Enhancing the Engagement of Final Year Business Students in the Capstone Course of a Public Technical University

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ABSTRACT

Student engagement continues to be a major concern in final-year business capstone courses, particularly in active learning, critical thinking, and the application of information to real-world business challenges. The purpose of this study is to explore the impact of organized post-lecture group discussions on student involvement of final year Business students at a public technical institution. The study is grounded in Social Constructivist Theory and the Outcome-Based Education (OBE) framework, and it uses a classroom-based pedagogical intervention in which students engage in small-group discussions after each lecture to reflect, analyze, and apply the learned concepts to complex business problems. The research design is a mixed-methods design. The research instruments include students' entrance-exit surveys (EES), classroom observations, reflective comments, and assessment performance data using standardized rubrics. The research tools include the students' Entrance-Exit Surveys (EES), classroom observations, reflective remarks and the assessment performance data collected using the standardized rubrics. Anticipated effects include gains in behavioral, cognitive, and emotional engagement, such as increased levels of interest, more knowledge of course content, stronger critical thinking abilities and greater student collaboration. The intervention is also intended to enhance the students' problem-solving and communication skills, which are major learning goals of the Capstone course. The study shows that structured group discussion is an excellent active learning technique for meaningful involvement. This enhances the learning experience and supports CQI in final year business education.

Keywords: Capstone Course, Student Engagement, Outcome-Based Education, Complex Business Problems, Active Learning, Continuous Quality Improvement.

INTRODUCTION

In higher education, there is a need to shift from traditional, passive, teacher-centered learning to active, student-centric approaches to prepare undergraduates for the challenges of the modern workforce (Mat Isa & Mohd Saman, 2018). The application of Outcome-Based Education (OBE) in teaching and learning has become a common practice in higher education institutions to ensure that educational programs equip graduates for modern industry demands (Mansor et al., 2025). In this sense, capstone courses are "culminating courses" that simulate professional tasks and help students transfer from academia to the workplace (Mat Isa et al., 2021).

The culminating courses are important because they challenge students to integrate learning from numerous fundamental courses and demonstrate their overall achievements and practical abilities at the conclusion of the program (Mat Isa et al., 2021).

Capstone courses are crucial, but the difficulty is how to keep students involved at a high level? The traditional methods of assessment seem to be less effective in developing higher-level cognitive capabilities and

interpersonal communication skills needed to face the challenges of professional practice (Abdul Karim et al., 2025). This may be mitigated by intentionally and constructively connecting the teaching, learning and evaluation procedures to specific student qualities (Mat Isa & Mohd Noor, 2025). This study explored the implementation of a structured post-lecture group discussion intervention in a senior-level business capstone course at a public technical college. This study used a mixed-methods approach to examine the influence of collaborative learning settings on student engagement and achievement of essential objectives in problem-solving and communication. This research is a Continuous Quality Improvement (CQI) to respond to the changing demands of the students (Mansor et al., 2025).

Regarding the uniqueness of the study, it contributes to the current educational literature in four main areas, both theoretically and methodologically:

- OBE in Business Capstones: The previous literature mostly examines OBE in the context of engineering or technical certification requirements. The present study effectively applies these key ideas to a non-engineering setting. It reframes the usual "complex engineering problems" in terms of business education by directing desired learning outcomes towards "complex business problems."

- Measuring Learning Equity using Coefficient of Variation (CV) Pedagogical studies have traditionally measured gains in average academic grades, but this study introduces a new analytical dimension by measuring performance consistency and learning equity using Coefficient of Variation (CV). The study offers compelling empirical evidence for the effectiveness of the intervention in reducing the performance gap and generating a more equitable learning environment for different learners by assessing reductions in CV across cohorts.

- The application of the Relative Importance Index (RII) to Pedagogy: An unique methodological approach consists of using the Relative Importance Index (RII), a quantitative metric frequently used in engineering and construction management research, to rank the operational determinants of student involvement. The approach offers data-based explicit goals for educators rather than the typical instructional advice.

- Dual-layer Evaluation Matrix for CQI: The study provides a structured dual-layer evaluation matrix using indirect self-evaluations (entrance-exit questionnaires) and direct objective assessments (standardized rubrics). This method extends research beyond a standard educational experiment into a practical, evidence-based Continuous Quality Improvement (CQI) loop that actively discovers specific technical shortcomings to guide future curriculum revisions.

