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Learning Styles and Gender: How They Influence Academic Performance

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Learning Styles and Gender: How They Influence Academic Performance

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Background

- Each individual student has a diverse learning preference, visual, auditory, kinesthetic, and reading/writing style. (Fleming, 2023)
- Visual learners prefer visual aids such as graphs, charts, diagrams. (Fleming & Mills, 1992)
- Auditory learners prefer verbal instruction and discussions. (Fleming & Mills, 1992)
- Read/Write learners prefer written texts and note-taking. (Fleming & Mills, 1992)
- Kinesthetic learners prefer hands-on activities. (Fleming & Mills, 1992)
- Gender differences: Females tend to prefer verbal and auditory while males prefer visual and kinesthetic. (Rahman & Ahmar, 2017)

Method

- This research investigated the relationship between learning styles and academic performance (GPA) among college students, while also examining gender differences. This study also examined individual learning style differences while recognizing that people may prefer one or multiple learning styles.
- 101 college students (50 males and 51 females) participated in a 19-questionnaire survey, encompassing 16 questions from the VARK questionnaire along with three additional demographic questions about age, sex, and GPA.

Hypothesis: Students who prefer the multimodal learning style will have a higher GPA; females will prefer verbal/aural instruction while males will prefer kinesthetic.

Results



		Learning style						
		Aural	Read/Write	Kinesthetic	Visual	Bimodal	Trimodal	Multimodal
Gender	Male	M= 3.58 SD= 0.54 N= 7	M= 0 SD= 0 N= 0	M= 3.48 SD= 0.57 N= 8	M= 0 SD= 0 N= 0	M= 3.46 SD= 0.36 N= 15	M= 3.67 SD= 0.34 N= 14	M= 3.53 SD= 0.11 N= 6
	Female	M= 3.19 SD= 0.69 N= 6	M= 3.51 SD= 0.44 N= 2	M= 3.70 SD= 0.30 N= 9	M= 0 SD= 0 N= 0	M= 3.65 SD= 0.31 N= 12	M= 3.49 SD= 0.24 N= 13	M= 3.57 SD= 0.33 N= 9

- We found that there was no significant main effects for gender, $F(1, 90)=0.08, p=.78, \eta_p^2=0.001$, or learning style, $F(5, 90)=0.55, p=.74, \eta_p^2=0.03$. There was no significant interaction between gender and learning style, $F(2, 93)=2.37, p=.099, \eta_p^2=0.05$.
- No males preferred the individual read/write and visual learning style within this sample. No females preferred the individual visual learning style within this sample.
- Within our sample, females preferred the trimodal learning style and males preferred the bimodal learning style.

- An analysis of variance revealed that there were no differences between the learning styles and their GPA, while also accounting for gender.
- Our hypothesis, that multimodal learners will have a higher GPA, was rejected

Conclusions

- Although there were no significant findings for this specific study, it still provides valuable insights into the relationship between learning styles, academic performance (GPA), and biological sex among college students.
- According to the results of this study, to help a student succeed, educators should provide diverse instructional methods to accommodate individual learning preferences without presuming any different advantages or disadvantages based on learning style or biological sex. The absence of significant results shows that all students have very different learning preferences, and a variety of teaching methods is needed.

References

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