

ONLINE COLLABORATIVE TEACHING AND STUDENT ACHIEVEMENT MOTIVATION IN RESEARCH METHODOLOGY COURSES

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Abstract: *The fast digitalization of higher education has intensified the need for innovative instructional strategies capable of sustaining student motivation in cognitively demanding courses. This study investigates the impact of online collaborative teaching on student achievement motivation in a Research Methodology course at Universiti Teknologi MARA Cawangan Kelantan. Data were collected from 100 undergraduate students using an adapted questionnaire measuring perceptions of online collaborative teaching and achievement motivation. Descriptive statistical analysis was employed to examine students' responses. The findings indicate that students overwhelmingly perceived online collaborative teaching as beneficial to their learning experience. Participants reported positive evaluations of instructional diversity, enhanced engagement, and improved understanding of course content. Moreover, results suggest a positive association between the collaborative teaching approach and students' achievement motivation, reflected in increased effort and stronger goal-oriented learning behaviours. The study contributes to the digital pedagogy literature by providing empirical evidence that structured online collaborative teaching may foster motivational outcomes in research-intensive higher education courses. Practical implications highlight the importance of shared instructional presence, inter-institutional collaboration, and structured online engagement in promoting achievement motivation. Future research employing inferential and longitudinal designs is recommended to further validate and extend these findings.*

Keywords: *Online Collaborative Teaching, Achievement Motivation, Digital Pedagogy, Research Methodology Education, Higher Education, Learning Outcomes.*

Introduction

The rapid digital transformation of higher education has fundamentally reshaped instructional delivery, pedagogical design, and learner engagement. The expansion of online and blended learning environments accelerated by global disruptions and technological advancement, has shifted instructional paradigms from teacher-cantered transmission models toward interactive, collaborative, and technology-mediated approaches (Bond et al., 2021; Rapanta et al., 2020). Within this context, online collaborative teaching has emerged as an innovative pedagogical strategy that integrates digital technologies with cooperative learning principles to foster shared knowledge construction, social presence, and cognitive engagement. Online collaborative teaching extends beyond simple co-teaching; it involves coordinated instructional design, shared facilitation, and collective responsibility for student learning in digitally mediated environments. Grounded in social constructivist theory and the Community of Inquiry (CoI) framework, collaborative online instruction emphasizes teaching presence, cognitive presence, and social presence as interdependent dimensions that shape meaningful learning experiences (Garrison, 2017; Kreijns et al., 2022). Empirical studies suggest that strong online presence enhances instructional clarity, feedback quality, and cognitive activation, ultimately improving student engagement and learning outcomes (Gurley, 2018; Law, Geng, & Li, 2019; Turk et al., 2021).

Research Methodology courses, however, present distinctive pedagogical challenges. The abstract nature of epistemology, statistical reasoning, research design, and methodological rigor often induces cognitive overload and research-related anxiety among undergraduate students (Macher et al., 2022). Particularly in business education, students frequently perceive research subjects as technically demanding and disconnected from practical application, which may diminish intrinsic motivation and achievement orientation. Sustaining student achievement motivation in such courses therefore requires intentional pedagogical innovation. Achievement motivation defined as the drive to attain competence and mastery in academic tasks plays a crucial role in students' persistence, effort regulation, and performance outcomes (Elliot & Hulleman, 2017; Schunk & DiBenedetto, 2020).

Contemporary motivation research highlights the importance of instructional design in fostering mastery-oriented goals, academic self-efficacy, and autonomous engagement (Ryan & Deci, 2020). Collaborative online environments may support these motivational processes by enhancing peer interaction, providing structured scaffolding, and promoting shared problem-solving experiences. At the Faculty of Business and Management, Universiti Teknologi MARA (UiTM) Cawangan Kelantan, Research Methodology is a core course for Bachelor of Business Administration (Hons) students. To enhance student performance and address motivational challenges, course instructors initiated an online teaching collaboration with instructors from Universiti Malaysia Kelantan (UMK). Leveraging cloud-based technologies and digital communication platforms, the collaboration emphasized coordinated delivery, shared instructional presence, and interactive engagement strategies. Cloud computing technologies have been identified as enabling infrastructures that support networking, resource sharing, and collaborative instruction across institutions (Samerkanova et al., 2016; Almahasees et al., 2021).

