

## **Mapping Student Learning Styles Achieving Using Kolb's Learning Style Inventory in Sinjai Regency**

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### **ABSTRACT**

Learning style is one of the factors supporting student achievement. Learning style is one of the factors that influence learning achievement that comes from within the individual. Children who do not understand their learning styles will find it difficult to master the material well and will affect their learning outcomes. This research was conducted in Sinjai Regency with the object of research being students with achievement, namely students who were ranked 1st, 2nd, and 3rd in their study groups. The purpose of this study was to map the learning styles of high school students in Sinjai Regency. This type of research is a quantitative descriptive study. The population is 240 outstanding students from 4 schools in Sinjai Regency. The sample is 62 people or 25 percent of the study population. The data collection techniques used were questionnaires and documentation. The data analysis used in this study was a descriptive statistical analysis of the percentages used to examine the research variables, namely the learning styles and social relationships of outstanding students. The results of this study found the learning styles of high school achievement students in Sinjai Regency, namely the Converger learning style type as many as 35 students or 56.5 percent, the accommodator learning style type were 16 students or 25.8 percent, the assimilator learning type was 7 students or 11.3 percent and the type of learning diverger as many as 4 people or 6.5 percent of the 62 respondents who are outstanding students or are ranked 1-3 in the study group. From the research results, it appears that the type of learning style that dominates or excels the respondent is the convergent learning style, which is a quadrant combination of thinking and doing. Converger type people have good skills in problem-solving and decision making. Use logic in the face of problems and like hands-on practice. Take challenges as opportunities. The results of his observations were collected and then used as a theory.

**Kata Kunci:** Learning style, student achievement, Kolb

### **INTRODUCTION**

Achievement or learning outcomes are benchmarks for the success of formal education. Learning outcomes are influenced by various factors, both from within and from outside. One of the internal factors is the learning style used by these students (Sutama & Anggitasari, 2019), (Yusuf & Suwarno, 2019), (Ningrat & Sumantri, 2019). Learning style is a way used by someone to learn everything so that they can absorb, organize, and process lessons well. (Maryani et al., 2017), (Usman & Tasya, 2020).

Individual learning styles differ from one another, a person who manages to know the learning style that is effective for him is a sign that he will succeed in the educational process. The learning outcomes of students or children vary, some have very high learning outcomes and some are low. (Gasong, 2018), (Fahyuni & Istikomah, 2016), (Fadlillah, 2016) There are individuals who are slow in accepting lessons, some are fast. However, this situation will not occur if the individual or child is able to understand the most effective way of learning for

himself. So that in implementing learning, the teacher must not limit himself to only using one teaching method, but the teacher must be able to adapt to each of the learning styles of their students. (Humairah & Awaru, 2017).

The learning process that is delivered by the teacher is one of the determinants of the success of the learning process in school. However, the most influential thing is the way students learn themselves (Pertiwi, 2020), (Fatmawati, 2020). Every individual has a different learning style, this is because humans have many differences both physically, mentally, and how to respond to new things. Fleming and Mills stated that learning style is the tendency of students to adopt certain strategies in learning as a form of responsibility to get a learning approach that is in accordance with the demands of learning in class/school and in other subjects. (Wibowo, 2016). Willing define, learning styles as learning habits favored by learners, (Effendi et al., 2018) while Keefe analyzing learning styles as a way to accept, interact, and how to see the environment (Andirasari, 2019).

In this study, learning style is a consistent effort made by a student in capturing information, remembering, thinking, and solving problems. People who do not know and understand their own learning styles will find it more difficult to adjust comfort in their learning activities. Because it is still unstable in how to manage the information obtained. In addition, people who study with their own learning styles have more opportunities to improve their learning achievement, especially in academics. (Awaru & Syukur, 2019) students who have succeeded in understanding their learning styles will naturally find it easy to learn and increase their motivation and display the best results. And on the other hand, a teacher who understands the learning styles of his students, he will easily make his students understand the material he is conveying.

