

 Research Article

Implementation of Team Teaching in a Secondary Teacher Education College

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Abstract

Team teaching is an instructional approach involving joint planning, delivery, and assessment. This study explored the implementation of the team teaching approach in a secondary teacher education programme to address its limited empirical research in Bhutan. In Bhutan, the structure of teacher education programmes requires that pedagogical modules be delivered through team teaching to ensure a shared understanding of theory and practice between tutors and pre-service teachers. However, the team teaching approach is not implemented in practice and remains largely theoretical. This study examined how team teaching influenced pre-service teachers' learning experiences and tutors' professional development by involving 40 pre-service teachers and five tutors who carried out team teaching in a module called Skills for Effective Teaching. An action research design was used to study its implementation through iterative cycles of planning, action, observation, and reflection. Data were collected through semi-structured survey questionnaires and interviews at baseline and endline phases. Quantitative data were analysed using descriptive statistics, while qualitative data were analysed thematically. Findings indicated that team-teaching enhanced the application of theory into practice, content understanding, communication, engagement, and overall learning compared to single-tutor instruction. Tutors also reported improved collaboration, reflective practice, and professional growth by integrating expertise and peer support. However, challenges like limited time for collaborative planning, inconsistent guidance, and coordination issues were encountered. The study concludes that team teaching is an active instructional approach that enriches learning and professionalism. However, its effective implementation requires common expertise, scheduled planning and discussion time, clear communication, and institutional support.

Keywords: Collaboration, Professional Development, Pre-Service Teachers, Teacher Education, Team Teaching

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1. INTRODUCTION

Team teaching is one of the instructional approaches of collaborative teaching conceptualised and introduced by Marilyn Friend, which involves two or more educators collaboratively planning, delivering, and assessing learning within a classroom or module (Cook, 2004; Wilkins, 2022). According to Friend (2008), this collaborative instructional approach emerged in the second half of the 20th century as part of educational reforms to address the diverse needs of learners by leveraging the strengths of multiple educators. There are six approaches to collaborative or co-teaching based on Marilyn Friend's framework, which includes one teach, one observe; station teaching; parallel teaching; alternative teaching; team teaching; and one teach, one assist (Cook & Friend, 1995; Etheridge et al., 2023; Friend, 2008). According to Carpenter et al. (2007), collaborative teaching has also been recognised for its potential to enhance both students' learning outcomes and teachers' professional development.

Among the six approaches, team teaching has the potential to support the pre-service teachers in their professional development by observing the team of tutors delivering lessons, managing classroom learning, and assessing the learning outcomes (De Backer et al., 2023; Mononen et al., 2023). Further, in a team teaching approach, pre-service teachers will be able to learn the integration of expertise, teaching styles, fostering engagement, and supporting classroom learning (Coleman et al., 2023; Kavianpour, 2023). Likewise, the implementation of team teaching, especially in teacher education (Baeten & Simons, 2014; De Backer et al., 2023), can promote an educational shift towards inclusive practices, professional collaboration, and learner-centred pedagogy. Despite its potential benefits, the implementation of the team teaching approach varies, and the outcomes depend on the degree of collaboration and execution of plans and strategies.

As part of the teacher education programmes in Bhutan, the design and content of pedagogical modules require delivery through team teaching so that tutors and pre-service teachers can have a common understanding of the theory and practice. However, the actual framework of the team teaching approach is not implemented and often remains limited to a theoretical understanding of the concept. For instance, the current approach often involves dividing the module units or topics among tutors and teaching by that particular tutor only. As a result, students have frequently reported a lack of common understanding among tutors regarding the modules' contents and their practical applications. Although tutors attend the classes together, their role is often passive and primarily limited to adding points or giving instructions when invited by the lead instructor. This fragmented approach undermines the core principles of team teaching, which in fact emphasises joint planning, instruction, and assessment to promote a cohesive learning experience for learners. The lack of empirical research on team teaching in the Bhutanese secondary teacher education programme necessitates a systematic investigation into how this approach can be applied in pedagogical modules to support the professional development of pre-service teachers. Therefore, this study tried to bridge the identified gap by implementing the practical application of Friend's Team Teaching Approach (2014) through action research in the Bachelor of Education (B.Ed.) secondary module *EDN203: Skills for Effective Teaching*.

1.1. Research Questions

This study aimed to explore the implementation of team teaching and examine its effects on both pre-service teachers' learning experiences and the professional practices of tutors. Accordingly, the following research questions guided the study:

1. What are the perceptions and experiences of tutors and pre-service teachers regarding the team teaching approach?
2. How does team teaching influence pre-service teachers' understanding of content, engagement, communication, and learning experiences?
3. In what ways does team teaching affect tutors' collaboration, communication, and professional growth?
4. What are the associated opportunities and challenges of implementing team teaching?

