

Jurnal Pendidikan Progresif

e-ISSN: 2550-1313 | p-ISSN: 2087-9849 http://jurnal.fkip.unila.ac.id/index.php/jpp/

The Effect of Student Learning Style Training on Teacher Learning Methods

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Received: 01 November 2023 Accepted: 05 December 2023 Published: 24 December 2023

Abstract: The Effect of Student Learning Style Training on Teacher Learning Methods. **Objectives:** This study aims to improve teachers' comprehension of students' learning style differences. **Methods:** This study was conducted in the form of training that used the principles of experiential learning. Sixteen participants participated in the "Get to Know Student's Learning Styles." Three levels of evaluation were used to measure the result: reaction evaluatio, learning evaluation, and behavior evaluation. **Findings:** The results of this study show a positive reaction from the participants, a significant increase in knowledge after the training, and improvement in the direct implementation of various learning methods to accommodate all of the students' learning styles. **Conclusion:** Increasing teachers' comprehension in understanding students' learning style differences has occurred.

Keywords: individual differences, learning methods, learning style training.

Abstrak: Pengaruh Pelatihan Gaya Belajar Siswa terhadap Metode Pembelajaran Guru.

Tujuan: Penelitian ini bertujuan untuk meningkatkan pemahaman guru di Sekolah X dalam memahami perbedaan individu pada siswa, khususnya perbedaan gaya belajar. Metode: Penelitian ini berbentuk pelatihan yang menggunakan prinsip dari experiential learning. Terdapat 16 partisipan yang mengikuti pelatihan "Kenali Gaya Belajar Siswa". Penelitian ini diukur melalui tiga level evaluasi, yaitu evaluasi reaksi, evaluasi belajar, dan evaluasi perilaku. Temuan: Hasil dari ketiga level evaluasi menunjukkan adanya reaksi positif dari peserta, peningkatan pengetahuan yang signifikan antara sebelum dan setelah pelatihan, serta peningkatan dalam penerapan metode belajar yang variatif guna mewadahi berbagai gaya belajar siswa. Kesimpulan: Terdapat peningkatan pemahaman guru mengenai gaya belajar siswa dan metode pembelajaran.

Kata kunci: perbedaan individu, metode pembelajaran, pelatihan gaya belajar.

To cite this article:

Nissa, F., & Rifameutia, T. (2023). The Effect of Student Learning Style Training on Teacher Learning Methods. *Jurnal Pendidikan Progresif*, 13(3), 1238-1250. doi: 10.23960/jpp.v13.i3.202326.

■ INTRODUCTION

The variety of individual characteristics in students is one of the reasons why teaching is an interesting and challenging profession. Individual differences in education are one of the challenges for teachers. Students of all ages and cultures can differ in abilities, intellectual and psychomotor skills, general and specialized knowledge, interests and motivations, and thinking and working styles during learning. These differences are directly related to differences in students' learning development (Snowman & McCown, 2012). Considering many challenges for teachers in teaching, teachers must continuously improve their competencies. Teachers are expected to find effective ways of teaching to improve student learning and academic achievement. The purpose of teaching is to facilitate learning and encourage students to learn more effectively (Kharb et al., 2013).

Based on the needs analysis results conducted at School X in Depok, West Java, one of the school's missions is to organize learning to foster the ability to think, be active, and be creative. The school needs human resources to help students develop their potential abilities and skills to achieve this mission. As human resources in schools, teachers can be the primary agents of change to help students achieve this mission. Referring to Law No. 14 of 2005, regarding teacher competence, one of the teacher's pedagogical competencies is to master students from the aspects of nature, ethics, humanity, culture, passion, and intelligence and promote the growth of students' potential to achieve diverse potential (Ulfatun, 2021).

Additionally, the foundation and the school have not understood students' needs. This impacts the use of teaching methods and media that are less varied and teacher attitudes that are not by

students, almost all teachers only use the lecturing method. In contrast, students feel happier learning with teachers who use fun learning methods like quizzes, practices, and games. The lecturing method sometimes makes the teacher not pay attention to students' understanding of the lesson; the teacher only conveys the material without caring about students' understanding. Students who do not understand something need the teacher to answer their questions patiently.

