

THE EFFECTS OF FLIPPED CLASSROOM APPROACH ON THE MOTIVATION AND ENGAGEMENT OF ACCOUNTING STUDENTS

Rusliza Yahaya^{1*}
Noor Lela Ahmad²
Nor Sa'adah Jamaludin³
Mohd Danial Afiq Khamar Tazilah⁴
Rosmini Ismail⁵
Rayner Tangkui⁶

¹ Faculty of Management and Economics, Universiti Pendidikan Sultan Idris, Malaysia
E-mail: rusliza@fpe.upsi.edu.my

² Faculty of Management and Economics, Universiti Pendidikan Sultan Idris, Malaysia
E-mail: noor.lela@fpe.upsi.edu.my

³ Faculty of Management and Economics, Universiti Pendidikan Sultan Idris, Malaysia
E-mail: norsaadah@fpe.upsi.edu.my

⁴ Faculty of Management and Economics, Universiti Pendidikan Sultan Idris, Malaysia
E-mail: mohd.danial@fpe.upsi.edu.my

⁵ Faculty of Management and Economics, Universiti Pendidikan Sultan Idris, Malaysia
E-mail: rosmini@fpe.upsi.edu.my

⁶ Institut Pendidikan Guru, Kampus Keningau, Sabah, Malaysia
E-mail: rayner@ipgm.edu.my

* Corresponding Author

Article history

Received date : 19-6-2026
Revised date : 20-6-2026
Accepted date : 25-7-2026
Published date : 1-8-2026

To cite this document:

Yahaya, R., Ahmad, N. L., Jamaludin, N. S., Khamar Tazilah, M. D. A., Ismail, R., & Tangkui, R. (2026). The effects of flipped classroom approach on the motivation and engagement of accounting students. *International Journal of Accounting, Finance and Business (IJAFB)*, 11 (67), 338 - 349.

Abstract: *This study investigated the effects of the flipped classroom approach on the motivation and engagement of accounting students. A quasi-experimental pre-test-post-test design with a control group was employed involving 80 students enrolled in an Accounting I course at a Matriculation College. The participants were divided into a treatment group (n = 40), which experienced the flipped classroom approach, and a control group (n = 40), which received traditional instruction. Students' motivation and engagement were measured using the Intrinsic Motivation Inventory and Classroom Engagement Inventory, respectively. Data were analyzed using independent samples t-tests and paired samples t-tests. The findings indicated that there were no significant differences between the treatment and control groups in the pre-test for both motivation and engagement, confirming group equivalence prior to the intervention. However, significant differences were found in the post-test scores, with the treatment group reporting higher levels of motivation and engagement than the control group. In addition, significant improvements were observed between the pre-test and post-test scores within the treatment group. The Paired Samples t-test results, shows that the findings were statistically significant ($t = -19.647$, $df = 39$, $p < .05$) and ($t = -18.950$, $df = 39$, $p < 0.05$). The*

effect size analyses revealed large effects for both motivation and engagement. The findings suggest that the flipped classroom approach is an effective pedagogical strategy for enhancing accounting students' motivation and engagement, thereby contributing to improved learning experiences in higher education.

Keywords: *Flipped classroom, motivation, engagement, accounting student*

Introduction

The rapid advancement of digital technologies and the emergence of Education 4.0 have significantly transformed the landscape of higher education, particularly in professional disciplines such as accounting. Traditional lecture-based teaching methods, which emphasize passive learning and instructor-centered delivery, are increasingly criticized for their inability to sustain students' motivation, engagement, and higher-order thinking skills (Krishnan et al., 2023). In accounting education, students are expected not only to understand theoretical concepts but also to apply analytical reasoning, problem-solving abilities, and professional judgment in complex business environments (Arumugham et al., 2025; Zotorvie et al., 2024). However, conventional teaching approaches often limit opportunities for active participation, collaborative learning, and meaningful interaction, leading to reduced student interest and disengagement during the learning process (Lee, 2024).