1.2. Literature Review

1.2.1. Theoretical Framework of Team Teaching

The team teaching approach aligns with Vygotsky's (1978) Social Constructivist Theory that emphasises the role of social interaction in the development of cognition through a social process. Further, this theory suggests that the learning of knowledge and meaning is usually constructed through social interactions and culture, such as during collaborative learning experiences (Vygotsky, 1978). Vygotsky's (1978) most well-known concept, the "Zone of Proximal Development (ZPD)", emphasises that individuals often exhibit higher levels of knowledge and skills through others' support, assistance, encouragement, and coaching, and in line with these attributes, the team teaching approach has the strength to promote this phenomenon. The collaborative nature of the team teaching approach enables educators to co-construct knowledge through social interactions, shared responsibilities, unanimous decision-making, and mutual learning in a team. Such purposeful social interactions will promote a collective understanding, learning and foster a supportive and cohesive learning environment (De Weerd et al., 2024). Likewise, when educators

engage in collaborative planning, instruction, and assessment, they demonstrate professional development through peer collaboration to pre-service teachers for creating a dynamic and socially constructive learning environment (Guo et al., 2025).

1.2.2. Opportunities of Team Teaching

Team teaching is a versatile instructional approach that can be applied in various educational contexts to enhance learning outcomes and the professional development of the practising educators. Team teaching has been successfully implemented in diverse educational settings such as primary schools, high schools, vocational high schools, higher education, and so on (Carpenter et al., 2007; Ebokaiwe et al., 2023; Syukri et al., 2022). The involvement of multiple tutors in planning, delivery, and assessments can lead to improved learning experiences, meeting the needs of diverse learners, and positive academic outcomes (Cook & Friend, 1995; Gono & De Moraes, 2023; Kavianpour, 2023). Further, according to Carpenter et al. (2007), team teaching in any educational context can promote deeper understanding of content, critical thinking, and engagement in learning. For prospective teachers, exposure to different perspectives on content knowledge, pedagogical knowledge, teaching styles, and instruction can enhance their learning experience and support in modelling them as part of the teacher preparation journey (Bacharach et al., 2010; Baeten & Simons, 2014). The team teaching approach has the potential to benefit pre-service teachers in enriching their learning and supporting their professional development (Gono & De Moraes, 2023; Vrieling-Teunter et al., 2024). Gladman (2015) also reported positive results of implementing team teaching and emphasised that the collaborative environment fostered by team teaching significantly increases learners' motivation and engagement as the unified expertise allows for a more responsive approach to enhancing learners' interest and skills.

Furthermore, the principle of team teaching is based on a socially mediated activity where professionals collaborate and interact for the desired professional growth (Baeten & Simons, 2014; Wenger & Hornyak, 1999). Likewise, team teaching offers valuable opportunities for peer learning, enhancing the understanding of the curriculum and pedagogical skills, and fostering a unified professional identity and confidence (Roberts et al., 2023). Collaborative planning, sharing of expertise, constant collegial dialogue, and feedback among team members foster mutual learning, reflective practice, that are crucial for professional development (Baeten & Simons, 2014; Hoa, 2022). Moreover, team teaching removes the isolation and professional difficulties experienced in single tutor teaching by promoting a more supportive and collegial work environment through collaboration, exchange of diverse expertise, and reflection (Hoa, 2022; Murata, 2002; Zhao, 2024).

1.2.3. Challenges in Implementing Team Teaching

Despite several advantages of team teaching, its implementation involves some challenges. One of the primary requirements is the commitment to work in a team, which necessitates effective communication, sharing responsibilities, and coordination among the team members. Graziano and Navarrete (2012) posit that team members must be willing to collaborate closely with mutual respect, trust, and a shared vision for effective teaching and learning. In the absence of a common shared vision, clear communication, and aligned goals, team teaching can lead to disjointed lessons, confusion, and frustration among educators and learners. Some of the logistics for successful team teaching include planning time for sharing roles and responsibilities, preparing teaching materials, and designing lesson plans (Ranson et al., 2023). When educators do not get sufficient time for the necessary planning and preparations, it leads to shallow collaboration and impacts the fulfilment of learning outcomes (Gono & De Moraes, 2023). Sometimes, issues of role ambiguity may also arise, which might strain the collaboration and hamper the implementation of team teaching (McCuddy et al., 2002). Likewise, sometimes one educator may dominate the instructions and make other team members passive observers, thereby disrupting the collaboration dynamics in the team (Muehlbacher & Hagenauer, 2024). Although team teaching presents such challenges, leveraging the multiple expertise within the team can enhance both learning outcomes and professional development of team tutors.

2. METHODS

2.1. Research Design

This study employed an action research design based on Kemmis et al. (2014) spiral model to explore the implementation of team teaching in the module *PDY201: Skills for Effective Teaching* offered to Bachelor of Education (B.Ed.) pre-service teachers. The research model involved a cyclical and iterative approach of collaborative planning, action, observation, and reflection. The entire professional cycle was expected to improve tutors' professional practices in applying team teaching for supporting pre-service teachers' understanding and application of teaching skills.

2.2. Participants and Context

The study was conducted at a secondary teacher education college involving 40 B.Ed. pre-service teachers and five tutors offering the module *PDY201: Skills for Effective Teaching*. The pre-service teachers included 15 males and 25 females aged 19-22 years and had been in the same cohort for the past one and a half semesters, majoring in English and History. Five tutors aged 25 to 52 years included two females and three males, representing diverse academic specialisations, such as Science ($n = 2$), Arts ($n = 2$), and Information and Communication Technology ($n = 1$). Each pre-service teacher was assigned a code, such as PST01, PST02 (Pre-service teacher 1, Pre-service teacher 2), while tutors were identified using codes like T1, T2, and so on to maintain anonymity and systematic record-keeping.

