshold of 0.05. Thus, it can be concluded that there is no significant difference in the variance between the two groups.

After the prerequisite test is carried out, then the data analysis test is carried out by applying the t-test. The results of the data analysis in this study can be detailed as follows:

Table 1
Control Class Pretest Postest Test

	Persepsi kontrol	Mean	t	df	Sig (2-tailed)
Learning Outcome Control	Equal Variances Assued	54,8750	8,341	14	0.000
	Equal Variances Not assumed	40,8750	8,341	12.433	0.000

Based on the test results, it can be seen that there is a significant difference from before to after the application of conventional learning models on the learning outcomes of a student who is in the control class, this finding is evident from the sig coefficient = $0.000 < 0.05$.

Table 2
Experimental Class Pretest Postest Test

	Persepsi kontrol	Mean	t	df	Sig (2-tailed)
Learning Outcome Experiment	Equal Variances Assued	54,8750	54.8750	2.69590	0.95314
	Equal Variances Not assumed	40,8750	6.405	13	0.000

Based on the test results, it can be seen that there is a sustainable difference in the learning outcomes of experimental class students before and after the Project Based Learning (PjBL) Model and Kinesthetic Learning Style, this finding is evident from the sig coefficient = $0.000 < 0.05$.

Table 3
Differential Test of Experimental Class and Control Class

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
HasilBelajarKontrol	Equal variances assumed	1.371	0.261	8.341	14	0.000	14.00000	1.67838	10.40023	17.59977
	Equal variances not assumed			8.341	12.433	0.000	14.00000	1.67838	10.35720	17.64280

Based on the test results, it can be seen that the Project Based Learning (PjBL) Model and Kinesthetic Learning Style have a sustainable effect on student learning outcomes, this finding is evident from the sig coefficient <0.05.

Discussion

Effect of PJBL Learning Model on IPAS learning outcomes

The results of the calculation of this research hypothesis test show that there is an effect on student learning outcomes before and after being given a conventional learning model. Based on the test results, it can be seen that there is a significant difference in the learning outcomes of control class students before and after the conventional learning model, this finding is evident from the sig coefficient = 0.000 < 0.05. Then it can also be said that there is a sustainable difference in student learning motivation before and after being given a conventional learning model.

The research is in line with the research conducted by KhoirullahThe results showed that there was a sustainable difference in the learning outcomes of students who implemented sentence concept learning and conventional learning. The same thing was done by(Malinda, 2019) who conducted research related to differences in student learning outcomes from those who applied conventional media and multimedia when thematic lessons. The results showed that there were differences with important differences in student learning achievement using traditional media and multimedia media.

According to research conducted byMangangantung et al. (2023), the application of the Project Based Learning (PjBL) Model can improve the creativity and science learning achievement of students in grade V of Holy Cross Kinilow Catholic Elementary School. Students successfully demonstrated the ability to think critically, think creatively, communicate, and collaborate. They were able to test new ideas through experiments and produce products through their creativity.

The Effect of Learning Style on IPAS Learning Outcomes

Based on the results of the study, there are differences in the results of teaching given to students from student groups through conventional learning models and teaching given to students through the Project Based Learning (PjBL)Models and Kinesthetic Learning Styles. The results of teaching given to students through the Project Based Learning (PjBL) Models and Kinesthetic Learning Styles tend to be better than the results of teaching given to students through applying conventional learning models. The Project Based Learning (PjBL) Models is more aligned to Kinesthetic Learning Style. The Project Based Learning (PjBL) Models provides opportunities for students to move and be active during the learning process. It can fulfill the needs of students whose learning style is kinesthetic to learn from direct experience and its application.

The results of this study are in line with research conducted byMahdiyanto et al. (2017) showing that there are differences in learning outcomes with teaching given to students through conventional learning models and teaching given to students through Project Based Learning (PjBL) Models. The results of teaching given to students through the Project Based Learning (PjBL) Model tend to be

higher than teaching given to students through conventional learning models. In addition, in the research of Rambe & Yarni (2019), there is an explanation that there is a significant positive influence between visual and auditory learning styles on student science learning outcomes.

The Effect of PjBL Learning Model and Learning Style compared to Conventional on IPAS Learning Outcomes

The results of the calculation of this research hypothesis test show that there is an effect of the Project Based Learning (PjBL) Model and Kinesthetic Learning Style of students before and after being given a conventional learning model. Based on the test results, it can be seen that the Project Based Learning (PjBL) Model and Kinesthetic Learning Style have a significant effect on student learning outcomes, this finding is evident from the sig coefficient <0.05 .