LITERATURE REVIEW

Social Constructivism in Higher Education

The transition to student-centered pedagogies in higher education is grounded in constructivist learning theory, first put out by theorists such as Jean Piaget and Lev Vygotsky (Alawad, Ahmed, & Nassim, 2025). According to constructivism, learning is an active and dynamic process in which the learner constructs new knowledge by linking it to existing cognitive schemas rather than passively receiving information (Alawad, Ahmed, & Nassim, 2025). Within this paradigm, Vygotsky's sociocultural theory emphasizes that real learning primarily occurs through social interaction (Alawad, Ahmed, & Nassim, 2025).

Learning is an active and socially involved process according to social constructivism. Collaborative learning methods enable students to work together in teams or groups to solve problems, complete projects, or engage in active intellectual activities (Azmin et al., 2025). This method encourages students to work together, communicate, and share knowledge and abilities, which is vital when dealing with complicated situations requiring different viewpoints and interdisciplinary collaboration (Azmin et al., 2025). Group discussions following lectures, which are planned peer-to-peer interactions, activate students' schemata, induce metacognitive reflection, and improve the knowledge of complex subject matter (Abdul Karim et al., 2025). Lastly, the adoption of active learning strategies derived from real-life situations is effective in integrating

cognitive domain with emotional and interpersonal skills, resulting in a significant improvement of students' professional and ethical competencies (Mat Isa & Mohd Saman, 2018; Pauzi & Mat Isa, 2025).

Shifting Paradigms: Active and Collaborative Learning Strategies

Higher education institutions are increasingly shifting away from traditional didactic lectures and opting for active and collaborative teaching strategies (Mikhailidi & Tskhvediani, 2026). In traditional methods, students have a passive role, with little constructive feedback and little chances for active interaction (Alawad, Ahmed, & Nassim, 2025). However, active learning engages students in tasks that require them to apply information, think critically and reflect (Alawad, Ahmed & Nassim, 2025).

Some of the greatest active learning pedagogies include Project-Based Learning (PBL) and Flipped Classrooms (Sharma & Gupta, 2025; Winantaka, Efendi, & Putro, 2025). PBL offers scaffolded learning opportunities that enhance students' relevance, motivation, and ownership of their learning experiences (Sharma & Gupta, 2025). Collaborative panel and group discussions have also become powerful teaching techniques (Alawad, Ahmed, & Nassim, 2025). During the group discussion, students should critically digest the material and explain the reasons for their statements in their own words, rather than merely reproducing textbook content (Mikhailidi & Tskhvediani, 2026). These interactive sessions are similar to genuine business environments in the context of business education, thereby increasing students' knowledge of formal language and professional etiquette and supporting peer learning (Winantaka, Efendi, & Putro, 2025).

Fostering Student Engagement in Business Education

Student involvement is a complex term consisting of behavioral, emotional, and cognitive elements (Alawad, Ahmed, & Nassim, 2025; Heikkinen et al., 2025). Involvement Theory states that learning is an active, social, and contextual process and that involvement is thus key to effective learning. Teachers may provide students with relevant experiences that lead to profound, meaningful, and enduring learning by boosting involvement in all aspects (Alawad, Ahmed & Nassim, 2025).

In global corporate environments that are like the actual world, engagement is highly related to genuine, work-related duties (Nguyễn & Koseki, 2025). Students are also asked to manage tone, formality and cultural sensitivities in circumstances of collaborative problem-solving (Nguyễn & Koseki, 2025). Working with "real" audiences and with authentic communication purposes leads to better student rhetorical accuracy, critical thinking, and professional preparedness (Nguyễn & Koseki, 2025), according to research. Moreover, creating a community of inquiry and psychological safety in such groups is essential for encouraging students to share ideas and reflect on their learning progress without the fear of harsh punishment (Mikhailidi & Tskhvediani, 2026).

Outcome-Based Education (OBE), Authentic Assessment, and Continuous Quality Improvement (CQI)

Existing literature has largely focused on OBE in terms of engineering or technical accreditation standards. However, the main idea of transitioning from a traditional, input-oriented education to a student-centred education focused on quantifiable results is important to all business education fields (Mat Isa & Mohd Saman, 2018). Learning goals should be formulated in terms of hard business problems that involve high-level cognitive processing, creative thinking and application of basic principles in business education (Azmin et al., 2025).