2.3. Action Research Cycle

The action research was implemented in three main phases:

Cycle 1: Baseline Practice

Planning: Tutors planned to teach two units of the module with conventional single-tutor teaching.

Action: Two tutors taught two units independently.

Observation: Following this, the baseline (BL) data were collected using a semi-structured survey questionnaire and interview to understand pre-service teachers' perceptions and experiences with single-tutor teaching.

Reflection: The researchers or the team tutors analysed the data, discussed gaps in single-tutor teaching and pre-service teachers' learning experiences, and confirmed the implementation of team teaching.

Cycle 2: Intervention (Team Teaching)

Planning: During the intervention cycle, the team tutors ($n=5$) collaboratively planned and prepared lesson plans for subsequent module units to be taught using a team teaching approach. All tutors alternately served as lead instructors, coordinated both the planning and delivery of lessons, and served as co-instructors in sessions led by others.

Action: During each lesson, the designated lead instructor led the session, while the other tutors facilitated specific sections using strategies agreed upon during planning. This arrangement ensured shared responsibility for content delivery, facilitation, and classroom management. The selection of instructional strategies and design of learning activities for the lessons was decided during planning. During the post-lesson discussions and reflective sessions, tutors discussed the achievement of learning outcomes, analysed teaching strategies, examined students' engagement and learning, reflected on classroom management, exchanged feedback, linked theory to practice, challenges encountered, and planned for improvement. Due to time constraints, the assessment component of the module was assigned to the individual tutors. Each tutor assessed their allotted students ($n=8$) during the pre-conference, microteaching, post-conference, and reflection reports. Finally, marks for each student were consolidated from the five tutors.

Cycle 3: Post Data Collection

Observation: After the intervention, the endline (EL) data were collected using the same survey questionnaire and interview questions to assess changes in pre-service teachers' perceptions and experiences with team teaching.

Reflection: The results were compared with the BL data to evaluate the effectiveness of the intervention using team teaching.

2.4. Data Collection Methods

Prior to the start of teaching, the team tutors developed a semi-structured survey questionnaire; its internal consistency reliability was found to be acceptable (Cronbach's alpha, $\alpha = 0.80$), and administered twice at the BL and EL phases to 40 pre-service teachers. The survey consisted of 5-point Likert scale items (where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree) to assess four thematic areas: Understanding of content (8 items); Classroom engagement (6 items); Communication (8 items); and classroom management (4 items). After the implementation of team teaching, tutors were also administered a semi-structured survey questionnaire (Cronbach's alpha value of 0.79) to understand their collaboration, communication, and professional growth within the team. Tutors were also interviewed to understand their experiences and professional learning through team teaching. A purposive sample of six pre-service teachers (three males and three females) voluntarily participated in interviews conducted during the BL and EL. The interview explored their experiences with team teaching and their views on how this instructional approach supported their learning.

2.5. Data Analysis

This study collected both quantitative and qualitative data to understand how team teaching influenced pre-service teachers' perceptions and learning experiences and team tutors' professional development. Pre-service teachers' survey responses were analysed using descriptive statistics such as mean scores (M), standard deviations (SD), and percentage frequencies (%) to summarise and report the changes in their perceptions and learning experiences with team teaching between the BL and EL. Tutors' responses were also analysed using descriptive statistics. The qualitative data from interviews with pre-service teachers and tutors were analysed thematically following Braun and Clarke's (2006) approach. Finally, qualitative data were triangulated with quantitative findings to support the credibility and depth of interpretation for understanding the outcomes of implementing team teaching.

3. RESULTS

The findings of this study have been presented according to the sequence of research questions.

3.1. Perceptions and Learning Experiences of Pre-service Teachers on Single Tutor and Team Teaching Approaches

Pre-service teachers' perceptions and experiences of single tutor and team teaching approaches were analysed using open-ended survey responses from 40 pre-service teachers and in-depth interviews with six volunteers. Responses from pre-service teachers highlight that both single-tutor and team teaching approaches have distinct strengths and limitations, as presented below:

3.1.1. Single Tutor Teaching

Pre-service teachers reported familiarity with single-tutor teaching based on their prior experiences. As one pre-service teacher mentioned, *"I am familiar with the single tutor teaching classes, teaching style, and clear authority of the tutor in the classroom"* (PST12). This approach was also perceived as less overwhelming, as pre-service teachers received the targeted instructions and feedback. Another pre-service teacher shared a preference for this approach, explaining it is easier to follow the single tutor, *"I would prefer the single tutor*

teaching because I am familiar and aware of the teaching styles and it is also easier for me to understand the instruction and feedback” (PST16). At the same time, pre-service teachers acknowledged the limitations of this approach, stating that single tutors often rely on a few teaching strategies and sometimes make it difficult to understand the subject matter clearly. Likewise, according to one pre-service teacher,

