

Challenges in Mastering Microeconomics among Malaysian University Students: A Preliminary Study

Dayana Farzeeha Ali¹, Aimi Ruzaini Ahmad¹, Nuruljannah Abd Wahab¹, Nurulain Kamaruzaman¹, Nusaila Johari²

¹School of Education, Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, Skudai, Johor, 81310, MALAYSIA, ²Industrial Logistics Section, Universiti Kuala Lumpur - Malaysian Institute of Industrial Technology (UniKL-MITEC), Masai, Johor, 81750, MALAYSIA

Corresponding Author Email: dayanafarzeeha@utm.my

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Abstract

Currently, it is necessary for teaching and learning methods to be creative and complicated to produce competent graduates. Simply memorizing facts does not promote critical thinking skills in students, as it restricts their ability to process information. This is represented by the memorization method, which can result in students forgetting content when the memorization process is interrupted. One subject requiring attention in this regard is microeconomics. A preliminary investigation revealed the difficulties faced by students in understanding microeconomics. Therefore, this study aimed to explore the challenges faced by students taking a microeconomics course at a local university in Malaysia. The findings indicated that students struggled to master the course because of their lack of visualization skills. As a result, interpreting complex graphs and visualizing the data within them posed a significant challenge to these students.

Keywords: Microeconomics, TVET, Visualization Skills, Economic, Business

Introduction

The integration of economics within the framework of Technical and Vocational Education and Training (TVET) marks a significant standard shift aimed at enhancing students' skill sets beyond their technical expertise. In Malaysia, the TVET system plays a crucial role in preparing students for specialized trade. However, the incorporation of fundamental economic courses, such as microeconomics, introduces significant educational challenges (Le, 2016; Ra et al., 2015). Microeconomics, which explores the decision-making processes of individuals and businesses and their interactions within specific markets. It is essential for a thorough comprehension of the economic principles that influence both the professional and personal spheres (Brockmann, 2023; McKenzie et al., 2024; Pindyck, 2018). Despite its importance, preliminary investigations revealed considerable difficulties in mastering these concepts,

emphasizing the need for a detailed examination of the hurdles faced by students in a local Malaysian university microeconomics course.

Microeconomics places a critical emphasis on visualization skills due to the central role of graphical representations and the interpretation of economic models (Ali et al., 2020; Ring, 2020). These issues need to be addressed as the development of visualization skills is frequently linked to achievement, particularly in TVET, science, engineering, and other related courses (Ali & Mokhtar, 2014). These models require mastery in visualization and manipulation, which is essential for comprehending market dynamics and predicting outcomes. However, students who lack a strong foundation in these skills frequently face substantial challenges, often resulting in frustration and disengagement (Halliday et al., 2024). This research not only focuses on these challenges but also explores the unique pedagogical needs of TVET students challenging abstract and complex subjects, such as microeconomics. Further complicating the understanding of microeconomics is the pedagogical methods prevalent in TVET institutions, which may not align with the abstract reasoning required by the economic theory. Theoretical constructs in economics require deep analytical skills and active participation in critical discourse, yet these are often minimized in vocational training settings. This misalignment can create a learning environment where economic principles appear detached and irrelevant, thereby impeding student progress and reduce their interest in the subject (Colander, 2020).

As a fundamental course for students in finance, business management, economics, and microeconomics requires an integration of conceptual knowledge, mathematical proficiency, and skills in graphical analysis (Robinson, 2019). Proficiency in drawing, interpreting, and converting graphical data is essential and necessitates high levels of critical analysis, quantitative literacy, and visualization capabilities (Wolfe, 2020). However, a lack of foundational skills in statistics and mathematics can severely impair students' engagement with graphical aspects of microeconomics, thereby affecting their academic performance (Manzi et al., 2021). This study, initiated by the findings from a preliminary study highlighting the significant challenges in mastering microeconomics, aims to address these issues by proposing educational interventions that could enhance learning experiences and align TVET more closely with Malaysia's strategic educational goals for a competitive technologically literate workforce.

Methodology

This study explored the challenges encountered by students during a microeconomic course. This study adopted a mixed-methods strategy that integrated both qualitative and quantitative research techniques. The quantitative aspect entailed an examination of students' test scores in microeconomics through documentation analysis, whereas the qualitative aspect involved semi-structured interviews with microeconomics lecturers. Quantitative data were analyzed using descriptive statistical techniques. Qualitative data were examined through thematic analysis to identify and interpret the patterns and themes within the data.

Results and Analysis

Table 1 presents an analysis of students' test scores in microeconomics assessments at Malaysian universities within a specific local area.

Table 1

Examination of Students' Test Scores

Semester	Grade (%)			
	A	B	C	Fail
2006, May	14.2	58.1	22.2	5.5
2015, June	25.5	29.8	22.5	22.2
2015, December	21.9	34.1	28.3	15.7
2016, June	28.4	21.2	26.2	24.2

(Source: Malaysia local universities examination record (2016))

The data presented in Table 1 indicate a persistent challenge among students mastering microeconomics over the past decade. The grade distribution across semesters from May 2006 to June 2016 highlights that a significant proportion of students consistently attained grades B and C, with a non-negligible percentage failing the course. Specifically, in 2006, 58.1% of students achieved Grade B, 22.2% achieved Grade C, and 5.5% failed. The trend observed in subsequent years, particularly in 2015 and 2016, shows that most students continued to secure Grades B and C. However, the failure rate increased notably, ranging from 15.7% to 24.2%.