In response to these challenges, higher education institutions have increasingly adopted innovative pedagogical approaches that promote student-centered learning. One of the most widely discussed approaches is the flipped classroom model, which reverses the traditional sequence of teaching and learning activities. In a flipped classroom environment, instructional content is delivered outside the classroom through videos, online lectures, and digital learning materials, while classroom time is utilized for interactive discussions, collaborative activities, problem-solving exercises, and application-based learning (Baig & Yadegaridehkordi, 2023). This approach enables students to learn foundational concepts at their own pace before class and allows instructors to facilitate deeper engagement during face-to-face sessions.

The flipped classroom approach has gained considerable attention because of its potential to improve students' learning experiences and academic outcomes. According to Yahaya et al., (2022), the flipped classroom allows educators to promote critical and independent thinking in their students, creating lifelong learning and preparing future students with more critical and creative thinking. Previous studies have demonstrated that flipped learning environments can enhance academic achievement, critical thinking skills, self-directed learning, and classroom interaction (Alamri, 2018; Oknaryana et al., 2025; Öztürk & Çakiroğlu, 2021). More importantly, the approach may positively influence students' motivation and engagement, two critical factors that contribute significantly to academic success and effective learning (Samaila et al., 2024). Therefore, this study aims to examine the effects of the flipped classroom approach on the motivation and engagement of accounting students. Specifically, the study investigates whether flipped learning strategies can enhance students' enthusiasm for learning, classroom participation, and overall involvement in academic activities. By focusing on accounting students, this research contributes to the growing literature on innovative pedagogical approaches in accounting education and provides valuable insights for educators,

curriculum designers, and higher education institutions seeking to improve teaching effectiveness and student learning experiences.

Literature Review

Background of Flipped Classroom Pedagogy

The flipped classroom is a pedagogical concept that replaces classroom lectures with opportunities to explore and study materials outside of the classroom through recorded video and reading materials. This pedagogical approach inverts the traditional learning structure by shifting direct instruction to outside of the classroom. This method reserving in-class time for interactive learning activities and problem-solving (Lubbe, 2016). Basically, in this flipped model, students have access to learning content prior class starts and then do their homework assignments in the classroom. Milman (2012) describes “the idea is that rather than taking up valuable class time for an instructor to introduce a concept (often via lecture), the instructor can create a video lecture, screencast, or podcast that teach students the concept, freeing up valuable class time for more engaging (and often collaborative) activities typically facilitated by instructor” (p.85).

The flipped classroom model introduced by Tune et al. (2013) suggested that the process of implementing modified flipped classes consists of several phases. First, students are provided with lecture notes before class. Students are also required to watch recorded lectures prior to class session. Then, students are given quizzes that was administered at the beginning of the class followed by class discussions that involve issues or problems regarding the content of the course being taught. The class is further strengthened by giving assignments or practice problems of what has been discussed in the classroom in different contexts. Student exposures to flipped class sessions provide them with opportunities for discussion and interaction in and outside of the classroom and ultimately increased their performance (Tune et al., 2013).

Challenges in Accounting Education

Flipped classroom approach has garnered considerable attention in business education, including accounting, for its potential to align educational practices with the demand for modern teaching methods that promote experiential learning and the application of theoretical knowledge in practical scenarios (Kottara, 2025; Shaffi et al., 2023). The integration of the flipped classroom model in accounting higher education is underpinned by the shift from passive, instructor-centered delivery toward active, student-centered learning strategies (Jdaitawi, 2019; Shaffi et al., 2023). This pedagogical restructuring allows accounting instructors to transition into the role of facilitators who monitor students as they perform higher-level analytical tasks and resolve complex problems under supervision (Serçemeli et al., 2018). This shift also addresses the limitations of traditional lectures by providing a stress-free environment for individual mastery of technical accounting skills before communal application in the classroom (Sawan et al., 2023). Furthermore, this instructional shift encourages active student participation and improves comprehension of foundational accounting concepts through continuous instructor-student interaction (Kottara, 2025; Wong et al., 2019).