Many studies have been conducted that have found coherence between learning styles and a number of other variables, such as personality type, educational specialization, professional career, job roles, and adjustment skills. (Kolb & Kolb, 2005). However, there are not many standardized test kits in Indonesia that can be used to determine student learning styles. One of the instruments to determine learning styles has been developed by David Kolb, Ph.D dan called LSI, Learning Style Inventory in 1971. Research results and clinical observations based on LSI have resulted in the conclusion of four common learning styles Diverging, Assimilating, Accomodating, dan Converging.

Learning style model David Kolb which is divided into four quadrants of a person's tendency in the learning process, namely the feeling quadrant / concrete experience, the watching / reflective observation quadrant, the thinking quadrant / abstract conceptualization, and the action quadrant (doing) / active experimentation, (Gufon dan Risnawita: 2014). There is no individual whose learning style is dominated by one quadrant only. What usually happens is the combination of two quadrants and forming four combinations of learning styles, namely: diverger force, assimilator force, converger force, and accommodator force, (Kalsum, 2016), (Murfi & Rosidah, 2016)

There are students who fail to meet the standard grades and there are also those who succeed in meeting the predetermined value standards. Students who are able to meet the standard of completeness value are then labeled as outstanding students. Students who excel are students who are able to enter the top three circles with the highest score. Every school has students who excel. Students who excel certainly have different learning styles (Nuryana, 2017), (Nafiah, 2017). This research was conducted to analyze or map the types of learning styles used

by high school outstanding students in Sinjai Regency. The results of previous research found that there was a positive and significant relationship between learning styles and student achievement. And those who know how to learn which are effective for themselves will easily digest the new information they get.

## METHOD

The research method used is a descriptive quantitative method with survey techniques. The population of this study was 240 high school students from 4 public high schools in Sinjai Regency. The sample is 62 people or 25 percent of the study population. The data collection techniques used were questionnaires and documentation in May-August 2020 in the current conditions of the COVID 19 epidemic. Questionnaires were distributed using the google form application. Learning style data were obtained using the Kolb's Learning Style Inventory (KLSI) version 3.1 questionnaire. The data collection techniques used were questionnaires and documentation. The data analysis technique used in this research is the descriptive percentage statistical analysis technique used to review and map the learning styles of high-achieving high school students in Sinjai Regency.

## RESULT AND DISCUSSION

Data collection techniques by distributing questionnaires for learning style variables are determined by adding scores 1 to 5 (1 = strongly disagree; 2 = disagree; 3 = quite agree; 4 = agree and 5 = strongly agree) on each statement in the questionnaire. After that, the scores will be added up based on the tendency of learning styles (Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC) and Active Experimentation (AE), then the combined score is searched by calculating the CE score plus RO equal to the trend of style. In diverger learning, the RO score plus AC is the same as the tendency of the Assimilator learning style, the AC plus AE score is the same as the Converger learning style tendency and the CE plus AE score is the same as the Accommodator learning style tendency. The appropriate learning style is then adjusted for the combination score. The largest number determines the type of student learning style possessed by the outstanding student, whether Diverger, Assimilator, Converger or Accommodator.

**Table 1.**

**The results of the Questionnaire Score Conversion with the Type of Learning Style David Kolb**

Resp	CE	RO	AC	AE	Diverger	Assimilator	Converger	Accomodator	Conclusion
					CE+RO	RO+AC	AC+AE	AE+CE	
1	25	36	33	33	61	69	66	58	Assimilator
2	39	37	41	43	76	78	84	82	Converger
3	40	37	36	42	77	73	78	82	Accomodator
4	33	34	38	39	67	72	77	72	Converger
5	40	35	40	42	75	75	82	82	Converger
6	34	29	30	27	63	59	57	61	Diverger
7	34	31	36	35	65	67	71	69	Converger