Prior research has documented the benefits of teaching collaboration primarily within school settings, including improved teacher efficacy, enhanced pedagogical reflection, and positive student learning outcomes (Murad et al., 2021; Reeves et al., 2017). However, empirical investigations of online collaborative team teaching at the tertiary level remain limited.

Moreover, while studies have examined online presence and instructional quality (Kreijns et al., 2022; Rapanta et al., 2020), there is insufficient empirical evidence linking online collaborative teaching directly to student achievement motivation, particularly within Research Methodology courses in higher education. Despite the increasing institutional adoption of digital instructional strategies, many university students continue to report low motivation and elevated anxiety when engaging with research-related coursework (Macher et al., 2022). The extent to which structured online collaborative teaching can mitigate these challenges and enhance achievement motivation remains underexplored, especially in the Malaysian higher education context.

Therefore, this study aims to examine the impact of online collaborative teaching implemented by Malaysian university instructors in a Research Methodology course on students' achievement motivation. By addressing this gap, the study contributes to the literature on digital pedagogy, collaborative instruction, and motivational psychology in higher education, offering empirical insights into how cross-institutional online collaboration may strengthen motivational outcomes in methodologically intensive courses.

Literature Review

Collaborative teaching

Collaborative teaching commonly referred to as team teaching, co-teaching, or teacher collaboration has evolved from traditional shared classroom practices into digitally mediated instructional partnerships in higher education. While the terminology varies across contexts (Eriksson et al., 2020; Benninghoff, 2020; Ronfeldt et al., 2015), the central premise remains consistent: two or more instructors jointly engage in planning, delivering, and assessing instruction to enhance learning outcomes. Szempruch (2022) conceptualizes collaborative teaching as a structured form of collaborative planning in which educators share instructional responsibilities to achieve outcomes that would be difficult to accomplish individually. This shared pedagogical responsibility allows instructors to integrate diverse expertise, instructional strategies, and disciplinary perspectives (Lofthouse & Thomas, 2017), thereby strengthening instructional quality and pedagogical effectiveness (González & Skultety, 2018).

With the rapid digitalization of higher education, collaborative teaching has increasingly migrated into online environments, giving rise to online collaborative teaching. Online collaborative teaching extends conventional co-teaching by incorporating digital platforms, cloud-based technologies, and synchronous or asynchronous communication tools to facilitate instructional coordination and learner interaction (Rapanta et al., 2020). Unlike traditional co-teaching within a single physical classroom, online collaborative teaching operates within what Scribner-MacLean and Miller (2011) describe as a unified online learning space, where instructors co-construct content, share facilitation roles, and jointly manage virtual engagement. In the present study, online collaborative teaching is defined as a structured partnership between two or more instructors who collaboratively plan online lessons, coordinate digital learning materials, conduct virtual meetings, and jointly evaluate student performance within a shared technological ecosystem. This definition emphasizes not only shared instructional delivery but also coordinated pedagogical presence in virtual settings. Grounded in the Community of Inquiry (CoI) framework, online collaborative teaching enhances teaching presence through distributed facilitation, strengthens social presence via interactive engagement, and supports cognitive presence through collaborative scaffolding of complex content (Garrison, 2017; Kreijns et al., 2022). Emerging empirical evidence suggests that online collaborative teaching

offers several pedagogical advantages. Studies indicate that co-teaching contributes to improved student academic outcomes, enhanced instructional responsiveness, and increased learner engagement (Rooks et al., 2022; Lee et al., 2019). In online contexts, collaborative teaching has been associated with timely and diversified feedback, improved instructional clarity, and better alignment between learning objectives and assessment strategies (Maolida & Sofarini, 2022; Rapanta et al., 2020). Furthermore, collaborative online environments facilitate pedagogical knowledge sharing among instructors, allowing them to address heterogeneous student needs more effectively (Murad et al., 2021).