Based on the concepts of Constructive Alignment, the efficacy of active learning interventions such as group discussion depends on the deliberate alignment of intended learning outcomes, teaching strategies and assessment tasks (Godonoga, 2025; Mat Isa & Mohd Noor, 2025). Business Capstone courses are not compatible with traditional assessment methods focused on rote learning, as they are designed to cultivate advanced problem-solving and professional communication abilities (Abdul Karim et al., 2025). Instead, the program needs further evaluations in the actual world of the practical outputs and the collaboration based on the standard rubrics (Colasante & Finneran, 2025; Mat Isa et al., 2021). These rubrics give objective assessments of cognitive outcomes (e.g. analytical capacity) and affective outcomes (e.g. teamwork and communication) (Abdul Karim

et al., 2025).

These assessments may be further enhanced by include continuing feedback systems that allow for Continuous Quality Improvement (CQI) (Godonoga, 2025). CQI is an important element of OBE system in which the education programs are evaluated, changed and enhanced from time to time to achieve the expected learning results (Mansor et al., 2025). Instructors may make data-informed assessments, promptly fix learning gaps, and generate inventive, capable graduates by assessing data gathered on student performance over numerous semesters (Mansor et al., 2025).

RESEARCH METHODOLOGY

Research Design

This research uses a mixed-method approach to holistically evaluate the pedagogical intervention by using both quantitative and qualitative data to identify optimal practices and evaluate overall teaching efficiency (Pauzi & Mat Isa, 2025). The intervention is structured as organized small-group collaborative talks (Figure 1) following each lecture, during which students apply business theories to real-world case studies.

Figure 1 : Small-Group Collaborative Discussions

Quantitative Assessment: Entrance-Exit Surveys (EES)

An Entrance-Exit Survey (EES) is performed at the beginning and end of the semester to assess observed changes in student involvement and cognitive abilities. The EES approach is frequently used in higher education to evaluate students' self-reported knowledge and abilities about course competency before and after engaging with the course content (Pauzi & Mat Isa, 2025). The survey assesses self-reported behavioral, cognitive, and emotional involvement on a 5-point Likert scale (1=Strongly Disagree to 5=Strongly Agree) (Pauzi & Mat Isa, 2025). Descriptive and inferential statistical approaches were used to evaluate the data and determine the statistical significance of the intervention's influence on student learning outcomes (Pauzi & Mat Isa, 2025).

Direct Assessment and Rubrics

The self-reported survey data are validated by direct evaluations. Well-designed, standardized rubrics are required to assess students' sophisticated problem-solving skills and communication in capstone projects (Abdul Karim et al., 2025). Standardized rubrics clearly specify students' activity needs and provide objective, consistent evaluations of cognitive (analytical ability) and emotional (teamwork and communication) outcomes (Abdul Karim et al., 2025). Implementing such rubrics provides fairness, consistency, and clear expectations for performance.

RESULT AND DISCUSSION

Respondent's Profile

This research comprised 108 final-year Business students, 54 in the standard teaching cohort (2025) and 54 in the structured group discussion cohort (2026). Both cohorts of students took the same Business Capstone course with the same content, assessment structure, and course learning goals. The main difference between the two cohorts was the addition of organized group discussions after the lectures in the 2026 cohort. Demographic characteristics of the subjects are shown in Table 1. The two cohorts were relatively similar in terms of gender, age, cumulative grade point average (CGPA), and program specialty, suggesting that demographic factors were unlikely to account for the disparities in learning outcomes.

Table 1 : Demographic Profile of Participants (N = 108)

Characteristics	Traditional Cohort (2025) n=54	Intervention Cohort (2026) n=54	Total (N=108)
Gender			
Male	21 (38.9%)	22 (40.7%)	43 (39.8%)
Female	33 (61.1%)	32 (59.3%)	65 (60.2%)
Age			
22 years	14 (25.9%)	15 (27.8%)	29 (26.9%)
23 years	29 (53.7%)	28 (51.9%)	57 (52.8%)
24 years	9 (16.7%)	8 (14.8%)	17 (15.7%)
≥25 years	2 (3.7%)	3 (5.5%)	5 (4.6%)
CGPA			
2.50–2.99	8 (14.8%)	7 (13.0%)	15 (13.9%)
3.00–3.49	28 (51.9%)	27 (50.0%)	55 (50.9%)
3.50–4.00	18 (33.3%)	20 (37.0%)	38 (35.2%)

The demographics of the participants were quite similar in both cohorts, as seen in Table 1. Most of the participants were female (standard cohort 61.1%; intervention cohort 59.3%). Most students (about half in each cohort) were 23 years of age, which is the usual age of a final-year undergraduate. Academic performance was comparable with almost half of students in both cohorts attaining a CGPA of 3.00-3.49 and about a third achieving a CGPA of 3.50 or more.