The results of this study are in line with the research carried out from Jamilah et al. (2023) which examines the problem of the influence of the Project Based Learning (PjBL) Model and learning styles and creativity compared to conventional on the science learning outcomes of Public Senior High School 5 Manado students. The results of the study illustrate that there is a significant positive effect of the Project Based Learning (PjBL) Model and visual learning styles and creativity compared to conventional on student science learning outcomes.

CONCLUSION

The results of the study suggest that both the Project Based Learning (PjBL) Model and conventional learning models have a significant impact on the IPAS (natural and social sciences) learning achievement of grade 4 students at Inpres West Mapanget Elementary School. Learning outcomes were also significantly affected by Kinesthetic Learning Style. Students who participated in learning with the Project Based Learning (PjBL) Model showed higher IPAS (natural and social sciences) learning achievement than students who learned using the conventional model, as well as students who had a Kinesthetic Learning Style. The use of the Project Based Learning (PjBL) Model and Kinesthetic Learning Style had a greater impact on learning achievement than the conventional approach.

REFERENCES

- Aprilia, B. L. K., Jamaluddin, Lestari, T. A., & Handayani, B. S. (2022). Pengaruh Gaya Belajar Terhadap Hasil Belajar Siswa Pada Mata Pelajaran Biologi di SMA Negeri 1 Pujut. *Jurnal Ilmiah Profesi Pendidikan*, 7(4b), 2732–2743. <https://doi.org/10.29303/jipp.v7i4b.1065>
- Ibrahim, M. B., Sari, F. P., Kharisma, L. P. I., Kertati, I., Artawan, P., Sudipa, I. G. I., Simanjuntak, P., Rusmayadi, G., Muhammadiyah, M., Nursanty, E., & Lolang, E. (2023). *Metode Penelitian Berbagai Bidang Keilmuan (Panduan & Referensi)*. PT. Sonpedia Publishing Indonesia. [https://books.google.co.id/books?hl=id&lr=&id=OCW2EAAAQBAJ&oi=fnd&pg=PP1&dq=Ibrahim,+M.+B.,+Sari,+F.+P.,+Kharisma,+L.+P.+I.,+Kertati,+I.,+Artawan,+P.,+Sudipa,+I.+G.+I.,+...+%26+Lolang,+E.++\(2023\).+Metode+Penelitian+Berbagai+Bidang+Keilmuan+\(Panduan+%26+Referensi\).+PT.+Sonpedia+Publishing+Indonesia%5C&ots=XrFYC3qn8h&sig=bVWgejir3jGXL-IuJD-0h5FkujI&redir_esc=y#v=onepage&q&f=false](https://books.google.co.id/books?hl=id&lr=&id=OCW2EAAAQBAJ&oi=fnd&pg=PP1&dq=Ibrahim,+M.+B.,+Sari,+F.+P.,+Kharisma,+L.+P.+I.,+Kertati,+I.,+Artawan,+P.,+Sudipa,+I.+G.+I.,+...+%26+Lolang,+E.++(2023).+Metode+Penelitian+Berbagai+Bidang+Keilmuan+(Panduan+%26+Referensi).+PT.+Sonpedia+Publishing+Indonesia%5C&ots=XrFYC3qn8h&sig=bVWgejir3jGXL-IuJD-0h5FkujI&redir_esc=y#v=onepage&q&f=false)
- Jamilah, K., Nurhaedah, & Nurfaizah. (2023). Pengaruh Penerapan Model Pembelajaran Berbasis Proyek terhadap Hasil Belajar IPA pada Siswa Kelas V SD Negeri 058 Galung Lego Kabupaten Polewali Mandar. *PINISI JOURNAL OF SCIENCE & TECHNOLOGY*, 1–8. <http://eprints.unm.ac.id/33424/1/PJST%20-%20Khusnul%20Jamilah%201747041025.pdf>
- Labu, N. (2021). Analisis karakteristik gaya belajar vak (Visual, Auditorial, Kinestetik) siswa kelas X SMAK St. Petrus Ende tahun ajaran 2019/2020. *Jurnal Penelitian Pendidikan Agama Katolik*, 1(1), 1–21. <https://doi.org/https://doi.org/10.52110/jppak.v1i1.3>