Recent studies have suggested that when teachers develop and expand their instructional methods and techniques according to their students' learning styles, there is a marked improvement in student performance and achievement and decreased student discipline problems (Lorenzo & Lorenzo, 2013). Learning style is each individual's preferred learning method (Zhang & Sternberg, 2009). The term 'learning style' describes a person's preferred method of gathering, processing, interpreting, organizing, and analyzing new information (Kharb et al., 2013). Othman and Amiruddin (2010) stated that learning style is an individual's learning technique that acts within the environment to process, interpret, and gain desired information, experience, or skills. One of the most famous learning style models is the VARK learning style model by Fleming (2006), modified from the VAK (Visual, Auditory, and Kinesthetic) model. VARK consists of four learning style models with the addition of reading (and writing) styles based on the different senses in students, namely Visual, Auditory, Reading, and Kinesthetic. The VARK model is one of the simplest and easy-to-use inventories to assess learning styles (James et al., 2011). Although some individuals integrate and use all four learning styles, while certain learning styles will predominate for others, every individual

is said to develop a specific learning style (Jepsen et al., 2015). Both teachers and students have their ways of learning and acknowledge effective ways to support learning. Therefore, the question arises as to whether teachers should personalize instruction and methods to meet each student's learning style, resulting in increased learning ability and improved performance (Toyama & Yamazaki, 2020). The idea that matching instructional methods to students' learning preferences will improve learning is a common misconception. Teachers who use varied and creative learning methods can maximize the full range of learning styles available to each student in the classroom and for all students to achieve the same goals (Snowman & McCown, 2012). Teachers can effectively teach them by paying attention to their preferred learning style. Because students cannot learn and remember in the same way, it is up to the teacher to have many tricks and strategies to help his students suitably (Hussain, 2017). Teachers still need to teach to all learner "styles" in a large class, but they may find comfort in knowing that some learning styles pay attention to the details of their teaching (Jepsen et al., 2015). Good academic achievement can be obtained based on students' learning styles (Ridwan et al., 2019). Some recent studies stated that students' learning styles affect their academic performance, and in relation to that, some authors stated that it is important to understand their learning styles to improve students' academic performance (Khalid et al., 2013).

Due to the lack of teachers' understanding of students' learning styles and current learning methods, there is a need for group interventions to increase teachers' insight into understanding individual differences in students, one of which is learning styles. This intervention will be in the form

of training by applying the principles of experiential learning to conjure up cognitive dissonance in teachers with previous experience. Experiential learning is learning by doing and directly experiencing what they are learning (Kolb, 2015). There are four stages in experiential learning: concrete experience, reflective observation, abstract conceptualization, and active experimentation. Concrete experience focuses on engaging in experiences and addressing situations directly and personally. Reflective observation focuses on understanding the meaning of ideas and situations by providing observations and descriptions. Abstract conceptualization focuses on using logic, ideas, and concepts. Active experimentation focuses on influencing people and changing situations (Kolb, 2015). Research by Espinoza-Poves et al. (2019) also used Kolb's experiential learning cycle in VARK Learning Style training for university students. By adjusting the results of the needs analysis and school conditions, group interventions are given to School X teachers to improve their ability to understand individual differences, especially learning styles in students, and increase teachers' understanding of the importance of applying varied and creative learning methods to accommodate all learning styles in students. This intervention will be incorporated into a series of training titled "The Art of Understanding Students," which will be held for two days.

The objectives to be achieved in this training include Teachers can understand that each student has a particular learning style, namely visual, auditory, reading/writing, and kinesthetic learning styles; Teachers can apply varied learning methods to maximize the effectiveness of student learning.



Figure 1. Kolb's experiential learning cycle (Kolb, 2015)

METHODS

Participants

The participants of this training were teachers at School X whom the principal and the foundation selected. There were 16 participants, consisting of 6 low-level classroom teachers (grades 1-3), 4 high-level classroom teachers (grades 4-6), and 6 subject teachers (including Quran teachers).

Research Design and Procedures

This research design is a quantitative quasiexperiment within-subject design. This study used one research group whose knowledge was measured before and after the intervention.

