

**ATTITUDES TOWARD REAL ANALYSIS AND ITS REFLECTION ON
ACADEMIC PERFORMANCE IN REAL ANALYSIS**
(*Sikap Terhadap Analisis Nyata dan Refleksinya ke atas Prestasi Akademik dalam Analisis Nyata*)

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ABSTRACT

Different students perceive the subject real analysis differently. However, the most common perception of real analysis is through four main aspects which are students' enjoyment, fear, anxiety and distress in learning, usefulness of real analysis in life and perceived achievement in the subject. These perceptions affect how students behave in class during real analysis and subsequently affect their attitudes and academic performance in real analysis. This present work studies the students' attitudes toward real analysis, their academic performance in real analysis and the relationship between these two attributes. The quantitative data for the present study is collected using the questionnaires of Mathematical Attitude Scale Concise Form (MAS Concise Form) and the Academic Success Inventory for College Students (ASICS) to measure students' attitudes toward real analysis and their academic performance in real analysis respectively. The differences in academic performance in real analysis between male and female students was also studied. Overall, it was found that students displayed moderate attitudes toward real analysis and moderate academic performance in real analysis, and there exists a significant relation between attitudes toward real analysis and academic performance in real analysis. However, it was found that there is no relation between students' gender and their academic performance in real analysis.

Keywords: real analysis; attitude; academic performance

ABSTRAK

Setiap pelajar mempunyai persepsi berbeza terhadap subjek analisis nyata subjek. Walau bagaimanapun, persepsi umum terhadap analisis nyata adalah melalui empat aspek utama iaitu keseronokan pelajar, ketakutan, kebimbangan dan kemurungan dalam pembelajaran, kebergunaan analisis nyata dalam kehidupan dan persepsi pencapaian dalam mata pelajaran. Persepsi ini mempengaruhi perlakuan pelajar di dalam kelas semasa analisis nyata dan seterusnya mempengaruhi sikap dan prestasi akademik mereka dalam analisis nyata. Kajian ini mengkaji sikap pelajar terhadap analisis nyata, prestasi akademik mereka dalam analisis nyata dan hubungan antara dua pembolehubah ini. Data kuantitatif untuk kajian ini dikumpul menggunakan soal selidik *Mathematical Attitude Scale Concise Form (MAS Concise Form)* dan *Academic Success Inventory for College Students (ASICS)* untuk mengukur sikap pelajar terhadap analisis nyata dan prestasi akademik mereka dalam analisis nyata. Perbezaan prestasi akademik dalam analisis nyata antara pelajar lelaki dan perempuan turut dikaji. Secara keseluruhannya, didapati pelajar menunjukkan sikap sederhana terhadap analisis nyata dan prestasi akademik sederhana dalam analisis nyata, dan wujud perhubungan signifikan antara sikap terhadap analisis nyata dan prestasi akademik dalam analisis nyata. Walau bagaimanapun, didapati tiada hubungan antara jantina pelajar dengan prestasi akademik mereka dalam analisis nyata.

Kata kunci: analisis nyata; sikap; prestasi akademik

References

- Chand H.B. 2021. Difficulties experienced by undergraduate students in proving theorems of real analysis. *Scholars' Journal* **4**(1): 149-163.
- Doruk M. & Kaplan A. 2015. Prospective mathematics teachers' difficulties in doing proofs and causes of their struggle with proofs. *Bayburt University Journal of Education Faculty* **10**(2): 315-328.
- Khalid F.A.M., Rozaimi N.N.A.A. & Taha H. 2020. Perlakuan metakognitif pelajar tingkatan empat di sekolah Hulu Selangor dalam menyelesaikan masalah matematik. *Journal of Science and Mathematics Letters* **8**(2): 74-85.
- Mazana M.Y., Montero C.S. & Casimir R.O. 2019. Investigating students' attitudes toward learning mathematics. *International Electric Journal of Mathematics Education* **14**(1): 207-231.
- Ngussa B.M. & Mbuti E.E. 2017. The influence of humour on learners' attitude and mathematics achievement: A case of secondary schools in Arusha City, Tanzania. *Journal of Educational Research* **2**(3): 170-181.
- Prevatt F., Li H., Welles T., Festa-Dreher D., Yelland S. & Lee J. 2011. The academic success inventory for college students: Scale development and practical implications for use with students. *Journal of College Admission* **211**: 26-31.
- Puteh M., Che Ahmad C.N., Mohamed Noh N., Adnan M. & Ibrahim M.H. 2015. The classroom physical environment and its relation to teaching and learning comfort level. *International Journal of Social Science and Humanity* **5**(3): 237- 240.
- Widlund A., Tuominen H., Tapola A. & Korhonen J. 2020. Gendered pathways from academic performance, motivational beliefs, and school burnout to adolescents' educational and occupational aspirations. *Learning and Instruction* **66**: 101299.
- Yaşar M. 2014. Short form of "mathematics attitude scale": Its psychometric properties. *Pakistan Journal of Statistics* **30**(6): 1267-1277.

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