Recent scholarship also highlights the importance of technological integration in maximizing the effectiveness of online co-teaching. Barron, Friend, and Kohnke (2021) argue that digital tools such as shared cloud repositories, collaborative whiteboards, and learning management systems, enable instructional consistency, transparent communication, and coordinated assessment practices. Effective technological integration enhances instructional coherence and supports interactive learning experiences, thereby amplifying student participation and engagement (Bond et al., 2021). In digitally mediated contexts, clear communication protocols and role clarity among co-instructors are critical to sustaining instructional quality and avoiding redundancy (Trust & Whalen, 2020). Despite these documented benefits, research on online collaborative teaching at the tertiary level remains comparatively limited. Much of the existing literature focuses on K–12 settings or examines teacher outcomes rather than student motivational constructs. While prior studies report improvements in academic accountability, classroom excellence, and student achievement (Ronfeldt et al., 2015; Rooks et al., 2022), fewer investigations have explored how online collaborative teaching influences psychological variables such as achievement motivation, particularly in methodologically demanding courses such as Research Methodology.

Research Methodology courses often require high levels of cognitive processing, analytical reasoning, and epistemological understanding, which may induce anxiety and reduce intrinsic motivation among undergraduates (Macher et al., 2022). In such contexts, online collaborative teaching may provide motivational support by distributing instructional scaffolding, modelling collaborative problem-solving, and enhancing instructor immediacy. Through multiple instructional perspectives and sustained digital presence, online collaborative teaching can create a supportive learning climate that fosters mastery orientation and academic confidence. Therefore, although online collaborative teaching demonstrates substantial pedagogical promise, its direct relationship with student achievement motivation in higher education remains underexplored. This gap underscores the need for empirical investigation into how structured online collaborative teaching models influence motivational outcomes in Research Methodology courses.

Achievement Motivation

Achievement motivation refers to an individual's internal psychological drive to attain competence, master challenging tasks, and achieve valued goals (Elliot & Hulleman, 2017). It functions as a central mechanism that energizes, directs, and sustains goal-oriented behavior in academic settings. Early conceptualizations defined achievement motivation as the desire to accomplish tasks successfully (Singh, 2011), but contemporary perspectives position it within broader motivational frameworks that emphasize cognitive appraisals, social contexts, and perceived competence (Ryan & Deci, 2020; Schunk & DiBenedetto, 2020). Within social cognitive theory, motivation is viewed as context-dependent and shaped by learners' beliefs about their capabilities and the value of academic tasks (Bandura, 1997; Pintrich et al., 1993).

This perspective aligns with Expectancy-Value Theory, which posits that students' achievement behaviors are influenced by their expectations for success and the subjective value they attach to learning activities (Wigfield et al., 2016). In methodologically demanding courses such as Research Methodology, students often experience low expectancy beliefs and diminished task value due to the abstract and technical nature of the content (Macher et al., 2022). Consequently, sustaining achievement motivation requires instructional strategies that strengthen perceived competence and relevance.

Achievement Goal Theory further distinguishes between mastery-oriented and performance-oriented goals (Elliot & Hulleman, 2017). Mastery goals emphasize skill development and understanding, whereas performance goals focus on outperforming others. Empirical evidence suggests that mastery-oriented motivation is positively associated with deep learning strategies, persistence, and adaptive academic outcomes (Linnenbrink-Garcia et al., 2018; Steinmayr et al., 2018). Similarly, self-efficacy defined as one's belief in the ability to execute academic tasks successfully has consistently emerged as a strong predictor of achievement and academic resilience (Muenks et al., 2018; Schunk & DiBenedetto, 2020). Recent research reinforces the robust association between motivational beliefs and academic performance. Linnenbrink-Garcia et al. (2018) and Muenks et al. (2018) demonstrated that self-concept, task value, and self-efficacy significantly predict students' academic engagement and outcomes across disciplines. Steinmayr et al. (2018) further confirmed that motivational constructs contribute uniquely to academic achievement beyond cognitive ability. Supporting this argument, Anwar et al. (2021) found that achievement motivation significantly predicted academic performance above and beyond intelligence measures, highlighting the importance of pedagogical strategies that enhance students' motivational beliefs.