Single tutor teaching has disadvantages, like if the tutor is not resourceful and supportive, we will not have other options but end up spending time without much learning. It feels like a waste of time, whereas in team teaching, even if we do not understand from one tutor, we can always approach the other tutor for help and guidance. (PST14)

3.1.2. Team Teaching

Although team teaching was a new experience for pre-service teachers, they appreciated team tutors’ different teaching styles, diverse perspectives, enhanced learning support, effective classroom engagement, and comprehensive feedback from different tutors. Pre-service teacher, PST22, stated that it was his first time experiencing team teaching, although he had heard about it. He added that it was only after coming to the college that he could experience it. Furthermore, pre-service teachers mentioned that the multiple tutors provided required support, got opportunities to clarify their doubts, and experienced varied perspectives and teaching styles. As one pre-service teacher mentioned, “When there are many tutors, it allows us to interact with different tutors...they support the needs of diverse learners in the classroom and provide immediate feedback and guidance” (PST10). Pre-service teachers also mentioned benefiting from the comprehensive feedback and complementary insights received from different tutors. For instance, “Different tutors notice different things during our presentations, and we receive more well-rounded feedback on our work...likewise, when many tutors mention our drawbacks, it confirms that it is an area we really need to improve” (PST12). Another pre-service teacher mentioned that the presence of multiple tutors sustained their engagement and concentration, “Our PDY201 classes were always lively with activities, discussions, and presentations. Different tutors asked different questions, and kept us engaged and helped us to concentrate, and learn meaningfully” (PST10).

At the same time, some pre-service teachers expressed challenges associated with team teaching, particularly the presence of too many tutors, occasional inconsistencies or overlaps in instructions, discrepancies in information sharing, and varying feedback, which sometimes led to confusion. For instance, PST08 mentioned that varying feedback from tutors confused them, “Some tutors tell us to write the analysis report briefly, and some ask us to write in detail. So...it confuses and puts us in confused states sometimes”. These remarks from pre-service teachers suggest that implementation of team teaching requires systematic planning and good coordination among tutors to ensure consistency and clarity while implementing it.

3.2. Perceptions and Experiences of Tutors on Single Tutor and Team Teaching Approaches

Two tutors who taught singly reported that teaching singly provided them a sense of comfort, as the classroom appeared like their own territory that gave them authority and the freedom to apply any teaching skills, methods, learning activities, and assessments. They felt more connected with learners and comfortable in managing the classes independently. They designed lessons independently to suit their teaching styles and provided focused guidance, feedback, and support in understanding the particular teaching skill and its practice. Tutors also appreciated the ease in planning and decision-making as they did not have to coordinate with others. However, tutors also noted that the single tutor teaching limits collaboration and exchange of ideas and expertise that might otherwise support their professional development. Tutor 1 (T1) stated, “Teaching alone might leave us behind, as there would be no one from whom we could learn new knowledge and skills for our professional development. Likewise, in a team, we also get the opportunity to support junior faculty members.”

Team tutors reiterated the benefits of team teaching, such as pooling expertise, diversifying teaching skills and strategies, and providing support to junior colleagues within the team. Collaborative planning and instruction fostered collaboration, communication, reflective practice, and sharing responsibilities. Tutor 3 (T3) stated:

I particularly enjoyed filtering out wandering ideas while teaching, which usually happens when I teach singly. I started becoming more conscious of what I said and did, and I also had the opportunity to learn from other team members at the same time.

Some tutors reported professional growth by observing different teaching styles and an enhancement in content knowledge, classroom management skills, and providing feedback to students. Tutors also reported a common understanding of the teaching content and skills, which supported pre-service teachers to apply them confidently during microteaching sessions. Tutors also found team-taught classes active and vibrant with a team mindset. Tutor 3 (T3) noted, *“Team teaching exposed pre-service teachers to different teaching styles, strategies, and perspectives, and they must have benefited in different ways.”* Tutor 4 (T4) added that, *“Multiple tutors were involved in teaching a topic and all of them contributed equally, and this must have broadened pre-service teachers’ pedagogical knowledge and skills.”*

Some of the challenges reported by tutors included coordinating common planning sessions, preparing lessons, managing time during lesson delivery, and occasional inconsistencies in giving directions and providing feedback. Despite these difficulties, tutors felt that the advantages of team teaching outweighed the challenges, and all of them enjoyed working in a team. As T3 noted, *“Initially, time management was a challenge, but it was managed effectively once we communicated our instructional roles during planning about how much time each of us would speak.”* Tutors also discovered that pre-service teachers were using two different lesson planning templates shared by different tutors, and this caused confusion. Team tutors resolved this issue through discussion and guided pre-service teachers to use the correct template.