8	29	28	24	28	57	52	52	57	Accomodator
9	32	35	29	33	67	64	62	65	Diverger
10	28	32	31	37	60	63	68	65	Converger
11	35	35	32	37	70	67	69	72	Accomodator
12	35	24	33	32	59	57	65	67	Accomodator
13	32	33	36	38	65	69	74	70	Converger
14	42	44	45	42	86	89	87	84	Assimilator
15	38	42	40	40	80	82	80	78	Assimilator
16	31	30	33	38	61	63	71	69	Converger
17	41	44	44	41	85	88	85	82	Assimilator
18	40	42	45	45	82	87	90	85	Converger
19	32	32	37	37	64	69	74	69	Converger
20	41	34	35	40	75	69	75	81	Accomodator
21	34	42	41	43	76	83	84	77	Converger
22	36	36	41	40	72	77	81	76	Converger
23	37	39	42	40	76	81	82	77	Converger
24	34	35	38	39	69	73	77	73	Converger
25	32	39	44	39	71	83	83	71	Converger
26	24	30	33	34	54	63	67	58	Converger
27	31	33	39	40	64	72	79	71	Converger
28	39	38	45	43	77	83	88	82	Converger
29	35	37	38	39	72	75	77	74	Converger
30	27	28	28	31	55	56	59	58	Converger
31	36	36	34	34	72	70	68	70	Accomodator
32	28	36	43	44	64	79	87	72	Converger
33	33	37	41	39	70	78	80	72	Converger
34	36	37	38	38	73	75	76	74	Converger
35	32	30	34	33	62	64	67	65	Converger
36	35	36	43	41	71	79	84	76	Converger
37	37	41	30	45	78	71	75	82	Accomodator
38	33	37	39	41	70	76	80	74	Converger
39	28	29	28	29	57	57	57	57	Diverger
40	35	34	37	38	69	71	75	73	Converger
41	42	43	43	45	85	86	88	87	Converger
42	26	26	27	28	52	53	55	54	Converger
43	36	33	36	38	69	69	74	74	Converger
44	34	39	40	36	73	79	76	70	Assimilator
45	32	31	25	32	63	56	57	64	Accomodator
46	37	36	36	39	73	72	75	76	Accomodator
47	36	35	34	35	71	69	69	71	Accomodator
48	41	41	42	45	82	83	87	86	Converger
49	28	25	17	31	53	42	48	59	Accomodator
50	30	35	30	37	65	65	67	67	Accomodator
51	30	35	30	37	65	65	67	67	Accomodator

52	35	39	37	42	74	76	79	77	Converger
53	35	36	34	38	71	70	72	73	Accomodator
54	37	38	36	33	75	74	69	70	Diverger
55	38	29	37	41	67	66	78	79	Accomodator
56	39	42	40	44	81	82	84	83	Converger
57	29	33	33	36	62	66	69	65	Converger
58	23	29	25	27	52	54	52	50	Assimilator
59	32	33	35	38	65	68	73	70	Converger
60	29	32	30	38	61	62	68	67	Converger
61	41	45	45	41	86	90	86	82	Assimilator
62	44	37	38	41	81	75	79	85	Accomodator

Source: Results of research data processing, 2020

David Kolb's learning style consists of four quadrants, these four quadrants are then used to identify the learning styles of high school achievers in Sinjai Regency. The percentage score from the results of the questionnaire calculation is based on indicators of student learning styles who excel consisting of 4 indicators. First, indicators of learning style diverge. Second, the assimilator learning style indicator. Third, the converger learning style indicator. Fourth, indicators of accommodator learning styles. These five indicators can be seen in the table below:

**Table 2.**  
**Learning styles of outstanding students in Sinjai Regency**  
**Gaya Belajar Siswa Berprestasi**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diverger	4	6.5	6.5	6.5
	Assimilator	7	11.3	11.3	17.7
	Converger	35	56.5	56.5	74.2
	Accomodator	16	25.8	25.8	100.0
	Total	62	100.0	100.0	

Source: Results of research data processing, 2020

Based on table 2 above, it can be concluded that of the 62 respondents who are high-achieving high school students in Sinjai Regency, the type of learning style that dominates or the most is the Converger type, namely 35 students or 56.5 percent, 16 students or 25.8 percent, the assimilator learning type was 7 students or 11.3 percent and the diverger learning type was 4 people or 6.5 percent of the 62 respondents who were outstanding students or were ranked 1-3 in the study group. From these data, the most distribution of learning styles is the type of converger learning style, while the least is the type of diverger learning style.