The "Get to Know Students' Learning Styles" training was the first session in a series of "The Art of Understanding Students" training. In the concrete experience stage, participants were asked to discuss the characteristics that distinguish one student from another in small groups of three to four people and their experience when they learned as a student. Still, in the concrete experience stage, participants were invited to fill out a learning style inventory questionnaire using the VARK Questionnaire by Fleming (2006). The VARK questionnaire consists of 16 items that provide a profile of learning modality preferences. When participants recognize their own learning styles, they can learn or understand their students' learning styles more easily. The knowledge of students' preferred learning styles is essential if

teachers are to provide customized strategies for each student (Fleming, 1995). Knowing students' preferred learning styles also helps overcome the tendency of many educators to treat all students the same way, as well as motivating teachers to move from their preferred learning style to another (Shah et al., 2013). The VARK Questionnaire can be viewed as a testlet because participants can select multiple items in one question, the correlation between items in the testlet is a type of method effect. Based on research by Leite et al. (2010) the VARK Questionnaire has an adequate reliability coefficient. The estimated scores by visual, auditory, reading/writing, and kinesthetic subscales are .85, .82, .84, and .77, which are considered adequate. In addition, the VARK Questionnaire also has good internal validity and has a model that fits the four-factor correlated trait-correlated uniqueness (CTCU) model (Leite et al., 2010).

After the discussion in the small group, participants were asked to share the group discussion results in a plenary facilitated by the researcher. This stage is included in the reflective observation stage, where the researcher conducted the discussion in the plenary discussion. In the results of the plenary discussion, participants are expected to gain insight that each individual has their own way or style when learning, which they perceive as the most effective way of understanding a concept or learning

material. Participants are expected to be able to understand that students also have their own way or learning style when learning or when paying attention to the teacher during classroom learning..

entering Before the abstract conceptualization stage, researchers encouraged participants to complete a question-and-answer quiz, "Fact or Myth," about learning styles. This activity aims to allow participants to experience cognitive dissonance between their old knowledge and new knowledge about the facts of learning styles. The list of "Fact or Myth" statements given to participants included (1) Learning styles are permanent behaviors (answer: myth); (2) One student has only one type of learning style (answer: myth); (3) The 'kinesthetic' learning style uses the tactile modality (answer: fact); (4) Matching the instructional methods with students' learning styles will improve their learning (answer: myth).

After conducting a question-and-answer quiz, the researcher entered the abstract conceptualization stage. The material is presented using the Indonesian language. The researcher presented material on the definition of learning styles, emphasis on the concept of actual learning

styles, VARK learning style models, visual learning styles, auditory learning styles, reading learning styles, and kinesthetic learning styles, as well as teaching methods that help teachers better understand student learning styles. The presentation of this material is made interactively with questions and answers regarding concrete examples of each of the VARK models mentioned and the teaching methods teachers will provide to students when they are familiar with learning.

Once the participants received the material, the researcher encouraged them to work on the logbook, which is to identify the way or style of learning of students in the classroom along with the behavioral characteristics shown based on their observations while teaching students. In addition, participants were also given the task of writing down what they would do in learning in the new school year 2023/2024 to support all students' learning styles in the classroom. Furthermore, some participants were asked to share the results of their writing in a plenary group. This activity has entered the active experimentation stage. Following the active experimentation stage, the researcher asked the participants to reflect on their learning throughout the training session.



Figure 2. Sample of materials

Instrument

This training uses three evaluations based on Kirkpatrick and Kirkpatrick (2012), measuring evaluation with three levels: reaction, learning, and behavioral. Reaction evaluation measures participants' satisfaction with the training program (Kirkpatrick & Kirkpatrick, 2012). The reaction evaluation measures the general satisfaction of the training, which includes the material, facilitators, methods, facilities, and overall aspects. The instrument used in the reaction evaluation was a research-made

questionnaire based on Kirkpatrick and Kirkpatrick (2012). There are 14 statements in the reaction evaluation questionnaire. The questionnaire uses a 6-point Likert scale (1 = strongly disagree, 6 = strongly agree). The scoring method is adjusted to the Likert scale, i.e., strongly disagree scored 1, and so on to strongly agree scored 6. Examples of statements are "The material was presented interactively," "The training method was well implemented," and "The tools (logbook, slides) helped me understand the material." In addition, there were also open-ended questions about impressions of the training and suggestions for better sessions of the training.