3.3. Impact of Team Teaching on Pre-service Teachers’ Understanding of Content, Engagement, Communication, and Classroom Management

The implementation of team teaching in the teaching skill module was assessed using Likert scale items, open-ended survey questions included in the survey, and interviews conducted with a select group of pre-service teachers. The Likert scale items in the survey questionnaire included four broad themes: *Understanding of Content; Classroom Engagement; Communication and Support; and Classroom Management.*

3.3.1. Impact of Team Teaching on Pre-service Teachers’ Understanding of Content

The Likert scale items analysis indicated that single tutor teaching helped pre-service teachers develop a clearer understanding of the subject matter. As shown in Table 1, the mean score (M) increased from M=3.2, SD=1.0 to M=3.5, SD=1.0, and agreement levels increased by 17.5% between the BL and EL. Pre-service teachers also appreciated the stability and consistency in a single tutor class, as it enabled them to follow lessons in a familiar environment. For example, PST31 mentioned, *“With one tutor, I am comfortable as I can follow the same teaching styles and explanations, which helps me understand the content and skills better for the subsequent practices in the microteaching sessions.”* Similarly, PST15 emphasised the familiarity with a single tutor teaching, stating, *“I get used to the way the single tutor takes classes, explains concepts, manages the classroom, and assesses us, so I do not get confused.”* Preservice teachers also reported clarity in instruction by a single tutor teaching and showed improvement in the agreement mean score, rising from M=3.8, SD=0.9 to M=3.9, SD=0.8, corresponding to a 12.5%.

In team-taught classes, pre-service teachers’ agreement in understanding the subject matter better increased by 10%, with mean scores increasing from M=4.1, SD=0.7 at BL to M=4.2, SD=1.0 at EL. Although some pre-service teachers initially were apprehensive about being taught by multiple tutors, they gradually adapted to the diversity and strengths of the team teaching approach. As one pre-service teacher stated:

Learning from a team of tutors was a new and engaging experience. Each tutor contributed specific strengths, teaching styles, and perspectives that made the lessons engaging, comprehensive, and holistic. It helped me understand topics from different angles and made the learning process very engaging and interesting. I like the way tutors combined their knowledge, teaching skills, and explained subject matter as a team. (PST07)

Likert item on lesson clarity and engagement showed improvement in mean scores from M=3.9, SD=0.9 to M=4.1, SD=1.0, and agreement levels increased by 12.5%, while instructional clarity improved by 10% from BL and EL. Several pre-service teachers also mentioned that although there used to be some confusion in managing teaching time, overall collaboration among tutors enhanced clarity and understanding of the subject matter. For instance, PST31 mentioned, *“I found lessons clear and easier to understand when different tutors used different instructional strategies to teach content.”*

Table 1. Frequency Distribution (%), Mean (M), Standard Deviation (SD) of Pre-Service Teachers' Perceptions and Experiences for Theme 1: Understanding of Content

Statement	Time	M	SD	SA%	A%	N%	D%	SD%	%Agree (A+SA)	Change in % Agree
Following one teaching style of the single tutor helps me learn more effectively.	BL	3.2	1.0	7.5	30	45	10	7.5	37.5	17.5
	EL	3.5	1.0	17.5	37.5	32.5	7.5	5	55	
The different teaching styles of the team tutors help me learn more effectively.	BL	4.1	0.7	30	50	20	0	0	80	10.0
	EL	4.2	1.0	32.5	40	20	2.5	5	90	
A single tutor teaching approach made the lessons clear and engaging	BL	3.6	0.8	12.5	47.5	30	10	0	60	-2.5
	EL	3.6	0.8	10	47.5	37.5	2.5	2.5	57.5	
The team-teaching approach made the lessons clear and engaging	BL	3.9	0.9	27.5	37.5	30	5	0	65	12.5
	EL	4.1	1.0	42.5	35	15	5	2.5	77.5	
The instructions from a single tutor were clear and easy to follow.	BL	3.8	0.9	20	47.5	22.5	10	0	67.5	12.5
	EL	3.9	0.8	20	60	15	2.5	2.5	80	
The instructions from team tutors were clear and easy to follow.	BL	3.8	0.9	22.5	35	37.5	5	0	57.5	10.0
	EL	3.8	1.0	22.5	45	22.5	7.5	2.5	67.5	

Note. SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly Agree. Baseline (BL), Endline (EL).

3.3.2. Impact of Team Teaching on Classroom Engagement

Table 2 presents the analysis of Likert scale items under Theme 2: *Classroom Engagement*. In single-tutor teaching, a moderate shift was observed in engagement from BL to EL. Pre-service teachers' agreement regarding encouraging participation by a single tutor increased by 10%; the mean remained consistent (M=3.6; SD=0.7 at BL and M=3.6; SD=1.0 at EL), and a large number remained neutral (40% at BL and 22.5% at EL). Some pre-service teachers also highlighted the limitations of single-tutor teaching. For example, PST02 stated at BL, *"It was engaging at some point, but sometimes teaching becomes only teacher-centred."* At the EL, the same pre-service teacher reflected more critically, stating, *"A single tutor does not get time to communicate with everyone, and this leads to some of us getting demotivated and neglected."* For supporting learning and engagement, pre-service teachers' agreement in single tutor teaching increased by 7.5%, with 27.5% still at neutral at the EL, and the mean also remained unchanged (M=3.6; SD=0.6 at BL and M=3.6; SD=1.0 at EL). Many pre-service teachers mentioned feeling supported since they were familiar with single-tutor teaching, while team teaching was a new experience for them. Regarding engagement in discussions and activities, agreement with a single tutor facilitating discussions and activities increased by 7.5%, with 22.5 % of neutrality even at the EL, while the mean remained consistent (M=3.6; SD=0.8 at BL and M=3.6; SD=0.1 at EL), suggesting that pre-service teachers perceived some improvement and there was limited classroom engagement with a single tutor.