## Discussion

The data obtained from the research have been processed through stages and are based on the stipulated conditions. The end result is obtained to determine the learning style of the high school students in Sinjai Regency. In order for learning objectives to be achieved, it really depends on the success of the learning process. The success of the learning process is influenced by many factors. One of the factors that affect learning outcomes is student learning styles. Research conducted by (Rahman & Yanti, 2016), (Pamungkas & Mahmud, 2017), (Saefudin & Nurizzati, 2018) shows that there are a positive and significant relationship and influence between learning styles and student achievement.

The research sample was 62 people who were outstanding students of Sinjai Senior High School. Students planned in this study are students whose learning outcomes are classified 1-3 in their study group. Of the 62 research respondents, the type of learning style that is widely used by high school achievers in Sinjai Regency is the converger learning style, which is 35 students. Convergent learning styles are the types of learning styles in which the best or stand out in finding practical use of ideas and theories. Individuals who excel at seeking practical functions from various ideas and theories, so that they can solve problems properly and make good decisions. In this area, they prefer things that are valid and integrate observations into a theory.

The capacity of the most reliable students with this type of convergent style is the ability to solve problems, make decisions, and spark new ideas. In general, the converger style learning type likes or is interested in jobs related to technology, computers or medicine, pharmacy, or those related to health, and the natural environment. According to Munandar, this convergent character is in accordance with the category of smart, excellent, and special students, he is able to produce original ideas, is able to provide many ideas smoothly, is fluid in thinking, is open to environmental stimuli and experiences, (Munandar, 1999). This characteristic is in accordance with the third category of special intelligent individuals according to Milgram, namely general/creative thinking which is a process of solving problems by means of unusual problem-solving. So that special intelligent student who has a tendency to learn Style Converger are included in the special category of intelligent individuals from general/creative thinking (Rohali & Wahab, 2019).

Accommodator type of learning style is the second learning style found in research respondents, namely, 16 students or 25.8 percent. Individuals with the accommodator learning style type have the ability to carry out plans and tasks, students are interested in leadership tasks so that they will be suitable when working in the fields of management, finance, human resources, marketing, and educational administration. (Kolb, 2007).

The accommodation learning style is owned by individuals when learning by doing (doing) and feeling (feeling). When faced with a problem, people are more likely to accept other people's opinions than the results of their own analysis. This characteristic is not in line with the characteristics of special intelligent children stated by the SEVA Council of Gifted Administrators that especially intelligent children have the power to observe sharp, including observing unusual things, (Zaitoun & Ellala, 2019). Accommodation learning styles are contrary to the personality characteristics of special intelligent students, this is because especially intelligent students have high confidence when solving problems, analyzing problems using

logic, and being patient when facing difficulties. While the accommodation learning style has characteristics in the form of learning through experimentation and feelings.

The third type of learning type is the assimilator learning style with 7 students or 11.3 percent of 62 respondents. This force is called assimilation. Students who have this inclination to study will suit careers in elementary, mathematics, physics, biology, sociology, or law, (Kolb, 1999: 5). Individuals with this type of assimilator have the advantage of understanding the various information offerings and summarizing them in a logical, short, and clear format. What stands out most about this learning style is what they ask a lot about. The role and function of a teacher suitable for dealing with this type of student is an expert teacher. This type of assimilation is a combination of Abstract Conceptualization (AC) and Reflective Observation (RO) or in other words a combination of thinking and watching. Students with this type of assimilator have the advantage of understanding and responding to various information offerings and organizing them in a logical, short, and clear format, (Anggreni, 2017). Usually, this type of student tends to be more theoretical, preferring to work with abstract ideas and concepts, rather than working with people. The subjects they understand are science and mathematics.

These characteristics correspond to Milgram's first category of special intelligent individuals, namely general intellectual abilities. It is related to the ability to think abstractly and solve problems logically and systematically. So that the assimilator learning style tends to fall into the category of general intellectual ability or overall general intellectual gence, (Rohali & Wahab, 2019).