- Leny, L. (2022). Implementasi kurikulum merdeka untuk meningkatkan motivasi belajar pada sekolah menengah kejuruan pusat keunggulan. *Prosiding Seminar Nasional Fakultas Tarbiyah Dan Ilmu Keguruan IAIM Sinjai, 1*, 38–49. <https://doi.org/https://doi.org/10.47435/sentikjar.v1i0.829>
- Lumapow, H. R., Mua, M. M., & Tintingon, F. A. (2023). Peranan Guru dalam Meningkatkan Prestasi Belajar Siswa di SMP Negeri 1 Pineleng, Kabupaten Minahasa. *Wunong of Educational Research, 2*(1), 7–13. <http://ejournal.unima.ac.id/index.php/wunong/article/view/7080/3425>
- Mahdiyanto, A., Murtiono, E. S., & Thamrin, A. (2017). PERBANDINGAN PENGGUNAAN MODEL PEMBELAJARAN KONVENSIONAL DAN MODEL PEMBELAJARAN PROJECT BASED LEARNING TERHADAP HASIL BELAJAR GAMBAR KONSTRUKSI BANGUNAN SISWA KELAS XI TGB A SMKN 2 SURAKARTA TAHUN AJARAN 2016/2017. *Indonesian Journal of Civil Engineering Education, 3*(1). <https://doi.org/https://doi.org/10.20961/ijcee.v3i1.22414>
- Malinda, F. D. (2019). *Perbedaan Hasil Belajar Siswa antara Menggunakan Media Konvensional dan Multimedia pada Pembelajaran Tematik di Kelas V Madrasah Ibtidaiyah Negeri 03 Jember Tahun Pelajaran 2019/2020* [INSTITUT AGAMA ISLAM NEGERI JEMBER]. http://digilib.uinkhas.ac.id/14111/1/FARRAH%20DIAH%20MALINDA_T20154009.pdf
- Mangangantung, J., Pantudai, F., & Rawis, J. A. M. (2023). Penerapan Model Pembelajaran Project Based Learning untuk Meningkatkan Kreativitas dan Hasil Belajar IPA Siswa Kelas V. *Edukatif: Jurnal Ilmu Pendidikan, 5*(2), 1163–1173. <https://edukatif.org/index.php/edukatif/article/view/4962/pdf>
- Mayuni, K. R., Rati, N. W., & Mahadewi, L. P. P. (2019). Pengaruh model pembelajaran project based learning (PjBL) terhadap hasil belajar IPA. *Jurnal Ilmiah Pendidikan Profesi Guru, 2*(2), 183–193. <https://doi.org/https://doi.org/10.23887/jippg.v2i2.19186>
- Mursari, C. (2019). Deskripsi Kemampuan Berpikir Kritis Matematis dan Kemandirian Belajar Siswa Ditinjau dari Gaya Belajar. *Alphamath: Journal of Mathematics Education, 5*(2), 40–48. <https://doi.org/10.30595/alphamath.v5i2.7345>
- Nugraha, I. R. R., Supriadi, U., & Firmansyah, M. I. (2023). Efektivitas Strategi Pembelajaran Project Based Learning dalam Meningkatkan Kreativitas Siswa. *Jurnal Penelitian Dan Pendidikan IPS, 17*(1), 39–47. <https://doi.org/https://doi.org/10.21067/jppi.v17i1.8608>
- Prasetyo, H. (2019). *Menjadi Guru yang Hebat dan Menyenangkan* (A. Rahmawati, Ed.). Penerbit Duta. [https://books.google.co.id/books?hl=id&lr=&id=85mxDwAAQBAJ&oi=fnd&pg=PR4&dq=Prasetyo,+H.+\(2019\).+Menjadi+Guru+yang+Hebat+dan+Menyenangkan.+Penerbit+Duta&ots=lyE_sp8G4a&sig=HhRCYm2IGvXsIJyIbYx1U5VVS8rU&redir_esc=y#v=onepage&q=Prasetyo%2C%20H.%20\(2019\).%20Menjadi%20Guru%20yang%20Hebat%20dan%20Menyenangkan.%20Penerbit%20Duta&f=false](https://books.google.co.id/books?hl=id&lr=&id=85mxDwAAQBAJ&oi=fnd&pg=PR4&dq=Prasetyo,+H.+(2019).+Menjadi+Guru+yang+Hebat+dan+Menyenangkan.+Penerbit+Duta&ots=lyE_sp8G4a&sig=HhRCYm2IGvXsIJyIbYx1U5VVS8rU&redir_esc=y#v=onepage&q=Prasetyo%2C%20H.%20(2019).%20Menjadi%20Guru%20yang%20Hebat%20dan%20Menyenangkan.%20Penerbit%20Duta&f=false)
- Rambe, M. S., & Yarni, N. (2019). Pengaruh gaya belajar visual, auditorial, dan kinestetik terhadap prestasi belajar siswa SMA Dian Andalas Padang. *Jurnal Review Pendidikan Dan Pengajaran (JRPP), 2*(2), 291–296. <https://doi.org/https://doi.org/10.31004/jrpp.v2i2.486>
- Septianto, I., Arif, M., & Nugraha, H. (2022). Penerapan Permainan Modifikasi Engklek Untuk Meningkatkan Kecerdasan Kinestetik Pada Anak Usia Dini 6-8 Tahun Diperumahan Regency 1 Tangerang. *Journal Olahraga Rekat (Rekreasi Masyarakat), 53–60*. <https://journal.unj.ac.id/unj/index.php/jor/article/view/26892/12570>
- Sugiyono. (2019). *Metode Penelitian Pendidikan (Kuantitatif, Kualitatif, Kombinasi, R&D dan Penelitian Pendidikan)* (A. Nuryanto, Ed.; Ed. 3. Cet. 1.). Alfabeta.
- Sumarah, I. E., Rusmawan, Kencana, C. G., Yudono, K. D. A., Waningshiyu, C., & Dewi, A. M. K. (2023). *Pembelajaran Berbasis Proyek Berdasarkan Gaya Belajar Vark: Untuk Peserta Didik Kelas IV*