In team-taught classes, the improvement in classroom engagement was more substantial. Agreement with statements on encouraging participation and involvement in the lessons increased from M=3.7, SD=0.8, to M=4.0, SD=0.9, a 15% rise, while neutrality decreased by 12.5%, showing stronger encouragement by team tutors. Pre-service teachers also indicated greater engagement with team tutors, as stated by PST12:

Classes are fun and engaging when we are taught by a team of tutors. I enjoyed it and could concentrate better, and got engaged meaningfully when there were many tutors teaching us. I was also able to pick up different teaching skills and strategies from different tutors.

For the statement, *I received enough support from team tutors when I faced difficulties in learning*, agreement increased by 10%, and neutrality decreased by 15%, while the mean remained consistent (M=4.0; SD=0.7 at BL and M=4.0; SD=0.8 at EL). Pre-service teachers stated that they benefited from multiple tutors' support, guidance, and feedback. As PST13 stated, *"Team tutors supported us in various ways. Each tutor provided*

feedback and supported us on how things like lesson planning, microteaching, and reflection writing should be done.” Engagement in discussions and activities also showed improvement in team-taught classes, with an increase of 12.5% (M=3.8, SD=0.7 to M=4.0, SD=0.9). Pre-service teacher PST07 also provided a positive reflection, “I felt fully engaged in team-taught classes where we had lively activities and discussions with different tutors.”

Table 2. Frequency Distribution (%), Mean (M), Standard Deviation (SD) of Pre-Service Teachers’ Perceptions and Experiences for Theme 2: Classroom Engagement

Statement	Time	M	SD	SA%	A%	N%	D%	SD%	%Agree (A+SA)	Change in % Agree
Single-tutor classes encouraged participation and involvement in the lessons.	BL	3.6	0.7	5	50	40	5	0	55	10
	EL	3.6	1.0	12.5	52.5	22.5	7.5	5	65	
Team tutors’ class encouraged participation and involvement in the lessons.	BL	3.7	0.8	10	55	27.5	5	2.5	65	15
	EL	4.0	0.9	25	55	15	2.5	2.5	80	
I received enough support from a single tutor when I faced difficulties in learning.	BL	3.6	0.6	5	47.5	45	2.5	0	52.5	7.5
	EL	3.6	1.0	17.5	42.5	27.5	10	2.5	60	
I received enough support from team tutors when I faced difficulties in learning.	BL	4.0	0.7	22.5	50	27.5	0	0	72.5	10
	EL	4.0	0.8	17.5	65	12.5	2.5	2.5	82.5	
The single-tutor teaching environment made me more engaged in classroom discussions and activities.	BL	3.6	0.8	15	37.5	40	7.5	0	52.5	7.5
	EL	3.6	1.0	15	45	22.5	15	2.5	60	
The team-teaching environment made me more engaged in classroom discussions and activities.	BL	3.8	0.7	15	50	35	0	0	65	12.5
	EL	4.0	0.9	25	52.5	20	0	2.5	77.5	

Note. SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly Agree. Baseline (BL), Endline (EL).

3.3.3. Impact of Team Teaching on Communication and Support

The responses of pre-service teachers for Theme 3: *Communication and Support* have been presented in Table 3 below. For the single tutor, the mean score for communication and support decreased from M=3.9, SD=0.7, to M=3.7, SD=0.9, with a 7.5% decrease in agreement from BL to EL. Similarly, approachability to the single tutor decreased slightly from M=4.0, SD=0.7 to M=3.9, SD=1.0. Pre-service teachers also reported a decline in receiving clear and constructive feedback from the single tutor, with the mean reducing from M=4.0, SD=0.8 to M=3.8, SD=1.0, and the percentage of agreement declined by 10 %. Open-ended responses provided positive insights into these patterns, such as many pre-service teachers initially valued the personalised and approachable nature of single tutor teaching, but it declined once they were exposed to team teaching. For example, PST04 noted that, “It is more comfortable to communicate and seek support from a single tutor whenever we have doubts.” Similarly, PST37 said that it was easier to express opinions and seek the required academic support from a single tutor. However, at the EL, the responses suggest emerging limitations in communication, feedback, and support received from a single tutor. For instance, PST02 reflected that, “A single tutor does not have enough time to communicate with everyone, and this leads to some of us getting demotivated and neglected.” These findings suggest that although single tutor teaching offers personalised attention, sustaining individualised communication and providing focused feedback becomes challenging in larger classrooms.

The team teaching approach showed improvements across all items. The mean score for team tutors’ communication and support increased from M=4.2, SD=0.8 at BL to M=4.3, SD=0.7 at EL, with a 15% increase in agreement levels. Similarly, ease of approaching either of the tutors for help increased from M=4.0, SD=0.9 to M=4.1, SD=0.8, with agreement also rising by 15%. Receiving clear and constructive feedback on assigned work or progress made also increased from M=4.0, SD=0.7 to M=4.1, SD=0.8, with an increase in the agreement level by 10%.

