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Analysis of Students' Learning Style Profiles Based on Gender in Differentiated Learning

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ABSTRACT: This study aims to serve as an initial assessment to analyze the learning style profiles of tenth-grade students at SMA Negeri 12 Pontianak based on gender, which are subsequently used to implement differentiated instruction on probability topics. This research employed a qualitative approach with a descriptive method. The subject selection technique used purposive sampling. The research subjects consisted of 35 tenth-grade students of SMA Negeri 12 Pontianak who were selected based on having lower average mathematics scores compared to other classes. Data were collected using an indirect communication technique in the form of a learning style questionnaire. Data analysis was conducted by analyzing the collected data and subsequently drawing conclusions.

The results showed that the visual learning style was the dominant preference among the three learning styles analyzed (visual, auditory, and kinesthetic). This learning style was favored by both genders, with 9 male students and 10 female students. Although the difference was slight, the data indicated that female students tended to prefer the visual learning style slightly more than male students. Meanwhile, the auditory learning style was equally favored by male and female students, with 3 students from each gender. The kinesthetic learning style also showed a balanced distribution, with 5 male students and 5 female students. This indicates that although the visual learning style is more dominant, auditory and kinesthetic learning styles have equal interest among both genders.

KEYWORDS: Learning, Style Profile, Gender, Mathematics

INTRODUCTION

Mathematics is a discipline that plays a crucial role in enhancing human thinking skills. This is in line with the opinion of Komala and Afrida (2020), who state that mathematics is not merely a school subject but also a highly useful tool in daily life. Based on interviews with students, many students experience difficulties in learning mathematics. These difficulties include not understanding formulas, difficulty memorizing formulas, and challenges in comprehending learning materials. To address these issues, teachers need to implement various engaging learning methods that align with students' characteristics. Consequently, mathematics learning can become more enjoyable and effective.

This is aligned with the implementation of the Merdeka Curriculum, where learning must be adapted to students' characteristics. The intended learning approach is differentiated instruction. According to Herwina (2021), differentiated learning is an instructional approach that facilitates students' learning needs and characteristics so that students can better understand the material being taught. This aligns with Yulianci et al. (2020), who state that in designing learning activities, educators must be able to thoroughly understand students' learning styles. Handiyani and Muhtar (2022) also emphasize that teachers should possess students' learning style profiles to determine appropriate strategies in facilitating learning activities.

Analyzing learning styles is one of the ways teachers can implement differentiated instruction. According to Sari et al. (2023), learning styles are an essential component, as each student has different needs, requiring teachers to teach in accordance with these needs. This is consistent with Ghufron (as cited in Kurniati, 2019), who defines learning style as each individual's unique way of processing information, involving active efforts to understand and remember learning materials.

According to Bobby De Porter (as cited in Alhafiz, 2022), there are three learning styles: visual, auditory, and kinesthetic. Students with a visual learning style prefer learning through images, charts, videos, posters, animations, concept maps, colors, symbols, and graphics that help them process information. Students with an auditory learning style tend to process information through listening, such as lectures, tutorials, presentations, stories, and humor. Meanwhile, students with a kinesthetic learning style prefer learning activities that involve physical movement, such as

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experiments, practicum activities, or simulations. Irawati et al. (2021) state that learning styles have a direct influence on students' learning success. Thus, learning style can be defined as how individuals utilize their potential in learning.

Learning styles, as a key factor in learning success, are influenced by gender (Arief et al., 2018). Differences in potential and abilities between males and females can lead to variations in problem-solving abilities in mathematics (Wahhab, 2022). Gender is defined as characteristics or behaviors possessed by individuals, both male and female, accompanied by differences in abilities (Samudera, 2020). Amir (2018) found differences in thinking patterns between male and female students.

Based on these issues, this study aims to analyze the learning style profiles of tenth-grade students at SMA Negeri 12 Pontianak based on gender, which are then used to implement differentiated instruction in probability learning.

LITERATURE REVIEW

This study employed a qualitative research design using a descriptive approach. According to Waruwu (2023), a descriptive approach in qualitative research refers to explaining events, phenomena, and social situations that become the research object. This study describes students' learning style profiles based on gender.