Learning evaluation is measured to examine changes in achieving learning objectives, as it is

essential to measure learning effectiveness first before measuring behavior changes (Kirkpatrick & Kirkpatrick, 2012). The learning evaluation measured the participants' knowledge change before and after the training session. Because it measures participants' knowledge, the instruments used in the learning evaluation were developed by the researcher based on the training objectives and the materials presented during the training sessions. The learning evaluation questions are multiple-choice questions derived from each training objective. One training objective consists of two questions, so there are four questions in this learning evaluation. For each question, there are four answer options. The items and answers can be seen in Table 1 below.

Table 1. Learning evaluation question

Table 10 Zemning 0 variation question			
Item		Answer	
The following is an understanding of learning styles.	a.	1 dan 3	
1. Learning style is a behavior that can change	b.	2 dan 4	
2. Each individual has multiple learning styles	c.	1, 2, dan 4	
3. Teachers must match the learning style of each student in	d.	All correct	
the classroom	Aı	nswer key: c	
4. Learning style is not a learning skill Which of these is the correct understanding of learning styles?			
Which is not a type of learning style according to VARK?	a.	Reflective	
	b.	Visual	
	c.	Auditory	
	d.	Reading	
	Ans	swer key: a	
The following are factors that make learning instruction	a.	1 dan 3	
methods more effective.	b.	2 dan 4	
1. Active involvement of students	c.	1, 2, dan 4	
2. Using monotonous learning media	d.	All correct	
3. Individual differences in students in understanding learning	Ar	nswer key: a	
4. Lack of stimulating students' attention			
Which of these options makes the learning method more effective?			
Which learning methods can accommodate kinesthetic and	a.	Lecture	
	b.	Experiment	
		Discussion	
	d.	Presentation	
	Ar	iswer key: b	
	The following is an understanding of learning styles. 1. Learning style is a behavior that can change 2. Each individual has multiple learning styles 3. Teachers must match the learning style of each student in the classroom 4. Learning style is not a learning skill Which of these is the correct understanding of learning styles? Which is not a type of learning style according to VARK? The following are factors that make learning instruction methods more effective. 1. Active involvement of students 2. Using monotonous learning media 3. Individual differences in students in understanding learning 4. Lack of stimulating students' attention Which of these options makes the learning method more	The following is an understanding of learning styles. 1. Learning style is a behavior that can change 2. Each individual has multiple learning styles 3. Teachers must match the learning style of each student in the classroom 4. Learning style is not a learning skill Which of these is the correct understanding of learning styles? Which is not a type of learning style according to VARK? Ans. The following are factors that make learning instruction methods more effective. 1. Active involvement of students 2. Using monotonous learning media 3. Individual differences in students in understanding learning 4. Lack of stimulating students' attention Which of these options makes the learning method more effective? Which learning methods can accommodate kinesthetic and visual learning styles? b. c. d.	

Behavioral evaluations are conducted when participants have the opportunity to do so, the frequency of implementation, and are rewarded for changes made (Kirkpatrick & Kirkpatrick, 2012). After the training, behavioral evaluation was conducted through self-reporting and interviews regarding participants' behavior. The questionnaire comprised six statements using a 6-point Likert scale (0 = very poor, 5 = very good). Interviews were conducted with three participants, the foundation, and the School Principal as observers who observed participants' behavior after completing the training session.

Data Analysis

The data analysis techniques used were quantitative and qualitative approaches. Quantitative data analysis was used at each evaluation stage. Descriptive tests were used on reaction and behavior evaluation data. Meanwhile, the learning evaluation will be analyzed using the Wilcoxon test since the data is not normally distributed. Qualitative data analysis was also conducted from open-ended questions in the reaction evaluation, observations during implementation, and interviews in the behavior evaluation.