Despite the increasing interest in flipped learning, particularly within accounting education, its implementation at the university level, especially in large classes, has been comparatively limited (Wong et al., 2019). This limitation persists despite evidence suggesting that interactive

learning tasks, such as those facilitated by a flipped classroom, are crucial for fostering active learning and engagement in accounting students (Wong, 2024). Moreover, the inherent complexity of accounting topics often requires substantial contextual knowledge and integrative skills, which traditional lecture formats may not adequately cultivate, making flipped classroom models a compelling alternative to improve student outcomes (Niekerk & Delport, 2022). Specifically, introductory accounting courses, often perceived as difficult and monotonous by non-accounting majors, stand to benefit significantly from redesigned flipped-class formats that integrate active learning to enhance student attitudes and performance (Neto et al., 2017; Stover & Houston, 2019).

Significance of Student Motivation and Engagement

Research suggests that the shift toward student-centered environments enhances learner autonomy, which directly correlates with increased intrinsic motivation and persistent effort in complex financial accounting coursework (Serçemeli et al., 2018). By implementing structured interventions such as guided reading questions, educators can help students in their pre-class preparation. This will further support understanding and improve learning motivation of both accounting and non-accounting majors (Brown et al., 2016). Moreover, the integration of collaborative, social learning opportunities in the classroom setting facilitates a stress-free environment that helps students master technical skills, thereby increasing their academic self-efficacy (Sawan et al., 2023).

Furthermore, the strategic use of instructional videos, particularly those featuring on-screen instructors, can enhance social presence and facilitate the transition toward these active, student-centered learning environments (Liu & Elms, 2019). The integration of interactive elements within this framework provides immediate feedback and enhances student motivation, addressing the challenges of disengagement in quantitative accounting courses. This transition enables educators to deliver face-to-face sessions for active, student-centered learning that prioritizes complex conceptual mastery over static content delivery (Mizza et al., 2025; Wong, 2024). Evidence indicates that this pedagogical shift significantly improves interpersonal interaction and comprehension of complex subject matter during class discussions (Wong et al., 2019).

Methodology

This study employs a quasi-experimental research design to evaluate the impact of the flipped model on student motivation and engagement within undergraduate accounting courses.

Research Design

This is a quasi-experimental pre-test–post-test study with a control group. This design assigns participants to either an experimental or a control group. Groups will be measured using a pre-test before the study and measured twice using a post-test after the study. This quantitative approach facilitates a comparative analysis of academic performance and engagement metrics between students receiving conventional instruction and those immersed in the flipped classroom structure.

The Sample

The sample of this study includes a total of 80 students, in two classes, with approximately 40 students in each class, who took the Accounting 1 course in the Matriculation College. Classes

will be assigned as an experimental and a control group. The experimental group will undergo a structured flipped learning intervention based on validated instructional design principles, while the control group will receive instruction through traditional delivery methods. This comparative framework allows for the assessment of how structured pre-class exposure affects subsequent classroom motivation and engagement.

Data Collection Tools

Within the scope of this study, motivation and engagement scales were used as data collection tools. The Intrinsic Motivation Inventory (Ryan & Deci, 1982) measures motivation, while the Classroom Engagement Inventory adapted from Wang et al. (2014) measures student engagement. Both questionnaires use Likert scale measurement. To assess the instrument's validity and internal consistency, Cronbach's alpha reliability analysis was conducted for all constructs.

Experimental Procedure

In the application process, this study administered the flipped classroom model to one group and a traditional learning method to the other. Both groups received lectures from the same lecturer. Only registered users could access the online content. Students in the experimental group learned the theoretical part of the course at home before class by watching content-oriented videos and then taking quizzes at the end of the videos within the scope of the flipped classroom model. Thus, in course time spent in the classroom, they participated in active learning activities in the form of question-answer and discussion. The experimental group learned lessons at home and did homework in school, while the control group did the opposite. This approach ensures that the experimental group engages in collaborative problem-solving during contact hours, whereas the control group relies primarily on traditional in-class lectures and out-of-class individual assignment completion.