MATERIALS AND METHODS

The research subjects consisted of 35 tenth-grade students at SMA Negeri 12 Pontianak who were selected based on having lower average mathematics scores compared to other classes. The subject selection used purposive sampling. According to Darma et al. (2020), purposive sampling is a technique for selecting subjects based on research objectives.

Data collection was conducted using an indirect communication technique through a learning style questionnaire. Data analysis was performed by analyzing the collected data and then drawing conclusions (Wijayanti, 2022). The research procedure involved distributing learning style questionnaires and analyzing the results to draw conclusions.

RESULTS

The study began by distributing learning style questionnaires to students to identify their learning styles. The results are presented in Table 1.

Table 1. Summary of Learning Style Questionnaire Results

Learning Style	Number of Students
Visual	19 Students
Auditory	6 Students
Kinesthetic	10 Students

The results indicate that the dominant learning style among students is visual. This suggests that students tend to learn by observing visuals such as images, diagrams, demonstrations, or videos. The data were further processed into percentage form and presented in a pie chart (Figure 1).

Based on Figure 1, it is evident that students possess diverse learning styles. This diversity influences how students process information and understand learning materials (Wahyuningsari et al., 2022). Therefore, differentiated learning is necessary to accommodate students' learning needs.

Further analysis of learning style profiles based on gender is presented in Table 2.

Table 2. Learning Style Distribution Based on Gender

Gender	Visual	Auditory	Kinesthetic
Male	9	3	5
Female	10	3	5

The table shows that visual learning style is the most dominant among both genders. Female students slightly outnumber male students in preferring visual learning styles. This finding is consistent with Maulana et al. (2023), who found that both male and female students are generally more effectively taught using visual learning strategies.

Auditory learning styles were equally preferred by male and female students, indicating relatively low interest. This may suggest that learning approaches relying solely on listening may be less engaging or effective. Factors such as limited auditory stimuli and modern learning trends emphasizing visual and kinesthetic elements may contribute to this result.

Kinesthetic learning styles were also equally distributed between genders. This indicates similar interest levels in learning activities involving physical engagement. However, kinesthetic learning styles did not dominate as visual learning styles did.

DISCUSSION

Overall, the analysis shows that visual learning styles are the primary preference for both genders, while auditory and kinesthetic styles are less dominant. Understanding these differences is crucial for educators in designing effective teaching strategies. Fadilah et al. (2022) support these findings, indicating that female students tend to prefer visual learning styles, while male students are more inclined toward kinesthetic learning.

CONCLUSION

The results indicate that the visual learning style is the dominant preference among the three learning styles analyzed. This learning style is favored by both genders, with 9 male students and 10 female students. Although the difference is minimal, female students show a slightly higher tendency

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toward visual learning styles. Auditory learning styles are equally preferred by male and female students, while kinesthetic learning styles also https://creativecommons.org/licenses/by/4.0/

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show balanced distribution. This suggests that while visual learning styles are dominant, auditory and kinesthetic learning styles attract equal interest across genders.

RECOMMENDATIONS

Based on the findings, educators are encouraged to implement learning approaches that integrate visual, auditory, and kinesthetic learning styles to accommodate diverse student needs. Visual-based learning media such as diagrams and videos should be prioritized, while auditory elements like interactive discussions and kinesthetic activities such as hands-on practice should also be incorporated. Additionally, regular evaluations of students' learning styles are recommended to ensure instructional approaches remain relevant and effective.