■ RESULTS AND DISCUSSION

Reaction Evaluation

Participants were asked to select the statement that best described their experience during the training session among six reaction options, namely (1) strongly disagree, (2) disagree, (3) disagree, (4) somewhat agree, (5) agree, and (6) strongly agree. Researchers used the median because the distribution of participants' reaction evaluation scores had a tendency to the right. According to Gravetter and Wallnau (2013), the median is used when the distribution has a number of extreme scores that can have a large

effect on the calculation. The result of the reaction evaluation can be seen in Table 2 below

Table 2. Result of reaction evaluation

Component	Median
Material	5.75
Facilitators	5.75
Methods	5.67
Facilities	5.5
Overall aspects	6

The results of the reaction evaluation showed that participants strongly agreed that the session started on time, the material was to the needs, was easy to understand, and was presented interactively, the facilitator mastered the use of learning media, delivered the material clearly, and could build an interactive classroom atmosphere, training methods had been implemented well, and the methods used were effective in helping participants understand the material, tools like logbooks, presentation slides, and others, can help participants understand the material. They could implement the training materials in classroom learning activities.

Meanwhile, participants agreed that the facilitator mastered the training material provided, the implementation duration was effective for understanding the material provided, and the facilities, such as the room, projector, tables, and chairs, supported the implementation of the training for the better.

The results of the reaction evaluation based on qualitative data found that all participants showed a positive impression of the training. Some participants said the training enhanced their knowledge and experience of learning styles. Some participants also stated that the training was interactive and exciting, so they felt happy and not bored throughout the training. In summary, there were several suggestions, including holding a short break in one session, shortening the

duration of the training, and providing examples using videos.

To ensure there was no data bias in the reaction evaluation, the researcher also conducted observations conducted by observers during the training sessions. The observation result aligned with the quantitative data, where several participants showed enthusiasm with active participation and positive affirmations during the

training session. Only one participant was seen playing a gadget during the training.

Learning Evaluation

Researchers conducted a normality test using Kolmogorov-Smirnov to see if the data distribution was normally distributed. The results of the normality test analysis showed that the data was not normally distributed (p<.05).

Table 3. T-test of pre-test and post-test of learning evaluation

		N	p
Pre-test	Negative ranks	0	.001
Post-test	Positive ranks	12	
	Ties	4	
	Total	16	

Based on the results in Table 3 above, there is a significant difference in knowledge between before and after the training (p<.05). Hence, it can be said that this training was significantly effective in improving participants' knowledge of understanding individual differences, learning styles, and the application of varied learning

methods. In terms of the difference between the post-test and pre-test scores, 12 participants experienced an increase in knowledge, 4 participants did not experience an increase or decrease in knowledge, and no participants experienced a decrease from the post-test and pre-test scores.

Table 4. T-test of pre-test and post-test of first training objective (items 1-2)

		N	P
Pre-test	Negative ranks	0	.004
Post-test	Positive ranks	9	
	Ties	7	
	Total	16	

Based on Table 4 above, there is a significant difference in participants' knowledge regarding their understanding that students have different learning styles before and after the training (p<.05). Hence, it can be said that this training is significantly effective in improving participants' knowledge about understanding individual differences, especially learning style differences. The difference between the post-test and pre-test scores shows that 9 participants experienced an increase in knowledge, 7

participants did not experience an increase or decrease in knowledge, and no participants experienced a decrease from the post-test and pre-test scores.

Based on Table 5 above, there was no significant difference in the participants' knowledge of varied learning methods before and after the training (p>.05). Therefore, it can be said that this training was not effective in improving participants' knowledge of the application of varied learning methods. The difference between

		N	р
Pre-test	Negative ranks	1	.102
Post-test	Positive ranks	5	
	Ties	10	
	Total	16	

Table 5. T-test of pre-test and post-test of second training objective (items 3-4)

the post-test and pre-test scores shows that 5 participants experienced an increase in knowledge, 10 participants did not experience an increase or decrease in knowledge, and 1 participant experienced a decrease from the post-test and pre-test scores.

According to participant observations throughout the training session, participants were enthusiastic when following the activity instructions from the researcher. While the researcher explained the material, many participants were seen taking notes on the material in their logbooks. Thus, it can be said that the change in post-test scores obtained by participants is due to the delivered training. This training effectively increased participants' knowledge about different learning styles and varied learning methods.