In general, the similarity of the demographic and intellectual characteristics suggests that the two groups were generally equivalent before to the intervention. In summary, the changes in engagement, learning, and academic achievement are more likely attributable to structured post-lecture group discussion than to variations in participant characteristics. Such demographic similarity enhances the study's internal validity and supports the view that the pedagogical intervention was the primary driver of students' learning experiences and outcomes.

Conceptual and Operational Framework

A comprehensive conceptual and practical roadmap was established for rigorous assessment of the efficacy of the structural transition from the conventional teacher-centered learning paradigm to the student-centered active learning paradigm. Figure 2 presents the dynamic interactions that underpinned the four main phases of the pedagogical intervention: Theoretical & Educational Inputs, the Pedagogical Intervention Process, Mixed-Methods Evaluation, and the Continuous Quality Improvement (CQI) Loop.

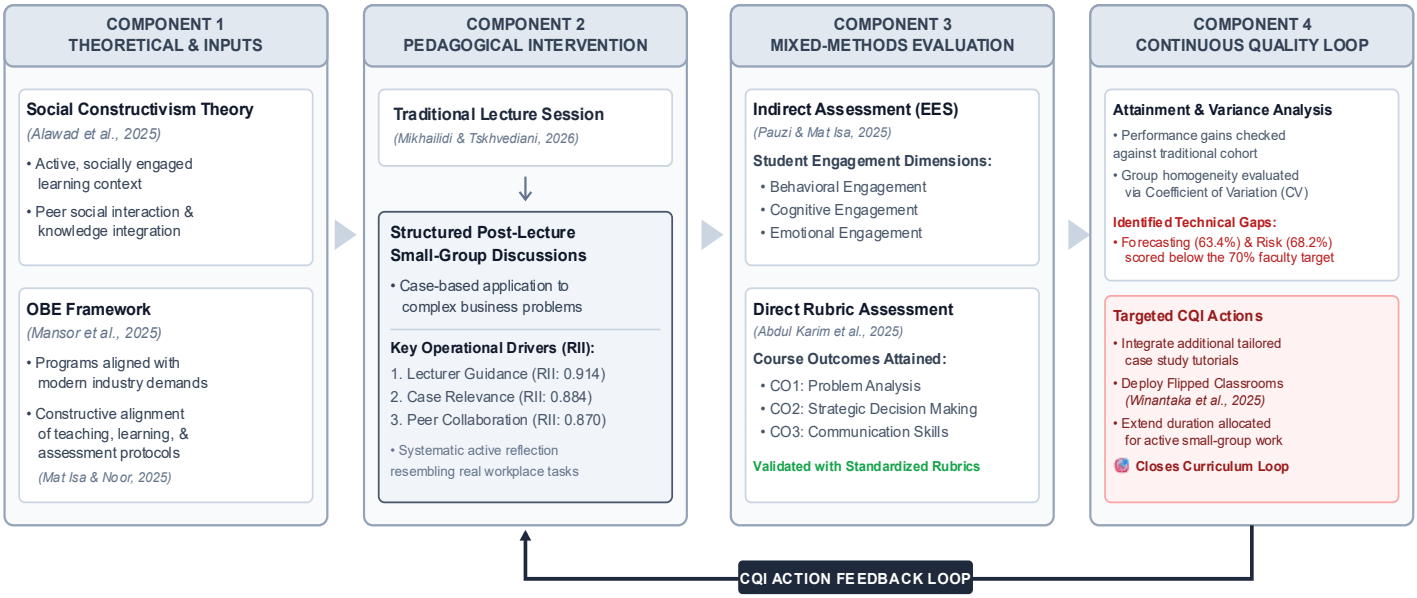

Figure 2 : Conceptual and Operational Framework

Figure 2 illustrates the structural basis of this proposal, which is founded on the constructive alignment of Social Constructivism Theory and the Outcome-Based Education (OBE) framework. Social constructivism focuses on learning as an active social process driven by interactions with peers and the collective intellectual work they do together. This is constructively integrated with the OBE framework, and hence teaching, learning, and evaluation systems are purposely designed to prepare final year students for difficult real-world industrial needs.