REFERENCES

1) Alhafiz, N. (2022). Analisis Profil Gaya Belajar Siswa untuk Pembelajaran Berdiferensiasi di SMP Negeri 23 Pekanbaru. *J-Abdi Jurnal Pengabdian Kepada Masyarakat*, *1*(8). 1913– 1922.
2) Amir, Z, M. (2018). Perspektif Gender Dalam Pembelajaran Matematika. Marwah : Jurnal Perempuan, Agama Dan Gender. 12(1).
3) Arief, M., Sihkabuden., Ulfa, S. (2018). Hubungan Gaya Belajar Berdasarkan Gender Dengan Hasil Belajar Pada Mahasiswa Teknologi Pendidikan Universitas Negeri Malang. Jurnal Elektronik Universitas Negeri Malang. 1(1). 53-61
4) Darma, Y., Firdaus, M., Hariadi, Rahman. (2016). Hubungan Kemandirian Belajar Terhadap Kemampuan Pemecahan Masalah Matematis Mahasiswa Calon Guru Matematika. Jurnal Edukasi. 14(1). 169-178.
5) Fadilah, A., & Yusuf, M. (2022). Gender Differences in Learning Styles and Their Impacts on Academic Achievement. *Journal of Educational Psychology*, 59(4), 234–245
6) Handiyani, M., & Muhtar, T. (2022). Mengembangkan Motivasi Belajar Siswa melalui Strategi Pembelajaran Berdiferensiasi: Sebuah Kajian Pembelajaran dalam Perspektif Pedagogik-Filosofis. *Jurnal Basicedu*, *6*(4), 5817–5826.
7) Herwina, W. (2021). Optimalisasi Kebutuhan Murid Dan Hasil Belajar Dengan Pembelajaran Berdiferensiasi. *Perspektif Ilmu Pendidikan*, *35*(2), 175–182.
8) Irawati, I., Ilhamdi, M. L., & Nasruddin, N. (2021). Pengaruh Gaya Belajar Terhadap Hasil Belajar IPA. *Jurnal Pijar Mipa*. *16*(1). 44–48.
9) Komala, E., & Afrida, A. M. (2020). Analisis Kemampuan Representasi Matematis Siswa SMK Ditinjau dari Gaya Belajar. *Journal of Instructional Mathematics*. 1(2). 53–59.
10) Kurniati, A., & Sari, A. W. (2019). Analisis Gaya Belajar Siswa Pada Mata Pelajaran Bahasa Indonesia Kelas V. *Jurnal Pendidikan Dasar Perkhasa*. *5*(1). 87–103.
11) Maulana, M, I., Wati, M., Mahtari, S. (2023). Analisis Gaya Belajar Siswa Kelas XI MIPA 3 SMAN 2 Banjarmasin Berdasarkan Jenis Kelamin. Seminar Nasional Pendidikan Fisika.
12) Samudera, W. (2020). Pengaruh Gender Terhadap Kemampuan Berpikir Kreatif Peserta Didik SMA di Kota Mataram. *Indonesian Journal Of Teacher Education*. 1(2). 87-92.
13) Sari, S. Wulan, et. al. (2023). Analisis Gaya Belajar Siswa Kelas V untuk Menentukan Pembelajaran Berdiferensiasi. *Jurnal Pendidikan Tambusai*. (7)1. 2021-2023.
14) Wahhab, A. (2022). Kemampuan Siswa Menyelesaikan Masalah Matematika Ditinjau Dari Gaya Belajar Dan Gender. Jurnal Pendidikan, Sosial Dan Agama. 4(4). 429-439.
15) Wahyuningsari, D., Mujiwati, Y., Hilmiyah, L., Kusumawardani, F., & Sari, intan permata. (2021). *Jurnal jendela pendidikan. Jendelaedukasi.Id*, 01(02), 48–60.
16) Waruwu, M. (2023). Pendekatan Penelitian Pendidikan : Metode Penelitian Kualitatif, Metode Penelitian Kuantitatif Dan Metode Penelitian Kombinasi (Mixed Method). Jurnal Pendidikan Tambusai. 7(1). 2896-2910.
17) Wijayanti, S, P., Suswandari, M. (2022). Dampak Penggunaan Media Sempoa Dalam Pembelajaran Matematika Kelas Rendah Di Sekolah Dasar. *Mathema Journal.* 4(1). 58-66.
18) Yulianci, S., Nurjumiati, N., & Asriyadin, A. (2020). Analisis Karakteristik Gaya Belajar VAK (Visual, Auditori, Kinestetik) Siswa Pada Pembelajaran Fisika. *Jurnal Pendidikan Mipa*. *10*(1). 40-44

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