Based on the t-test results of the first training objective, explicitly measuring the increase in participants' knowledge of different learning styles in students, the results significantly increased their knowledge. This can be reflected in the training process. During the Q&A activity, participants responded to the researcher's expectations. Participants who shared their insights were also in line with the training objectives to be achieved.

Based on the second training objective, which measured participants' understanding of varied learning methods, it was found that the training was not effective in increasing their knowledge of varied learning methods. This may be explained by the fact that during the concrete experience stage, participants were more focused

on discussing different learning styles rather than learning methods. On the other hand, participants tend to discuss the way of education or teachers who teach strictly to students in the participants' school days. Therefore, it was not easy to make participants aware of the learning methods they should use today to accommodate all learning styles in the classroom. In addition, one participant experienced a 1-point decrease in score from the pre-test and post-test; it is suspected that the participant was playing with her cell phone during the training session and was not cooperative in the last activities of the training session.

Behavior Evaluation

The behavior evaluation questionnaire was filled out entirely by all participants. The questionnaire consisted of four statements regarding implementing the learning method after two weeks of the new school year and an open-ended question of examples of learning methods that the participants had implemented.

It can be seen from Figure 3 above that participants tend to apply various learning methods, where the learning methods most often implemented by participants are learning methods that accommodate reading and kinesthetic learning styles. The application of other methods, such as learning methods that accommodate visual and auditory learning styles, seems to have improved to be better than before participating in the training.

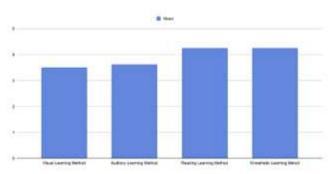


Figure 3. Result of the questionnaire on the application of learning style

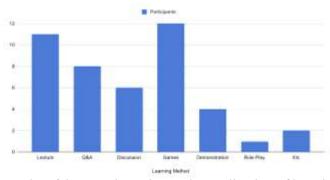


Figure 4. Results of the questionnaire on the application of learning methods

Based on Figure 4, the qualitative data from the questionnaire shows that 11 participants applied the lecture method at the beginning of the new school year. This lecture method was the most common learning method implemented by participants before the training was given. Meanwhile, some participants began to apply a variety of other teaching methods besides the lecturing method: 8 participants applied the question-and-answer method, 6 participants applied the discussion method, 12 participants applied the game method, 1 participant applied the role-play method, and two other participants applied other methods, such as the discovery method or using smart cards.

Behavior evaluation is also done through interviews. Based on the interviews with three sample participants, one grade 6 teacher, one grade 1 teacher, and one physical education (PE) teacher. All participants gave a score of 8-10 for their desire to apply learning style knowledge in the future. They said they had identified students'

learning styles at the beginning of the new school year. The grade 6 teacher distributed the learning style inventory questionnaire to the students and collectively computed the scores of each student's learning style tendencies. The questionnaire results found that most students in the class have reading and kinesthetic learning style tendencies. Based on the questionnaire results, the participant implemented adjustments in some subject matter to accommodate students' learning styles, such as in the math subject. Given the positive student responses and high enthusiasm for learning, the participant wants to continue applying other fun learning methods to other subject lessons.

As for the grade 1 teacher, she observed all students in the class regarding their learning styles. From the observation, the participant said 75% of the students' learning styles in the class are kinesthetic, while the other 25% are audiovisual. The participant has tried to apply varied learning methods, such as outdoor learning,

games, and others. The students' response to the learning methods applied by the teacher is enthusiastic and happy. The participant said that knowing the learning styles makes her more capable of preparing what learning methods can be given to students in the classroom, as well as helping substitute teachers to determine learning methods that can be given to students in the classroom.

Based on the PE teacher's explanation, the participant has not implemented varied learning styles and learning methods. The reason is due to teaching PE, where the majority of learning methods are practical. Meanwhile, when teaching PAI (Islamic Religious Education) in the classroom, the teacher still relies on teaching with the lecture method and textbooks. However, the participant said his willingness to apply more varied learning methods in the future is quite high. The participant plans to use the watching video or movie method when teaching PAI in class to make students more interested and quickly understand the material.