Data Analysis

In the data analysis period, this study performed t-test analysis to examine the effect of the implemented educational method on the students' motivation and engagement. Specifically, these statistical tests compare pre-intervention baseline scores with post-intervention outcomes to determine if significant differences exist between the pedagogical approaches. To ensure the validity and reliability of these findings, the study maintains strict adherence to ethical research standards, including obtaining informed consent from all participants and ensuring the confidentiality of their academic records.

Findings and Discussion

The results of the instrument reliability analysis are presented in Table 1. A reliability analysis was conducted to assess the internal consistency of the research instrument. As shown in Table 1, all constructs achieved Cronbach's alpha values above the recommended threshold of 0.70. The obtained values ranged from 0.76 to 0.88, indicating that the research instrument demonstrated a high level of reliability and internal consistency.

Table 1: Instrument Reliability Analysis

		Cronbach Alpha	Item
1	Competence	0.88	5
2	Choice	0.82	5
3	Interest	0.84	5
4	Affective	0.76	5
5	Behavioral	0.84	5
6	Cognitive	0.81	8

Source: Instrument Reliability Analysis

A total of 80 students participated in this study. The treatment group consisted of 40 students, comprising 17 males and 23 females. Meanwhile, the control group also consisted of 40 students, with 15 males and 25 females

Table 2 presents the skewness and kurtosis values for the pre-test and post-test of each dependent variable in this study. The results of the normality tests for all variables indicated that the data were normally distributed. For the pre-test motivation scores, the skewness and kurtosis values were 0.100 and -0.122, respectively. Meanwhile, the post-test motivation scores recorded a skewness value of 0.039 and a kurtosis value of -0.740. For the pre-test engagement scores, the skewness and kurtosis values were 0.077 and -0.090, respectively, whereas the post-test engagement scores showed a skewness value of -0.423 and a kurtosis value of -0.122.

Table 2: Normality Test Skewness and Kurtosis

Level	n	Pre-test		Post-test	
		Skewness	Kurtosis	Skewness	Kurtosis
Motivation	80	0.100	-0.112	0.0339	-0.740
Engagement	80	0.077	-0.090	-0.423	-0.122

Source: Normality Test

After conducting the normality test on both groups and confirming that the data were normally distributed, the next step was to determine whether the scores obtained from the two populations were comparable.

H01: There is no significant difference in the mean pre-test motivation scores between the treatment group and the control group.

The results of the Independent Samples t-test for the mean pre-test scores of students' motivation levels shows that the results of the study were not statistically significant ($t = -0.203$, $df = 78$, $p > 0.05$). These findings indicate that there was no significant difference in the mean pre-test motivation scores between the control group and the treatment group. Based on the results of this analysis, the null hypothesis is supported. Therefore, we conclude that there was no significant difference between the control group and the treatment group in terms of students' motivation levels.

H02: There is no significant difference in the mean pre-test engagement scores between the treatment group and the control group.

The results of the Independent Samples t-Test for the mean pre-test level of student engagement shows that the results of the study were not statistically significant ($t = -0.234$, $df = 78$, $p > 0.05$). Based on the results of this analysis, there was no significant difference in the mean pre-test engagement scores between the control group and the treatment group. Therefore, the null hypothesis is supported. We conclude that there was no significant difference between the control group and the treatment group in terms of students' engagement levels.

H03: There is no significant difference in the mean post-test motivation scores between the treatment group and the control group.