Table 3. Frequency Distribution (%), Mean (M), Standard Deviation (SD) of Pre-Service Teachers' Perceptions and Experiences for Theme 3: Communication and Support

Statement	Time	M	SD	SA%	A%	N%	D%	SD%	%Agree (A+SA)	Change in % Agree
The single tutor communicated well and supported pre-service teachers.	BL	3.9	0.7	15	57.5	25	2.5	0	72.5	-7.5
	EL	3.7	0.9	20	45	25	7.5	2.5	65	
The team tutors communicated well and supported pre-service teachers.	BL	4.2	0.8	37.5	42.5	17.5	2.5	0	80	15
	EL	4.3	0.7	35	60	2.5	0	2.5	95	
I could easily approach the single tutor whenever I needed help or had questions.	BL	4.0	0.7	20	57.5	20	2.5	0	77.5	-2.5
	EL	3.9	1.0	27.5	47.5	15	10	0	75	
I could easily approach either tutor when I needed help or had questions.	BL	4.0	0.9	32.5	42.5	15	10	0	75	15
	EL	4.1	0.8	30	60	5	2.5	2.5	90	
The single tutor provided clear and constructive feedback on my work and progress.	BL	4.0	0.8	22.5	55	17.5	5	0	77.5	-10
	EL	3.8	1.0	25	42.5	20	10	2.5	67.5	
Team tutors provided clear and constructive feedback on my work and progress.	BL	4.0	0.7	22.5	52.5	25	0	0	75	10
	EL	4.1	0.8	30	55	10	2.5	2.5	85	
I felt supported by the single tutor throughout my learning journey.	BL	4.1	0.8	30	47.5	20	2.5	0	77.5	-12.5
	EL	3.8	1.2	32.5	32.5	20	10	5	65	
I felt supported by team tutors throughout my learning journey.	BL	4.0	0.8	25	47.5	25	2.5	0	72.5	22.5
	EL	4.3	0.7	37.5	57.5	2.5	0	2.5	95	

Note. SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly Agree. Baseline (BL), Endline (EL).

Pre-service teachers' interview responses substantiate these positive trends with team teaching, as PST01 said, "I felt more comfortable and benefited as everyone in a team communicated effectively and supported us throughout the lessons." Similarly, PST17 shared, "Team tutors collaborate well to teach us and support our learning. I also found them friendly and always open to communication. They helped us to understand lessons well with their teamwork and good communication." The ease in approaching and getting quality feedback was also highlighted by PST10, who noted, "We could approach any one of the team tutors whenever we had a problem, and this is not possible in single tutor teaching due to the large number of students." Additionally, the mean scores for feeling of being supported throughout the learning journey increased from M=4.0, SD=0.8 at BL to M=4.3, SD=0.7 at EL with a 22.5% increase in agreement. Further, pre-service teachers mentioned that personalised feedback helped them to reflect on their microteaching and made them confident.

3.3.4. Impact of Team Teaching on Classroom Management

As shown in Table 4, the mean score for the pre-service teachers' perceptions of the effectiveness in managing the classroom by a single tutor increased from M=3.7, SD=0.9 at BL to M=3.8, SD=0.8 at EL, with an increase of 12.5% in agreement. Similarly, the mean score for the capability in addressing behaviour fairly and consistently increased from M=3.7, SD=0.9 to M=3.8, SD=1.0, with a 5% increase in agreement. The single tutor's role in managing the classroom, which was "clear and well structured," showed a slight improvement from M=3.7, SD=0.7 to M=3.8, SD=0.9, indicating only a 2.5% gain. However, perceptions of the single tutor's ability to handle disruptions and create a positive learning environment slightly declined from M=3.8, SD=0.8, to M=3.7, SD=0.9, with a 2.5% decrease in agreement. Overall, while pre-service teachers' perceptions and experience of a single tutor demonstrated some improvements, they pointed out single tutor could not handle disruptions effectively.

Table 4. Frequency Distribution (%), Mean (M), Standard Deviation (SD) of Pre-Service Teachers' Perceptions and Experiences for Theme 4: Classroom Management