The researcher also interviewed one of the foundations and the School Principal as observers. The researcher instructed them to observe participant behavior changes at the beginning of the new school year. The foundation believes that there are already several participants who use varied learning methods and teaching media. Compared to the previous school year, many teachers have started to apply learning methods other than the lecture method, which is the main method applied by all teachers. The foundation also believes that students have responded positively and have enthusiasm for learning. Meanwhile, the principal admitted that he had not observed the changes in class participants. However, the principal believes that, in general, many teachers still use the lecture learning method, which is mixed with other learning methods, such as discussion or practical exercises.

This training showed a significant increase in knowledge about understanding individual differences and learning styles and applying varied learning methods. This aligns with the training program conducted by (Maryani & Septiani, 2019) regarding training and mentoring in managing learning style-based classes, which can also improve participants' knowledge and skills.

The training results also showed no significant increase in the participant's understanding of applying varied learning methods to accommodate all students' learning styles. This training was ineffective in increasing participants' knowledge of varied learning methods because, during the concrete experience stage, participants were focused on discussing learning styles rather than learning methods.

CONCLUSIONS

Individual differences in each student are a challenge for teachers in teaching in the classroom. Based on the needs analysis results, neither the foundation nor the school has not shown an understanding of individual differences in students. This impacts the use of learning methods and media that are less varied and teacher attitudes that do not follow student characteristics. Knowledge of learning styles is important for teachers because it will impact their learning methods.

Based on the reaction evaluation, the participants were satisfied with the training, and they strongly agreed that they could apply the training materials in the classroom learning activities. Regarding the learning evaluation, it can be said that this training significantly increased participants' knowledge regarding understanding individual differences, learning styles, and the application of varied learning methods.

The results of the behavior evaluation showed that participants were better at implementing visual, auditory, reading, and kinesthetic learning methods, as well as providing

opportunities for students to use their modalities during learning in the classroom. Meanwhile, participants rated no change or the same in identifying students' learning styles using the learning styles questionnaire. There were 37.5% of participants who reported that they had not applied the use of learning style questionnaires to their students. Most participants applied the game, lecture, and question-and-answer methods. Participants showed enough variation in learning methods. Based on interviews with three sample participants, two participants identified students' learning styles at the beginning of the new school year. They explained that this identification is beneficial for the continuity of learning because students become enthusiastic about receiving learning, and participants feel better able to prepare learning methods given to students in the future. The foundation and the principal stated that teachers have improved in applying varied learning methods and no longer rely on just the lecture method.

Several recommendations can be considered to improve the training program in the future. First, this training focused on the student learning style approach using the VARK method (visual, auditory, reading, and kinesthetic). The researcher can add materials on other learning style approaches, such as Gardner's Multiple Intelligence. Second, the training can be developed into several sessions to provide teachers with more in-depth material on different learning styles in students, especially the application of varied learning methods and their implementation. Third, the training material should be provided with information on how to apply the varied learning methods discussed in the training material, such as the teacher as facilitator in the classroom.

ACKNOWLEDGMENT

We want to give our highest gratitude and thanks to the Head of the Foundation and the Principal for permitting us to conduct the training program and publishing the results in a scientific journal. We want to thank every teacher who has been very cooperative in being a participant throughout this training program. This article aims to give a better understanding to the teachers regarding their method of comprehending students' learning styles.

REFERENCES

Espinoza-Poves, J., Miranda-Vílchez, W., & Chafloque- Céspedes, R. (2019). The VARK learning styles in university students of business schools. *Journal of Educational Psychology - Propósitos y Representaciones*, 7(2), 384-414. doi: http://dx.doi.org/10.20511/pyr2019.v7n2.254

Fleming, N. D. (1995). I'm different: not dumb. modes of presentation (VARK) in the tertiary classroom, In Zelmer, A. (Eds.), Research and development in higher education, proceedings of the 1995 annual conference of the higher education and research development society of australasia (HERDSA) (pp. 308–313).

Fleming, N. D. (2006). V.A.R.K visual, aural/auditory, read/write, kinesthetic. Bonwell Green Mountain Falls.

Gravetter, F. J., & Wallnau, L. B. (2013). Statistics for the behavioral sciences (9th Ed.). Cengage Learning.