The results of the Independent Samples t-test for the mean post-test scores of students' motivation levels shows that the results of the study were statistically significant ($t = -5.912$, $df = 78$, $p < 0.05$). There was a significant difference between the control group and the treatment group in terms of students' motivation levels. The treatment group recorded a mean motivation score of 4.003 with a standard deviation (SD) of 0.485, whereas the control group recorded a mean score of 3.115 with an SD of 0.835. These findings indicate that students in the treatment group were more motivated than those in the control group. The effect size calculation further showed that the effect size for the difference in motivation levels between the treatment group and the control group in the post-test was $d = 1.321$. This value indicates a large effect size. Therefore, we rejected the null hypothesis and concluded that there was a significant difference in the post-test mean motivation level between the control group and the treatment group.

H04: There is no significant difference in the mean post-test engagement scores between the treatment group and the control group.

The results of the Independent Samples t-Test for the mean post-test level of student engagement shows that the results of the study were statistically significant ($t = -5.826$, $df = 78$, $p < 0.05$). There was a significant difference between the control group and the treatment group in terms of students' engagement levels. The treatment group recorded a mean engagement score of 4.025 with a standard deviation (SD) of 0.482, whereas the control group recorded a mean score of 3.175 with an SD of 0.783. These findings indicate that students in the treatment group were more actively engaged than those in the control group. The effect size calculation further showed that the effect size for the difference in student engagement levels between the treatment group and the control group in the post-test was $d = 1.303$ which indicates a large effect size. Based on the results of this analysis, the null hypothesis was rejected. We concluded that there was a significant difference in the post-test mean level of student engagement between the control group and the treatment group.

H05: There is no significant difference in the mean motivation scores between the pre-test and post-test for the treatment group.

Based on the results of the Paired Samples t-test, the findings were statistically significant ($t = -18.950$, $df = 39$, $p < 0.05$). Therefore, the null hypothesis was rejected, and we concluded that there was a significant difference in the mean motivation scores between the pre-test and post-test for the treatment group. The mean post-test motivation score for the treatment group was 4.003 with a standard deviation (SD) of 0.485, whereas the mean pre-test motivation score was

2.997 with an SD of 0.708. These findings indicate that students in the treatment group were more motivated when learning through the flipped classroom approach. The calculation further showed that the effect size for the difference in the mean motivation scores between the pre-test and post-test for the treatment group was $d = 1.666$ which indicates a large effect size.

H06: There is no significant difference in the mean level of student engagement between the pre-test and post-test for the treatment group.

Based on the Paired Samples t-test results, the findings were statistically significant ($t = -19.647$, $df = 39$, $p < .05$). Therefore, the null hypothesis was rejected, and we concluded that there was a significant difference in the mean level of student engagement between the pre-test and post-test for the treatment group. The mean student engagement level in the post-test was 4.025 (SD = 0.482), whereas the mean engagement level in the pre-test was 3.007 (SD = 0.691). These results indicate that students in the treatment group became more actively engaged in learning through the Flipped Classroom approach. The effect size calculation revealed that the effect size for the difference in the mean student engagement level between the pre-test and post-test for the treatment group was $d = 1.726$ which indicates a large effect size.

The findings of this study provide empirical evidence that the implementation of the flipped classroom model significantly enhances both motivation and engagement among accounting students compared to traditional pedagogical approaches. The results demonstrated that there were no significant differences between the treatment and control groups in terms of motivation and engagement levels before the intervention, indicating that both groups were comparable at the beginning of the study. However, after the implementation of the flipped classroom approach, the treatment group recorded significantly higher levels of motivation and engagement compared to the control group. The post-test results revealed substantial improvements in both variables, supported by large effect sizes, suggesting that the intervention had a strong educational impact. The findings are consistent with results of the previous research (Bawaneh & Mouméne, 2020; Nugraheni et al., 2022; Olana et al., 2025).