In online learning environments, achievement motivation becomes even more critical. Digital contexts often require higher levels of self-regulation, autonomy, and sustained engagement (Bond et al., 2021). Without adequate instructional support, students may experience disengagement and academic anxiety, particularly in research-intensive subjects. From a Self-Determination Theory (SDT) perspective, instructional approaches that foster autonomy, competence, and relatedness are more likely to enhance intrinsic motivation (Ryan & Deci, 2020). Online collaborative teaching may address these needs by promoting shared problem-solving, instructor immediacy, and structured peer interaction, thereby reinforcing competence and relatedness. Despite extensive international literature linking motivational beliefs to academic success, empirical studies examining achievement motivation within Malaysian higher education contexts remain limited. Furthermore, few studies have investigated how pedagogical innovations specifically online collaborative teaching shape achievement motivation in methodologically complex courses such as Research Methodology. Given the cognitive demands and performance pressures associated with such courses, understanding how instructional design influences motivational outcomes is essential.

Therefore, the present study seeks to evaluate students' perceptions of online collaborative teaching and examine its relationship with achievement motivation in a Research Methodology course. By exploring how structured online collaborative instruction influences motivational beliefs, this study contributes to the intersection of digital pedagogy and motivational psychology in higher education.

Methodology

Instrumentation

A structured questionnaire survey was administered to 100 undergraduate students enrolled in the Research Methodology course at Universiti Teknologi MARA (UiTM) Cawangan Kelantan. Data collection was conducted at the conclusion of the online collaborative teaching intervention in January 2026 to capture students' evaluative perceptions of the co-teaching practices implemented throughout the semester. The instrument was adapted from Pasetto, Barreiros, Corrêa, and Freudenheim (2021) to measure students' attitudes toward online collaborative teaching across three dimensions: (1) perceived development of skills, (2) knowledge acquisition, and (3) effectiveness of the learning process. These dimensions align with contemporary frameworks of instructional quality in online environments, which emphasize cognitive gains, competency development, and process-oriented engagement (Rapanta et al., 2020; Kreijns et al., 2022).

In addition, the questionnaire assessed students' achievement motivation, operationalized through indicators of encouragement for achievement and self-reported effort investment. The inclusion of these motivational components is theoretically grounded in Achievement Goal Theory and Self-Determination Theory, which posit that perceived instructional support and competence enhancement can strengthen achievement-oriented behaviour and effort regulation (Ryan & Deci, 2020; Schunk & DiBenedetto, 2020). Measuring both instructional perceptions and motivational outcomes allows for a more comprehensive evaluation of how online collaborative teaching may influence students' internal drive to succeed in cognitively demanding coursework. Collecting data immediately after the intervention minimized recall bias and ensured that students' responses reflected their authentic experiences of the online collaborative teaching model implemented during the semester.

Participants

The respondents comprised 100 undergraduate students enrolled at Universiti Teknologi MARA (UiTM) Cawangan Kelantan. Of these, 40% are male and 60% female. The participants consist of 36% are aged 21 years, and 64% aged 22 years. A simple random sampling technique was employed, whereby an online questionnaire was distributed via Google Forms to students registered in the Research Methodology course.

Online Collaborative Teaching Setting

The study was conducted at the Faculty of Business and Management, Universiti Teknologi MARA (UiTM) Cawangan Kelantan, and was implemented over a four-month period from October 2025 to January 2026. The online collaborative teaching intervention was structured based on identified topic in lesson plan. The instructors collaboratively discussed the topics to be covered and designed the instructional strategies, learning activities, and assessment methods. Particular attention was given to addressing challenges associated with online teaching and assessment. The instructors critically examined potential limitations and jointly developed appropriate pedagogical and technical preparations to enhance instructional effectiveness. The process involved the synchronous implementation of online instruction. The instructors alternated teaching roles, whereby one instructor delivered the lesson while the other assumed the role of observer. The observing instructor monitored the instructional process, recorded student attendance, and documented observations regarding students' engagement and academic progress. Student assessments were conducted to evaluate learning outcomes and determine the effectiveness of the instructional approach. This phase focused on aligning

student performance with predetermined learning objectives to assess instructional impact. Upon completion of the online collaborative teaching intervention, students were invited to complete a questionnaire to assess their perceptions of the instructional approach and their motivation to achieve the course learning objectives.