Hussain, I. (2017). Pedagogical implications of VARK model of learning. *Journal of Literature*, *Languages and Linguistics*, 38, 33–37.

James, S., D'Amore, A., & Thomas, T. (2011). Learning preferences of first year nursing and midwifery students: Utilising VARK. *Nurse Education Today*, 31(4), 417–423. https://doi.org/10.1016/ j.nedt.2010.08.008

Jepsen, D. M., Varhegyi, M. M., & Teo, S. (2015). The association between learning styles and perception of teaching

- quality. *Journal of Education and Training*, *57*(5), 575–587. https://doi.org/10.1108/et-02-2014-0005
- Kharb, P., Samanta, P. P., Jindal, M., & Singh, V. (2013). The learning styles and the preferred teaching–learning strategies of first-year medical students. *Journal of Clinical and Diagnostic Research*. https://doi.org/10.7860/jcdr/2013/5809.3090
- Khalid, R., Mokhtar, A. A., Fauzee, M. S. O., Kasim, A. L., Don, Y., Abdussyukur, N. F., Ponajan, F. A., Mahyuddin, A., Ghazali, S. N. B., Rosli, M. U., & Soh, K. G. (2013). The learning styles and academic achievements among arts and science streams student. *International Journal of Academic Research in Progressive Education and Development*, 2(2), 68–85.
- Kirkpatrick, D.L., & Kirkpatrick, J. D. (2012). Evaluating training programs: the four levels (3rd Ed.). Berret-Koehler Publishers.
- Kolb, D. (2015). Experiential learning: experience as the source of learning and development. Financial Times/Prentice Hall.
- Leite, W. L., Svinicki, M. D., & Shi, Y. (2010). Attempted validation of the scores of the vark: learning styles inventory with multitrait–multimethod confirmatory factor analysis models. *Educational and Psychological Measurement*, 70(2), 323–339. https://doi.org/10.1177/0013164409344507
- Lorenzo, A. R., & Lorenzo, B. U. (2013). Learning styles of teacher education students: basis in improving the teaching-learning process. *Procedia Social and Behavioral Sciences*, 103, 595–605. https://doi.org/10.1016/j.sbspro.2013.10.377
- Maryani, I., & Septiani, P. D. (2019). *Pelatihan* dan pendampingan pengelolaan kelas berbasis gaya belajar bagi guru paud

- dan tk di desa muntuk, dlingo, bantul, yogyakarta [Training and mentoring on learning style-based classroom management for pre-school and kindergarten teachers in muntuk village, dlingo, bantul, yogyakarta]. Double click: Jurnal Pemberdayaan: Publikasi Hasil Pengabdian Kepada Masyarakat, 3(1), 103–110. https://doi.org/10.12928/jp.v3i1.594
- Othman N., & Amiruddin M. H. (2010). Different perspectives of learning styles from vark model. *Procedia-Social and Behavioral Sciences*, 7, 652–660.
- Ridwan, H., Sutresna, I. B., & Haryeti, P. (2019). Teaching styles of the teachers and learning styles of the students. *Journal of Physics*, *1318*(1), 012028. https://doi.org/10.1088/1742-6596/1318/1/012028
- Shah, K., Ahmed, J., Shenoy, N., & Natarajan, S. (2013). How different are students and their learning styles?. *International Journal of Research in Medical Sciences*, 1(3), 1. https://doi.org/10.5455/2320-6012.ijrms20130808
- Snowman, J., & McCown, R. (2012). Psychology applied to teaching (13th Ed.). Cengage Learning.
- Toyama, M., & Yamazaki, Y. (2019). Are there effects of a match between learning style and teaching style in an EFL classroom?. *Innovation in Language Learning and Teaching*, 14(3), 243–258. https://doi.org/10.1080/17501229.2019.1575386
- Ulfatun, T. (2021). Good teachers: Indonesia's perspective. *JPP (Jurnal Pendidikan Dan Pembelajaran)*, 28(1), 23–29. https://doi.org/10.17977/um047v28i12021p023Zhang, L. F., & Sternberg, R. (2009). Perspectives on the nature of intellectual styles. Springer Publishing Company.