The paired-samples t-test analyses showed significant increases in motivation and engagement among students in the treatment group from pre-test to post-test, confirming that the flipped classroom model effectively enhanced students' enthusiasm for learning, active participation, and overall involvement in classroom activities. This improvement is likely attributable to the shift toward a student-centered environment that facilitates collaborative problem-solving and frequent instructor interaction (Jdaitawi, 2021). The transition of instructional content to out-of-class resources affords students the autonomy to engage with complex financial concepts at their own pace, which directly aligns with self-determination theory and fosters greater personal agency (Mansour & Wardat, 2025). Furthermore, the asynchronous access to learning materials allows students to address individual knowledge gaps before attending class, effectively maximizing the utility of face-to-face sessions for active learning and peer discourse.

Furthermore, the paired samples t-test for the treatment group demonstrated exceptionally strong, statistically significant transformations in student performance metrics, particularly for classroom engagement ($t = -19.647$, $df = 39$, $p < 0.05$) and motivation ($t = -18.950$, $df = 39$, $p < 0.05$), which were further substantiated by remarkably large individual effect sizes ($d = 1.726$

and $d = 1.666$, respectively). The findings support previous research that advocates student-centered learning environments as a means of promoting deeper learning experiences and greater learner engagement (Khatter et al., 2024). The opportunity for students to access instructional content before class and participate in collaborative, problem-solving activities during class appears to foster greater responsibility for learning and more meaningful interaction with course materials (Baig & Yadegaridehkordi, 2023; Zhu et al., 2021).

Conclusion

This study investigated the effects of the flipped classroom approach on the motivation and engagement of accounting students using a quasi-experimental design. The findings showed that there were no significant differences between the treatment and control groups before the intervention. However, after the flipped classroom was implemented, students in the treatment group demonstrated significantly higher motivation and engagement than those in the control group. The large effect sizes further indicate that the flipped classroom had a strong positive impact on students' learning experiences. The results suggest that providing learning materials before class and using classroom time for discussion, collaboration, and problem-solving can increase students' interest, participation, and involvement in accounting courses. These findings support the use of flipped classroom pedagogy as an effective student-centered teaching approach in accounting education. Therefore, this study provides empirical evidence that the flipped classroom approach is an effective pedagogical strategy for accounting education. It is recommended that educators and higher education institutions consider integrating flipped learning practices into their teaching to create more engaging and motivating learning environments that can ultimately improve students' academic experiences and learning outcomes. Despite these positive results, this study has several limitations. The sample was limited to 80 students from a single matriculation college, which may restrict the generalizability of the findings. In addition, the study focused only on motivation and engagement and did not examine other learning outcomes such as academic achievement or critical thinking. Future studies should include larger and more diverse samples, involve multiple institutions, and adopt longitudinal or mixed methods approaches to examine the long-term effectiveness of flipped classroom implementation and its impact on a wider range of student learning outcomes.

Acknowledgements

This research was funded by the Universiti Pendidikan Sultan Idris under the Education-Based University Research Grant GPUBP-IPGM (2023-0190-107-01)