SD (I. E. Sumarah, Ed.). Sanata Dharma University Press.

[https://books.google.co.id/books?hl=id&lr=&id=jPHAEAAAQBAJ&oi=fnd&pg=PA1&dq=Sumarah,+I.+E.,+Kencana,+C.+G.,+Yudono,+K.+D.+A.,+Waninghiyu,+C.,+%26+Dewi,+A.+M.+K.+\(2023\).+Pembelajaran+Berbasis+Proyek+Berdasarkan+Gaya+Belajar+Vark:+Untuk+Peserta+Didik+Kelas+IV+SD.+Sanata+Dharma+University+Press.&ots=nyoFKdvfpp&sig=lGd7536WjRrQ0WCiNCLaiUEZMlk&redir_esc=y#v=onepage&q&f=false](https://books.google.co.id/books?hl=id&lr=&id=jPHAEAAAQBAJ&oi=fnd&pg=PA1&dq=Sumarah,+I.+E.,+Kencana,+C.+G.,+Yudono,+K.+D.+A.,+Waninghiyu,+C.,+%26+Dewi,+A.+M.+K.+(2023).+Pembelajaran+Berbasis+Proyek+Berdasarkan+Gaya+Belajar+Vark:+Untuk+Peserta+Didik+Kelas+IV+SD.+Sanata+Dharma+University+Press.&ots=nyoFKdvfpp&sig=lGd7536WjRrQ0WCiNCLaiUEZMlk&redir_esc=y#v=onepage&q&f=false)

Tombokan, S. S. N. (2021). Penerapan Model Pembelajaran Problem Based Learning (PBL) untuk Meningkatkan Hasil Belajar IPS di SD. *Jurnal Ilmiah Wahana Pendidikan*, 7(1), 140–146. <https://doi.org/https://doi.org/10.5281/zenodo.4539955>

Wahyuningsih, E. S. (2020). *Model pembelajaran mastery learning upaya peningkatan keaktifan dan hasil belajarsiswa*. Deepublish. [https://books.google.co.id/books?hl=id&lr=&id=3Bz-DwAAQBAJ&oi=fnd&pg=PP1&dq=Wahyuningsih,+E.+S.+\(2020\).+Model+Pembelajaran+Mastery+Learning+Upaya+Peningkatan+Keaktifan+dan+Hasil+Belajar+Siswa.+Deepublish&ots=pk0NLBrBNs&sig=I-LVZEjhChQ78OfRckapsA86pxc&redir_esc=y#v=onepage&q&f=false](https://books.google.co.id/books?hl=id&lr=&id=3Bz-DwAAQBAJ&oi=fnd&pg=PP1&dq=Wahyuningsih,+E.+S.+(2020).+Model+Pembelajaran+Mastery+Learning+Upaya+Peningkatan+Keaktifan+dan+Hasil+Belajar+Siswa.+Deepublish&ots=pk0NLBrBNs&sig=I-LVZEjhChQ78OfRckapsA86pxc&redir_esc=y#v=onepage&q&f=false)

Yuniarti, Y. (2021). Project based learning sebagai model pembelajaranteksanekdot pada siswa SMA. *Jurnal Pendidikan Bahasa Indonesia*, 9(2), 73–81. <https://doi.org/http://dx.doi.org/10.30659/jpbi.9.2.73-81>