The type of diverger learning is 4 people or 6.5 percent and is the type of learning that is the least found in high school achievers of Sinjai Regency. This type of diverger learning style uses a way of thinking that tends to be imaginative and creative. Career patterns in accordance with this style include nurses, psychologists, social workers, literacy, journalists, designers. Students learn to use systematic thinking processes, model formation, theory delights, and inductive reasoning. Students who have this style tend to learn by observing and taking abstract information.

Students who have different learning styles can see concrete situations from various perspectives. Individuals have very broad cultural interests and enjoy gathering information. Interested in social science, like ideas, tends to be imaginative and emotional, like challenges, is not afraid to try new things but in a certain period of time will be bored, have broad cultural interests, and prefer group work. These personality characteristics are in accordance with the second category of special intelligent individuals according to Milgram, namely specific intellectual ability, individuals in this category will explore certain fields they like and they tend to be interested in social science, (SYAFA'AT, 2016).

This study reveals that there are differences in learning styles among outstanding students and shows that students have multiple learning styles or different quadrant combinations. According to Dunn and Dunn, multi-style learners tend to achieve more and score better than students with one or two learning styles, (Sanjaya et al., 2018), (Andany, 2020). Thus, it is concluded that learning styles have an impact on overall student achievement. The findings highlight the importance of recognizing students' varied learning styles. Teachers must be aware of and know the learning styles that dominate students so that learning can take place

effectively. A student's learning style will not change in every subject or the same in every subject. So that the results of this study suggest that future research should better understand and parse this more deeply to understand this phenomenon, whether learning styles are also related to subjects.

A person's learning outcomes are determined by various factors which are described as the level of student mastery for the purpose of learning about discussion topics as measured by the number of scores (Arhas, 2018), (Setiyani et al., 2019). Learning outcomes are still an indicator to assess the level of success of students in the learning process. Good learning outcomes can reflect good learning styles because knowing and understanding the best learning styles for them will help students learn so that the resulting achievement will be maximized. Learning styles affect memory and comprehensive understanding. On research (Lubis et al., 2018) The relationship between learning styles and student learning outcomes with the contingency coefficient test obtained with a result of 0.122 positive relationships is very weak. In contrast to research, (Nurdin, 2019) found that learning styles, environment, and anxiety predict a person's learning outcomes. Research result (Papilaya & Huliselan, 2016) Does not show a significant difference between the learning styles of students with weak and high scores. In order for learning objectives to be achieved fairly and efficiently, students' learning strengths must be considered. By knowing the learning style, students can apply learning methods that are good and in accordance with their learning styles, so that students can maximize academic and non-academic achievement.

The four types of David Kolb's learning styles appeared in the respondents of this study. And the most dominating is the convergent learning style. The results of this study are different from the results of research conducted by previous researchers who also examined the learning styles of high-achieving students who found that the learning style that dominates high-achieving students is the assimilator learning style. But there are also studies whose research results are the same as this research which found the type of convergent learning style as a learning style that dominates high-achieving students. This means that the characteristics of the respondents greatly determine the results of the research to analyze learning styles. In addition to this study confirming the results of Papilaya and Huliselan's research, Lubis et al, which showed that there was a very weak relationship, even if there was no significant relationship between learning achievement and learning styles. However, by knowing students' learning styles, they will look for learning models or learning methods that are in accordance with their learning styles so that it will make it easier for them to understand the material and maximize their achievement in school both academically and non academically..

## CONCLUSION

The learning style of high school achievement students in Sinjai Regency is the Converger learning style type as many as 35 students or 56.5 percent, the accommodator learning style type is 16 students or 25.8 percent, the assimilator learning type is 7 students or

11.3 percent, and type of diverger learning as many as 4 people or 6.5 percent of the 62 respondents who are students with achievement or rank 1-3 in the study group. Thus the learning style that dominates the high school achievers in Sinjai Regency is the Converger learning style. From the results of this study it can be concluded that individual learning styles do not determine their learning achievement, but knowing the best learning styles for individuals will produce individuals who learn effectively and efficiently so that their learning outcomes are maximum which then make them excel both academically and non academically. In addition, we can also conclude that there are no students who learn using only one learning style but have multiple learning styles or a combination of different learning styles to be able to learn effectively..