Data Analysis

All 100 participants completed and returned the questionnaires, resulting in a 100% response rate. The collected data were analysed using descriptive statistical techniques. In examining students' perceptions of the collaborative teaching implementation, the frequencies of agreement and disagreement responses were computed and subsequently converted into percentage values to facilitate interpretation. Inferential correlational analysis was not conducted, as the data were measured using ordinal response categories and were intended primarily for descriptive evaluation purposes.

Findings and Discussion

The findings of the study are organized into two main sections. The first section presents students' perceptions of the collaborative teaching practices implemented, while the second section discusses their reported levels of achievement motivation following the collaborative teaching intervention.

Student Perception of Online Collaborative Teaching

Section A of the questionnaire gathers students' perceptions regarding the extent to which online collaborative teaching enhanced their learning experiences. As presented in Table 1, the overall responses indicate a highly positive evaluation of the instructional approach.

Table 1: Student Perception of Online Collaborative Teaching

No.	Items	Agree (%)	Disagree (%)
1.	The instructors employ simple learning techniques.	93.00	7.00
2.	The instructors explain the content sequentially in online collaborative team teaching and learning activities.	92.00	8.00
3.	The online collaborative teaching style forced me to concentrate more on listening to the material presented.	90.00	10.00
4.	The method utilized in the lesson is adjusted by the lecturers to fit the time, class settings, and topic content.	90	10.00
5.	Instructors in online collaborative teaching stimulate topic matter that is applicable in everyday life.	92	8.00
6.	Instructors supply broad information to students through online collaborative teaching.	94	7600
7.	Instructors impart knowledge by connecting lectures to real-world situations.	91	9.00
8.	Instructors always provide notes and assignments using shared cloud-based apps.	91	9.00
9.	I quickly learn the subject topic thanks to numerous techniques in online collaborative teaching.	89	11.00
10.	Students are assigned summarizing tasks by the instructor.	88	12.00
11.	Instructors employ an online collaborative teaching strategy that makes the class more entertaining and easier to understand.	95	5.00

12.	The online collaborative teaching style piqued my interest in learning.	93	7.00
13.	I am not bored by the online collaborative teaching style.	94	6.00
14.	Students are always welcome to ask questions of the instructor.	93	7.00
15.	The instructor consistently provides straightforward answers to student questions.	94	6.00

The descriptive findings demonstrate overwhelmingly positive student perceptions toward the implementation of online collaborative teaching. A substantial majority of participants reported that the collaborative instructional approach was engaging (95%) and enhanced their understanding of the covered topics (93%), indicating that the co-teaching structure facilitated cognitive clarity and content accessibility. Students attributed their improved comprehension to the instructors' academic support, particularly the provision of clear explanations (94%) and the establishment of open, two-way communication during synchronous sessions (93%).

These findings align with the Community of Inquiry (CoI) framework, which emphasizes the importance of teaching presence and social presence in fostering meaningful learning experiences in online environments (Garrison, 2017; Kreijns et al., 2022). The structured interaction between instructors and students likely strengthened instructional clarity and reduced ambiguity in complex methodological concepts, which are often perceived as abstract and cognitively demanding (Macher et al., 2022). Beyond content mastery, students also reported broader intellectual benefits. Approximately 94% indicated that they gained general knowledge that extended beyond the immediate syllabus, while 91% stated that the collaborative teaching approach enabled them to relate theoretical constructs to real-world applications. This suggests that online collaborative teaching may promote higher-order cognitive processing by integrating diverse academic perspectives. Exposure to multiple instructors appeared to enrich interpretative discussions and contextual applications, thereby enhancing students' epistemological understanding of research principles. Notably, 94% of respondents expressed a preference for team-taught classes, with 92% reporting increased enthusiasm and motivation to learn. These results indicate that online collaborative teaching may positively influence achievement motivation, particularly in terms of effort investment and goal orientation. From a Self-Determination Theory perspective, collaborative teaching may satisfy students' needs for competence (through structured scaffolding), relatedness (through interactive engagement), and autonomy (through dialogic learning), thereby strengthening intrinsic motivation (Ryan & Deci, 2020; Schunk & DiBenedetto, 2020). Students further appreciated the clarity and logical sequencing of explanations (92%), suggesting effective instructional coordination between collaborating instructors. Additionally, 91% reported benefiting from the use of cloud-based technologies for sharing notes and assignments. The integration of digital platforms likely enhanced instructional consistency and accessibility, supporting contemporary findings that structured technological integration strengthens engagement and learning efficiency in online higher education settings (Bond et al., 2021; Rapanta et al., 2020).