References

- Alamri, M. M. (2018). Students' academic achievement performance and satisfaction in a flipped classroom in Saudi Arabia. *International Journal of Technology Enhanced Learning*, 11(1), 103–103. <https://doi.org/10.1504/ijtel.2019.096786>
- Arumugham, K. S., Gengatharan, K., & Munusamy, J. (2025). Enhancing Engagement in Accounting Education: Strategies and Challenges of Implementing Problem-Solving Techniques for Secondary School Teachers. *International Journal of Research and Innovation in Social Science*, 9(10), 6671–6687. <https://doi.org/10.47772/ijriss.2025.910000546>
- Baig, M. I., & Yadegaridehkordi, E. (2023). Flipped classroom in higher education: a systematic literature review and research challenges. *International Journal of Educational Technology in Higher Education*, 20(1). <https://doi.org/10.1186/s41239-023-00430-5>
- Bawaneh, A. K., & Mouméne, A. (2020). Flipping the Classroom for Optimizing Undergraduate Students' Motivation and Understanding of Medical Physics Concepts. *Eurasia Journal of Mathematics Science and Technology Education*, 16(11). <https://doi.org/10.29333/ejmste/8561>
- Brown, C. A., Danvers, K., & Doran, D. (2016). Student perceptions on using guided reading questions to motivate student reading in the flipped classroom. *Accounting Education*, 25(3), 256–271. <https://doi.org/10.1080/09639284.2016.1165124>
- Jdaitawi, M. (2019). The Effect of Flipped Classroom Strategy on Students Learning Outcomes. *International Journal of Instruction*, 12(3), 665–680. <https://doi.org/10.29333/iji.2019.12340a>
- Jdaitawi, M. (2021). Does Flipped Learning Promote Positive Emotions in Science Education? A Comparison between Traditional and Flipped Classroom Approaches. *The Electronic Journal of E-Learning*, 18(6). <https://doi.org/10.34190/jel.18.6.004>
- Khatter, A., Thalaachawr, K., & Blyth, M. (2024). Student engagement and fostering ownership of learning. *Journal of Applied Learning & Teaching*, 7(1). <https://doi.org/10.37074/jalt.2024.7.1.38>
- Kottara, C. (2025). Flipped classroom in tertiary accounting education. *European Journal of Education Studies*, 12(3). <https://doi.org/10.46827/ejes.v12i3.5867>
- Kottara, C., Asonitou, S., Kavalieraki-Foka, D., Grigorios, G., & Georgios, G. (2025). Revolutionizing Financial Accounting: Student Engagement in a Blended Learning Approach. *Wseas Transactions On Business And Economics*, 2616–2616. <https://doi.org/10.37394/23207.2025.22.206>
- Krishnan, S., Landa, S., Lin, P., & Yur-Austin, J. (2023). The Effect of Team-Based Active Learning and Embedded Tutors in the First Course in Accounting. *Journal of Higher Education Theory and Practice*, 23(6). <https://doi.org/10.33423/jhetp.v23i6.5964>
- Lee, Y. (2024). Changes in Learning Outcomes of Students Participating in Problem-Based Learning for the First Time: A Case Study of a Financial Management Course. *The Asia-Pacific Education Researcher*. <https://doi.org/10.1007/s40299-024-00873-y>
- Liu, C., & Elms, P. (2019). Animating student engagement: The impacts of cartoon instructional videos on learning experience. *Research in Learning Technology*, 27(0). <https://doi.org/10.25304/rlt.v27.2124>
- Mansour, O. N., & Wardat, Y. (2025). The effect of the flipped classroom strategy on motivation to learn mathematics among 9th-grade female students: a quasi-experimental study in Amman. *Frontiers in Education*, 10. <https://doi.org/10.3389/feduc.2025.1579358>