## REFERENCES

- Andany, S. R. A. (2020). *UPAYA GURU DALAM MENGATASI DIFERENSIASI GAYA BELAJAR SISWA PADA MATA PELAJARAN PENDIDIKAN AGAMA ISLAM DI SMK NEGERI 1 PONOROGO*. IAIN Ponorogo.
- Arhas, S. H. (2018). Metode Pembelajaran Black Knight. Apa? Mengapa? dan Bagaimana? *Jurnal Ad'ministrare*, 5(2), 165–172.
- Awaru, A. O., & Syukur, M. (2019). Dialectics of Student Conflict in Makassar State University. *International Conference on Social Science 2019 (ICSS 2019)*.
- Fatmawati, D. (2020). Penerapan Metode Permainan Edukatif Terhadap Pembentukan Karakter Peserta Didik di SD IT Rabbani Watampone. *AL-QAYYIMAH: Jurnal Pendidikan Islam*, 3(2), 21–40.
- Humairah, H., & Awaru, A. O. T. (2017). PENGGUNAAN MEDIA PEMBELAJARAN AUDIO VISUAL DALAM MENINGKATKAN KEAKTIFAN BELAJAR SOSIOLOGI SISWA KELAS XI IPS DI MADRASAH ALYIAH BUNTU BARANA KABUPATEN ENREKANG. *JURNAL SOSIALISASI*, 61–64.
- Lubis, S. A., Pertiwi, M. D., & Batubara, S. S. (2018). Hubungan Gaya Belajar Dengan Tingkat Prestasi Mahasiswa Fakultas Kedokteran Universitas Islam Sumatera Utara Angkatan Tahun 2013. *BEST Journal (Biology Education, Sains and Technology)*, 1(2), 53–63.
- Maryani, I., Fatmawati, L., Erviana, V. Y., Kartika, D., Wangid, M. N., & Mustadi, A. (2017). Validity and Reliability of Learning Style Scale of The Elementary School Students. *Proceedings The 2017 International Conference on Research in Education-Sanata Dharma University*. Hal, 364–382.
- Nurdin, A. (2019). *Gaya belajar santri milenial*. CV Jejak (Jejak Publisher).
- Papilaya, J. O., & Huliselan, N. (2016). Identifikasi gaya belajar mahasiswa. *Jurnal Psikologi*, 15(1), 56–63.
- Pertiwi, G. (2020). *IMPLEMENTASI MODEL PEMBELAJARAN PROBLEM BASED LEARNING DALAM MENINGKATAN MOTIVASI BELAJAR PESERTA DIDIK (Survey di SMA Bina Dharma 2 Bandung)*. FKIP UNPAS.
- Sanjaya, I. I., Maharani, H. R., & Basir, M. A. (2018). Kemampuan Representasi Matematis Siswa pada Materi Lingkaran Berdasar Gaya Belajar Honey Mumfrod. *Kontinu: Jurnal Penelitian Didaktik Matematika*, 2(1), 72–87.
- Setiyani, T. W., Churiyah, M., & Arief, M. (2019). Enhancing the Students' Critical Thinking Ability and Learning Outcome Through Poe Learning Model. *Jurnal Ad'ministrare*, 6(1),

61–72.

SYAFA'AT, M. (2016). *HUBUNGAN GAYA BELAJAR DENGAN PRESTASI BELAJAR PENDIDIKAN AGAMA ISLAM (PAI) PADA SISWA SMP NEGERI 8 KONAWE SELATAN*. Skripsi. IAIN KENDARI.

Usman, O., & Tasya, S. (2020). The Effect of E-Learning, Learning Style, and Learning Interest on Student's Learning Motivation. *Learning Style, and Learning Interest on Student's Learning Motivation* (July 9, 2020).

Wibowo, N. (2016). Upaya peningkatan keaktifan siswa melalui pembelajaran berdasarkan gaya belajar di SMK Negeri 1 Saptosari. *Elinvo (Electronics, Informatics, and Vocational Education)*, 1(2), 128–139.