Students frequently face challenges in understanding economic concepts due to lack of visualization skills. This skill is often underemphasized at Malaysian universities in the teaching and learning process because the education system in Malaysia is exam-oriented and requires lecturers to prioritize completing the syllabus. So, lecturers do not allocate enough time to teach and develop students' visualization skills. This lack ultimately leads to poor visualization skills, which negatively impact students' understanding of the subject and affect their exam performance.

Table 2 presents a comprehensive analysis of the difficulties experienced by students taking a microeconomics course, as evidenced by the feedback provided by the three respondents from the interview sessions. The data highlight several key areas where students encounter difficulties, especially foundational skills such as fundamental of mathematic and statistic operations, conceptual understanding, data visualization, and application of economic concepts in practical scenarios.

Table 2

Challenges Faced in Mastering Microeconomics

		Respondent 1	Respondent 2	Respondent 3
Common Problems Faced When Learning Microeconomic	Fundamental of mathematic and statistic operations	/	/	/
	Memorize without understand the basic principles	/		/
	Imagining, drawing, and converting data to or from graphs	/	/	/
	Data analysis	/	/	/
	Utilize economic principles in circumstances		/	/
Hard Topics	Structure of Market	/	/	/
	Cost and Production Theory		/	
	Demand and Supply Elasticity	/	/	
Hard Sub-Topics	Competition of Monopolistic	/	/	/
	Oligopoly	/	/	/
	Elasticity of Demand and Supply Determinants		/	
	Scales of Economic and Diseconomy	/	/	

Table 2 shows the common challenges faced in mastering microeconomics as identified by the respondents. The table is structured into three main columns representing different aspects of learning difficulties in microeconomics: common problems faced when learning microeconomic, difficult topics, and difficult subtopics, with responses recorded from three different respondents.

Table 2 highlights the specific common challenges students face in grasping fundamental concepts in microeconomics, such as mathematical and statistical operations. A recurring difficulty among all respondents was the memorization and comprehension of key mathematical and economic principles. This challenge is critical, as these foundational concepts form the basis of more advanced economic analyses. Additionally, students struggle with imagining, drawing, and converting data into meaningful graphs and data analysis to effectively interpret economic data. These challenges suggest that students might benefit from instructional methods that emphasize practical applications of theoretical content and

offer more interactive visual learning tools to enhance their comprehension and retention of complex concepts.

Table 2 also reveals that students find topics and sub-topics in microeconomics that are especially challenging. The classification of market structures presents a considerable challenge. Within these broad topics, sub-topics, such as monopolistic competition and oligopoly, also present significant challenges. These topics and sub-topics are crucial for understanding the dynamic interactions in markets and the implications of different market powers on pricing and production decisions. The complexity of these concepts often requires a deep analytical approach and a strong grasp of their mathematical applications, which can be overwhelming for students.

Discussion

This study focuses on the challenges faced by Vocational Education students, specifically within the microeconomics course, a subject identified as particularly difficult within the faculties of Economics, Business Management, and Finance. This difficulty is supported by findings from Abdul Aziz & Zulkifli (2014), and Happ et al. (2018), who emphasized the necessity of this course for students in these faculties. The persistent problems identified in this course over the last decade could lead to the development of graduates who have not been fully prepared. One of the primary difficulties highlighted was students' lack of understanding of economic concepts, a finding that aligns with the research conducted by (Hanley et al., 2019). The educational approaches currently employed often fail to adequately teach students how to apply economic theories in practical contexts (Malizia et al., 2020). Especially leading to the superficial memorization of facts without a deep understanding of the underlying principles (Chew & Cerbin, 2021).

The findings also reveal a significant shortfall in students' basic mathematical and statistical skills, which directly impacts their quantitative literacy, and consequently, their overall economic literacy. This deficiency makes it challenging for students to effectively engage with the graphical components of the microeconomics course (Craft & Linask, 2020). The failure to interpret and create graphs hinders students from converting graphical data into applicable knowledge, thereby affecting their understanding and retention of economic concepts. Furthermore, visualization skills, which are critical for both increasing cognitive levels and understanding abstract economic concepts, were identified as underdeveloped among the students (Ali et al., 2023). These skills are essential for working with the extensive graphical and data-driven content of microeconomic curricula. Poor visualization skills not only affect students academically, but also limit their future professional efficiency in industries where economic literacy is crucial.

This study identified specific topics and subtopics within microeconomics that pose significant challenges. The market structure, particularly monopolistic competition and oligopoly, is highlighted as the most difficult area, with students struggling to handle the required graphical analyses. The subtopics of monopolistic competition and oligopoly also present considerable difficulties, underscoring the need for enhanced instructional strategies that focus on these areas.

Conclusion

Students pursuing studies in areas such as business management and administration, economics, finance, and accountability require advanced cognitive and visualization capabilities. This research emphasizes that a significant barrier to learning in these disciplines originates from students' insufficient visualization skills. Such inadequacies not only impede their capacity to retain facts but also affect their comprehension and practical application of concepts. Challenges were observed in tasks involving the visualization of methods to draw, convert, and interpret graphical data. Enhancing visualization skills within educational practices is essential for improving students' comprehension of complex economic ideas and their proficiency in managing extensive data and graphical information (Asamoah, 2022). Furthermore, strong visualization skills can indirectly enhance students' creativity and synthesis skills, better equipping them to meet professional demands (Kerzner et al., 2019). Hence, it is crucial to prioritize the development of visualization skills at the university level to cultivate exceptional graduates in the economic and business sectors.

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