The framework elaborates on the operational transformation of the classroom setting. The didactic lecture technique is traditional and provides context but is immediately followed by organized post-lecture small-group discussion in which students collectively explore, reflect, and apply business concepts to complicated challenges. The technique utilizes the Relative Importance Index (RII) to analyze the performance of this phase and to determine the critical operational drivers of such talks including the effectiveness of lecturer supervision, the relevance of business case studies and the level of active peer interaction.

Educational impact is measured in a two-layered assessment matrix. Entrance-Exit Surveys (EES) measure multidimensional behavioral, cognitive and emotional areas and are an indirect measure of student engagement. At the same time, direct assessments employ traditional grading rubrics to evaluate real course outcomes (COs) in corporate issue analysis, strategic decision-making, and professional communication skills.

Finally, the framework provides a strong Continuous Quality Improvement (CQI) cycle. The CQI Action Feedback Loop compares attainment analysis results and student performance variance with faculty benchmarks to identify technical learning deficiencies. The results are subsequently fed into the pedagogical planning phase for the next semester. This enables specific adaptations, e.g., individual tutorials or flipped classroom approaches, to continually improve the curriculum and therefore create a closed educational loop.

Impact on Student's Engagement

There was a significant improvement in student involvement between the Entrance and Exit survey ratings. Past pedagogical research employing EES frameworks has demonstrated that organized active learning and collaborative teaching models substantially raise the average student self-assessment ratings from the entry to the exit surveys (Pauzi & Mat Isa, 2025). Moving from passive absorption to active cognitive involvement in group conversations allows students to express and defend their business plans, likely resulting in increased emotional and cognitive engagement.

Table 2 : Comparison of Entrance and Exit Survey Scores (n=54) and Gap Analysis

Student Engagement Dimension	Entrance Mean ± SD	Exit Mean ± SD	Mean Difference	t-value	p-value
Behavioural Engagement	2.78 ± 0.71	4.33 ± 0.48	1.55	14.67	<0.001
Cognitive Engagement	2.65 ± 0.66	4.41 ± 0.44	1.76	16.52	<0.001
Emotional Engagement	2.91 ± 0.73	4.46 ± 0.39	1.55	15.74	<0.001
Ability to analyze complex business problems	2.36 ± 0.75	4.52 ± 0.43	2.16	18.91	<0.001
Confidence in presenting business solutions	2.59 ± 0.69	4.39 ± 0.47	1.80	17.26	<0.001
Gap Analysis					
Improvement (Exit–Entrance)		**Frequency**		**Percentage**	
No Improvement (0)		2		3.7	
+1		6		11.1	
+2		15		27.8	
+3		23		42.6	
+4		8		14.8	

As shown in Table 2, there were significant gains in students' self-reported involvement after the introduction of organized post-lecture group discussions. For all five dimensions, exit survey scores were considerably higher ($p<.001$) than entry survey scores. The largest gain was in students' reported ability to evaluate complex business situations, which improved from a mean of 2.36 to 4.52. Paired-samples t-tests revealed that all changes were statistically significant ($p < 0.001$), indicating that organized collaborative conversations had a beneficial impact on behavioral, cognitive, and emotional involvement, as well as on students' confidence in applying business information.

The gap analysis also confirms the intervention's effectiveness. 96.3% of students claimed positive change with a total of 52 students (Overall Positive change). Almost half (42.6%) showed a three-point shift on the five-point Likert scale, suggesting large increases in perceived engagement and learning.