- Milman, N. (2012). The flipped classroom strategy: What is it and how can it be used? *Distance Learning*, 9(3), 85-87.
- Mizza, D., Reese, M., & Malouche, D. (2025). Flipped classroom evaluation and blended learning potential: a case study of engagement and inclusion in quantitative education. *Smart Learning Environments*, 12(1). <https://doi.org/10.1186/s40561-025-00412-2>
- Neto, J. D. de O., Gomes, G. de S., & Tilton, L. A. (2017). Using technology driven flipped class to promote active learning in accounting. *La Referencia (Red Federada de Repositorios Institucionales de Publicaciones Científicas)*, 13(1), 49–64. <https://ojsrevista.furb.br/ojs/index.php/universocontabil/article/view/6115>
- Niekerk, M. V., & Delpont, M. (2022). Evolving flipped classroom design in a cost/management accounting module in a rural South African context. *Accounting Education*, 31(5), 567–595. <https://doi.org/10.1080/09639284.2022.2029748>
- Nugraheni, B. I., Sukirno, S., Hendrowibowo, L., & Aji, G. P. (2022). Flipped classroom in accounting courses: A systematic review. *Cypriot Journal of Educational Sciences*, 17(12), 4823–4838. <https://doi.org/10.18844/cjes.v17i12.7567>
- Oknaryana, O., Zona, M. A., Marna, J. E., Hayati, A. F., Syofyan, R., & Murdy, Y. Z. H. K. (2025). Improving Students' Higher-Order Thinking Skills: A Comparison Between Flipped Learning and Traditional Teaching Approach. *European Journal of Educational Research*, 14(4), 1245–1257. <https://doi.org/10.12973/eu-jer.14.4.1245>
- Olana, T., Bacha, K., & Lemma, A. (2025). Exploring the flipped classroom's impact on biology students' motivation: a mixed-method study at Nekemte secondary school. *Discover Education*, 4(1). <https://doi.org/10.1007/s44217-025-00764-4>
- Öztürk, M., & Çakıroğlu, Ü. (2021). Flipped learning design in EFL classrooms: implementing self-regulated learning strategies to develop language skills. *Smart Learning Environments*, 8(1). <https://doi.org/10.1186/s40561-021-00146-x>
- Ryan, R. M., & Deci. (1982). Intrinsic Motivation Inventory. *Journal of Personality and Social Psychology*, 43(3), 450–461.
- Samaila, K., Chau, K. T., Masood, M., & Bervell, B. (2024). Think-pair-share based flipped classroom: A model for improving students' learning achievement and self-efficacy. *Journal of Digital Educational Technology*, 4(1). <https://doi.org/10.30935/jdet/14422>
- Sawan, N., Al-Hajaya, K., Salem, R., & Alshhadat, M. (2023). Pre-COVID-19 student perceptions on blended learning and flipped classroom in accountancy: a case study from two emerging UK HEIs. *CLOK (University of Central Lancashire)*, 16(2), 597–609. <https://doi.org/10.1108/jarhe-01-2023-0002>
- Serçemeli, M., Günbaş, N., & Baydaş, Ö. (2018). Using flipped classroom approach in computerized accounting education. *Muhasebe Bilim Dünyası Dergisi*, 20(4), 980–994. <https://doi.org/10.31460/mbdd.402686>
- Shaffi, S., Tarek, S. A., & Watson, A. (2023). Enhancing Business Education through Flipped Classroom Pedagogies: The Systematic Review. *Creative Education*, 14(7), 1481–1495. <https://doi.org/10.4236/ce.2023.147094>
- Tune, J.D., Sturek, M., & Basile, D. P. (2013). Flipped classroom model improves graduate students performance in cardiovascular, respiratory, and renal physiology. *Advances in Physiology Education*, 37, 316-320.
- Wang, Z., Bergin, C., & Bergin, D. A. (2014). *Measuring Engagement in Fourth to Twelfth Grade Classrooms: The Classroom Engagement Inventory*. 29(4), 517–535. <https://doi.org/10.1037/spq0000050>
- Wong, E. M. L., & Deni, A. R. M. (2024). Promoting Interaction to Enhance Student Perceived

- Learning and Satisfaction in a Large e-Flipped Accounting Classroom. *Center for Educational Policy Studies Journal*. <https://doi.org/10.26529/cepsj.1598>
- Wong, E. M. L., Li, C. Y. Y., & Deni, A. R. M. (2019). Promoting Student Engagement Using Flipped Classroom in Large Introductory Financial Accounting Class. 61–66. <https://doi.org/10.1145/3371647.3371658>
- Yahaya, R., Ramdan, M.R., Ahmad, N. L., Ismail, R., Khalid, K., & Jusoh, M.A. (2022). Educators' Motivation and Intention within the UTAUT Model to Adopt the Flipped Classroom: A Scoping Review, *International Journal of Learning, Teaching and Educational Research*, 21(2), pp. 285-302, <https://doi.org/10.26803/ijlter.21.2.16>
- Zotorvie, J. S. T., Rooyen, A. van, & Shuttleworth, C. C. (2024). A Quadruple Helix Intervention for Accounting Education in Ghana. *International Journal of Learning Teaching and Educational Research*, 23(3), 322–347. <https://doi.org/10.26803/ijlter.23.3.16>