The present findings are consistent with earlier research indicating that collaborative teaching enhances instructional quality and student learning experiences (Heggart & Yoo, 2018; McNally, 2017). More recent studies similarly emphasize that coordinated online co-teaching improves communication flow, content coherence, and student engagement (Trust & Whalen, 2020; Rooks et al., 2022). In the current study, the collaborative model appears to have facilitated comprehensive content delivery and strengthened instructor–student interaction,

contributing to students' positive academic dispositions. Overall, the data suggest that students perceive online collaborative teaching as an effective and beneficial pedagogical strategy. The high percentage of positive responses across cognitive, instructional, and motivational indicators supports the argument that structured online collaborative teaching can enhance both learning experiences and achievement motivation in research-intensive courses. While inferential analysis was beyond the scope of the present descriptive design, the consistency and magnitude of positive responses provide compelling preliminary evidence for the motivational potential of collaborative online pedagogy.

Student Achievement Motivation

Section B of the survey examines the relationship between online collaborative teaching and students' achievement motivation. The findings indicate a positive association between the online collaborative teaching approach and students' achievement motivation, as illustrated in Table 2.

Table 2: Student Achievement Motivation

No	Items	Agree (%)	Disagree (%)
1	I wish to get a high degree of proficiency in Research Methodology	98.00	2.00
2	I want to be the top student in my class.	93.00	7.00
3	I can get the best grades in Research Methodology classes.	89.00	11.00
4	I am capable of exceeding my friends' achievements.	88.00	12.00
5	I was able to execute the instructor's responsibilities as good as I could.	85.00	15.00
6	I believe I am capable of competing to achieve the best possible results in Research Methodology classes.	84.00	16.00
7	I always do assignment without the assistance of friends.	81.00	19.00
8	My pride comes from getting good scores.	85.00	15.00
9	I appreciate it when others praise me on my accomplishments.	81.00	19.00
10	I am constantly eager to take on new learning challenges.	84.00	16.00
11	I will complete my assigned task as efficiently as possible.	81.00	19.00
12	I shall be held accountable for all of my behavior at university.	82.00	18.00
13	During the assessment, I will work on the questions without the assistance of others.	81.00	19.00
14	I'm concerned about my current performance if I don't keep it up.	89.00	11.00
15	Failure to meet learning objectives will not dampen my determination to succeed.	81.00	19.00

The findings suggest that online collaborative teaching represents a promising instructional strategy for enhancing students' achievement motivation in Research Methodology courses. An overwhelming majority of participants (98%) reported strong motivation to attain high scores and achieve top placement in the course. Although a substantial proportion of students (89%) expressed concern regarding their academic performance, an equally high percentage (89%) indicated confidence in achieving the highest possible scores through the collaborative teaching approach. Additionally, 88% believed that the online collaborative teaching model enabled them to perform better in assignments and assessments. These results indicate that the

instructional approach may have strengthened both students' performance aspirations and their academic self-beliefs. From a social cognitive perspective, enhanced confidence in achieving high grades reflects strengthened academic self-efficacy, which is consistently associated with persistence, effort regulation, and academic achievement (Schunk & DiBenedetto, 2020). Similarly, the high levels of competitive drive and positive self-evaluation reported by students suggest the activation of adaptive achievement goal orientations, particularly mastery and performance-approach goals (Elliot & Hulleman, 2017).