Attainment of Learning Outcomes

Table 3 : Direct Assessment Using Standardized Rubrics

Course Outcome	Mean (%)	SD	Students >50%	Attainment
CO1: Business Problem Analysis	82.41	6.81	52 (96.3%)	Achieved
CO2: Strategic Decision Making	79.88	7.34	50 (92.6%)	Achieved
CO3: Communication & Presentation	84.17	5.69	53 (98.1%)	Achieved
Overall Capstone Performance	82.15	6.12	53 (98.1%)	Achieved
Comparison with Previous Cohort				
Cohort	**Mean**	**SD**	**t**	**p**
Traditional Teaching (2025)	75.62	8.53		
Structured Discussion (2026)	82.15	6.12	4.38	<0.001

The findings of the direct evaluation (Table 3), conducted using standardized grading rubrics, further confirmed the good results shown in the Entrance–Exit Survey. The students' total mean achievement was 82.15%. The highest mean score was in communication skills (84.17%). Structured group discussion provided objective evidence that more than 92% of students exceeded the minimum competency criterion for each course goal and increased students' analytical reasoning, strategic thinking, and professional communication skills.

Table 4 : Grade Distribution

Grade	Traditional	Intervention
A	6	15
A-	8	16
B+	15	14
B	12	7
C	5	2
Below C	2	0
Coefficient of Variation (CV)		
Traditional cohort		CV = 11.28%
Intervention cohort		CV = 7.45%

The typical cohort has a Coefficient of Variation (CV) of 11.28% (Table 4). After intervention, a substantial improvement is shown with the intervention cohort having a reduced CV of 7.45%. The coefficient of variance was lower in the intervention group, suggesting that students were more consistent in their performance once the structured collaborative talks were implemented.

The relative grade distribution also further indicates the positive effect of planned after lecture group discussion on academic success of students. Academic achievement in the intervention group was significantly improved compared with the previous cohort that received conventional teaching methods. The number of children who obtained A marks increased from 6 to 15, while the number of students who got A- ratings quadrupled from 8 to 16. On the other hand, the number of students with grades B went down from 12 to 7. The number of students with grades C went down from 5 to 2. Most importantly, every child in the intervention group got at least a C, whereas two students in the normal group did not. The statistics reveal that using a structured collaborative learning technique not only improved the average students' performance, but also increased the number of high-scoring students and decreased the lower academic accomplishment. The findings support the Social Constructivist Theory that collaborative learning through discussion, peer participation, and shared problem solving creates deep conceptual knowledge. An independent-samples t-test also revealed a statistically significant difference between the two cohorts ($t = 4.38$, $p < 0.001$) and clear evidence that organized group discussions positively impacted student learning results in the Business Capstone course.

The CV analysis indicates that, with improvements of mean performance, the structured group discussion intervention also resulted in better consistency of student progress. CV of the intervention group was 7.45% which was significantly lower than that of the conventional instruction group (11.28%). As the coefficient of variation represents the relative dispersion of scores around the mean, a lower CV suggests that the students' performances were more homogeneous and less varied. The conclusion indicates that the collaborative learning approach was beneficial for students, not just at the high end of the spectrum but also for those who might have previously struggled with complex business problem-solving. The lower variance indicates that conversations in a structured format created a more level playing field for learning, as students were able to share ideas, receive instant feedback, and learn from each other, thereby closing the performance gap throughout the class. The instructional approach in the Outcome-Based Education (OBE) sense accommodates the diverse needs of

learners in acquiring the course learning outcomes. The teaching effectiveness is indicated by the proportion of students who achieve consistent learning outcomes. The reduced CV thus provides another supporting piece of evidence for the general argument that organized group discussions enhance the quality and consistency of student learning in the Business Capstone course.

Furthermore, direct evaluation using grading rubrics provides objective confirmation of the survey data. In accordance with OBE principles, direct project evaluations are an effective means of assessing basic knowledge and cumulative comprehension in complex scenarios (Goh et al., 2025). Students' involvement in collaborative conversations helps develop higher-order thinking skills by providing opportunities to constantly review and synthesize course materials to develop real-world solutions (Abdul Karim et al., 2025).

Fostering a Culture of Continuous Quality Improvement

Structured group discussions were conducted after the lectures and served as strong evidence of Continuous Quality Improvement (CQI) under the Outcome-Based Education (OBE) system (Table 5). The Exit Survey results showed that the lecturer's direction was the most dominant factor for student engagement (RII = 0.914), followed by the relevance of actual business case studies (RII = 0.884) and peer cooperation (RII = 0.870). On the other hand, time spent on talks had the lowest RII (0.792), suggesting that increasing the length of discussion sessions could further improve student learning.

Table 5 : Relative Importance Index (RII) and Continuous Quality Improvement (CQI)

Factor	**Mean**	**RII**	**Rank**	
Guidance provided by lecturer	4.57	0.914	1	
Relevance of business case studies	4.42	0.884	2	
Peer collaboration	4.35	0.870	3	
Immediate feedback	4.28	0.856	4	
Structured discussion format	4.19	0.838	5	
Time allocated	3.96	0.792	6	
Continuous Quality Improvement (CQI)				
Course Outcome	**Target**	**Actual**	**Status**	**CQI Action**
CO1: Business Problem Analysis	70%	63.4%	Below Target	Additional case study discussions
CO2: Strategic Decision Making	70%	68.2%	Slightly Below	More case studies
CO3: Communication & Presentation	70%	84.2%	Achieved	Maintain practice

Although the results were largely encouraging, direct examination revealed certain areas for improvement. While Strategic Communication was above the faculty standard at 84.2%, Financial Forecasting (63.4%) and Risk Analysis (68.2%) were below the 70% threshold, suggesting the need for more instructional support in these technical areas.

To address these shortcomings, the next course will include more tutorials on financial forecasting, guest lectures by industry experts, and additional scenario-based business case studies on risk analysis. Discussion sessions will also be lengthened and encouraged using a flipped classroom approach to further encourage deeper preparation and critical evaluation.

Overall, instructors may use Entrance-Exit Surveys with rubric-based evaluations to detect learning gaps, make targeted modifications, and measure the impact of those improvements in future semesters. This evidence-based CQI method contributes to further constructive alignment within the OBE framework and to the continual development of competent, industry-ready business graduates.

CONCLUSION AND RECOMMENDATIONS

The study highlights the effectiveness of modifying the Outcome-Based Education (OBE) paradigm and of using structured group discussions after lectures to increase student engagement in a final-year Business Capstone course. The active learning intervention is built on Social Constructivism and Constructive Alignment (Alawad et al., 2025; Godonoga, 2025) and helps connect theory with practice by mimicking real-world corporate contexts. The mixed methods evaluation shows significant gains in students' problem-solving, strategic decision-making, and professional communication skills.

Importantly, the empirical results confirm that this pedagogical change not only leads to higher overall academic performance, but also promotes a more fair educational environment. The considerable drop in the Coefficient of Variation (CV) from 11.28% in the conventional group to 7.45% in the intervention group demonstrates that organized collaborative talks are effective in reducing performance gaps across learners. Moreover, the Relative Importance Index (RII) research shows that active lecturer mentoring (RII = 0.914) and realistic business case studies (RII = 0.884) are the most important drivers of student engagement. This supports the academic consensus that well-designed, active, and collaborative teaching methods are vital for retaining students' engagement in capstone courses (Mikhailidi & Tskhvediani, 2026). This study has effectively integrated Entrance-Exit Surveys with rubric-based direct evaluations (Abdul Karim et al., 2025) and provides a rigorous evidence-based Continuous Quality Improvement (CQI) methodology. This method keeps education programs adaptable and enhances instructional strategies to produce competent, industry-ready business graduates capable of meeting the challenges of the current workforce (Mansor et al., 2025).

Limitations and Future Research

The pedagogical intervention gave extremely favorable instructional insights. However, several limitations should be noted to put the findings in perspective. Firstly, the evaluation is partly based on self-reported survey data from the Entrance-Exit Surveys (EES), which may be subject to response bias, such as overreporting of skills or socially desirable responses (Azmin et al., 2025). Second, the study was conducted with one final-year capstone cohort at one public technical university, the results may not be fully generalizable to other fields, different institutional contexts, or bigger class sizes. Finally, measuring these outcomes over one semester may not adequately capture the long-term, multidimensional effects on students' career paths (Heikkinen et al., 2025).

Future research should focus on implementing the proposed action plans to overcome these constraints and improve the current CQI framework (Mansor et al., 2025). The direct assessments indicated technical deficiencies in Financial Forecasting (63.4%) and Risk Analysis (68.2%), both below the 70% faculty benchmark. Future iterations of this course should test the effectiveness of extending discussion time and using flipped classroom approaches to address these deficiencies (Winantaka et al., 2025). We also strongly encourage tracking of alumni throughout time. The actual success of the OBE framework can be better gauged by tracking the retention and application of these collaboratively developed skills, such as critical communication, complex problem solving, etc., through project-based learning (Sharma & Gupta, 2025), once students formally join the professional workforce.

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