The findings are consistent with recent research indicating that collaborative and interactive instructional environments contribute positively to students' motivational dispositions (Murad et al., 2021; Rooks et al., 2022). The online collaborative structure may have cultivated a supportive academic climate characterized by shared responsibility, dialogic engagement, and collective problem-solving. According to Self-Determination Theory, such environments satisfy students' psychological needs for competence and relatedness, thereby enhancing intrinsic and identified forms of motivation (Ryan & Deci, 2020). The perceived sense of community and instructional support likely mitigated anxiety associated with research-intensive coursework and reinforced students' belief in their capacity to succeed. Furthermore, the integration of collaborative dialogue and structured instructional sequencing may have strengthened students' academic expectations and commitment to course objectives. Students' willingness to exert greater effort and maintain high performance standards suggests that OCT not only influenced affective perceptions but also activated goal-directed academic behaviors. These findings contribute to the growing body of evidence that digitally mediated collaborative pedagogy can positively shape motivational outcomes in higher education contexts (Bond et al., 2021; Kreijns et al., 2022).

Therefore, the study provides empirical support for the proposition that online collaborative teaching fosters a motivationally supportive learning environment. By enhancing students' confidence, competitiveness, and performance expectations, online collaborative teaching appears to play a meaningful role in strengthening achievement motivation in cognitively demanding courses such as Research Methodology.

Conclusion

The findings of this study indicate that students responded positively to the implementation of online collaborative teaching in the Research Methodology course. Participants expressed strong approval of the instructional approach, particularly appreciating the integration of guest instructors and the exposure to diverse pedagogical perspectives. The presence of multiple instructors appeared to enrich classroom discourse, broaden students' academic viewpoints, and enhance their engagement with course content. Importantly, the results suggest a positive association between online collaborative teaching and students' achievement motivation. The instructional design, which emphasized shared facilitation, interactive dialogue, and structured online engagement, may have strengthened students' perceived competence and academic encouragement key components underlying achievement-oriented behaviour (Schunk & DiBenedetto, 2020). From a Self-Determination Theory perspective, online collaborative teaching likely fostered relatedness through collaborative interaction and enhanced competence through diversified instructional scaffolding, thereby supporting intrinsic motivational processes (Ryan & Deci, 2020).

The academic and social climate cultivated through the collaborative model appears to have played a critical role in motivating students to improve their academic performance. This

finding aligns with the Community of Inquiry framework, which posits that strong teaching presence and social presence contribute significantly to meaningful learning experiences and motivational outcomes in online environments (Garrison, 2017; Kreijns et al., 2022). The inclusion of guest instructors may have amplified teaching presence by introducing varied expertise and reinforcing instructional clarity. A central premise of online collaborative teaching is that instructors benefit from shared expertise, reflective dialogue, and coordinated instructional planning. Consistent with prior research, collaborative teaching practices promote pedagogical reflection, instructional coherence, and enhanced learning quality (Trust & Whalen, 2020; Rooks et al., 2022). The present findings extend this literature by suggesting that, beyond improving instructional processes, online collaborative teaching may positively influence students' motivational dispositions in higher education contexts.

Nevertheless, the study is subject to several limitations. The reliance on descriptive data and a single-institution sample restricts the generalizability of the findings. The absence of inferential or longitudinal analysis also limits the ability to establish causal relationships between online collaborative teaching and achievement motivation. Future research should consider larger multi-institutional samples, experimental or quasi-experimental designs, and advanced statistical modelling (e.g., SEM) to examine mediating variables such as academic self-efficacy or cognitive engagement. Additionally, comparative investigations of alternative collaborative teaching formats such as parallel collaborative teaching, station teaching, or blended collaborative models, may provide deeper insights into optimal instructional configurations (Haag et al., 2023).

In conclusion, while preliminary, the findings provide encouraging evidence that structured online collaborative teaching holds considerable promise for enhancing achievement motivation in cognitively demanding courses such as Research Methodology. As higher education institutions continue to integrate digital and cross-institutional pedagogical strategies, collaborative instructional models may serve as a sustainable pathway toward improved student engagement, motivation, and academic performance.

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