Statement	Time	M	SD	SA%	A%	N%	D%	SD%	%Agree (A+SA)	Change in % Agree
The single tutor effectively managed the classroom during lessons.	BL	3.7	0.9	17.5	37.5	37.5	7.5	0	55	12.5
	EL	3.8	0.8	15	52.5	27.5	2.5	2.5	67.5	
The team tutors effectively managed the classroom during lessons.	BL	4.3	0.8	47.5	40	10	2.5	0	87.5	5
	EL	4.4	0.8	47.5	45	5	0	2.5	92.5	
The single tutor addressed pre-service behaviour in a fair and consistent manner.	BL	3.7	0.9	17.5	45	22.5	15	0	62.5	5
	EL	3.8	1.0	22.5	45	27.5	0	5	67.5	
Team tutors addressed pre-service behaviour in a fair and consistent manner.	BL	4.3	0.7	37.5	50	12.5	0	0	87.5	10
	EL	4.4	0.7	42.5	55	0	0	2.5	97.5	
The single tutor's role in managing the classroom was clear and well-structured.	BL	3.7	0.7	12.5	50	32.5	5	0	62.5	2.5
	EL	3.8	0.9	20	45	27.5	5	2.5	65	
The roles of each tutor in a team were clearly defined when managing the classroom.	BL	4.0	0.7	25	45	30	0	0	70	25
	EL	4.3	0.7	40	55	2.5	0	2.5	95	
The single tutor handled classroom disruptions efficiently and maintained a positive learning environment.	BL	3.8	0.8	20	47.5	25	7.5	0	67.5	-2.5
	EL	3.7	0.9	20	42.5	30	5	2.5	62.5	
The handling of classroom disruptions was more efficient with team tutors.	BL	4.1	0.8	37.5	37.5	25	0	0	75	22.5
	EL	4.3	0.7	40	57.5	0	0	2.5	97.5	

Note. SD=Strongly Disagree; D=Disagree; N=Neutral; A=Agree; SA=Strongly Agree. Baseline (BL), Endline (EL).

The team teaching approach demonstrated greater and more consistent improvements across all indicators of classroom management. The mean for team tutors' effectiveness in managing classrooms increased from M=4.3, SD=0.8 to M=4.4, SD=0.8, with a 5% increase in agreement. Addressing behaviour fairly and consistently improved from M=4.3, SD=0.7 to M=4.4, SD=0.7, with a 10% increase in agreement levels. The clarity of tutors' roles showed improvement, rising from M=4.0, SD=0.7 to M=4.3, SD=0.7, reflecting a 25% increase in agreement and highlighting that pre-service teachers increasingly recognised well-defined responsibilities among team tutors. Additionally, handling classroom disruptions improved from M=4.1, SD=0.8 to M=4.3, SD=0.7 with a 22.5% increase in agreement, indicating that tutors in the team were more effective in managing disruptions and maintaining a positive learning environment.

3.4. Professional Collaboration, Communication, and Growth among Team Tutors

Tutors' responses on the Likert scale items indicated that collaboration was one of the most significant advantages of team teaching that enabled them to share expertise, responsibilities, and develop mutual respect and trust (M=4.67). Similarly, in the open-ended responses and interviews, tutors reported that collaborative lesson planning and delivery contributed to the fulfilment of module learning outcomes effectively. Since this was their first experience with team teaching, they reiterated that collaboration played a crucial role in accomplishing the objectives of the initiative.

Similarly, effective communication among tutors also contributed to the successful implementation of team teaching (M=5). Tutors reported that, besides the required collegial communication, the processes of team teaching also improved their communication as they had to discuss and clarify many things. Issues such as finding a common time for lesson planning and allocating instructional time were resolved through prior discussions, as reported by T3, "*Deciding on a common time for lesson planning and managing time during lesson*

deliveries were some of the challenges, but we could resolve them through discussions during planning and deciding how much time each of us should speak.” On one occasion, preservice teachers were confused about receiving different lesson planning templates from different tutors, but this issue was also resolved through communication among tutors and clear guidance to pre-service teachers.

Team tutors also reported continuous professional growth as a result of team teaching. Tutors acknowledged that procedures involved in the team teaching enabled them to learn new skills, strategies, reflect on their teaching, and receive peer feedback ($M=4.67$). Tutors expressed that team teaching helped them become more mindful of their teaching practices and reflect on their shortcomings.

3.5. Opportunities and Challenges of Team Teaching

Tutors reported several opportunities pertaining to their professional growth and fulfilment of students' learning outcomes with team teaching. Tutors reported that team teaching enabled a common understanding of content and teaching skills among them, and TE1 stated that, *“Team teaching enabled us to develop a common understanding of the content and teaching skills. Pre-service teachers did not face problems in designing their lesson plan and applying a particular teaching skill in their microteaching sessions.”* Such a common understanding ensured that pre-service teachers received coherent guidance and support throughout the delivery of the module. Team teaching also created vibrant and engaging learning environments. TE1 said, *“Although it was my first experience teaching as a team, I found team-taught classes very vibrant and engaging for tutors as well as students; likewise, all of us had common understandings of the concepts taught and were on the same page.”* Tutors also mentioned that the collaborative dynamics of the team teaching approach enriched their classroom practices and supported professional growth. This highlights the benefits of team teaching in facilitating the sharing of expertise and mutual learning. Another recurring theme was the multiple perspectives that different tutors brought to a particular topic or concept, which enhanced pre-service teachers' understanding and application of a particular skill. TE4 explained, *“In a team-taught class, different tutors with respective backgrounds and expertise are able to contribute to the same topic that broadens pre-service teachers' understanding and practice of teaching skills.”* The variety of instruction also allowed pre-service teachers to experience various teaching skills and strategies for a deeper comprehension. As expressed by one tutor:

Pre-service teachers got opportunities to interact with different tutors who brought different knowledge and skills to the classroom. This was good for them as they could experiment with teaching skills guided by different tutors' knowledge and experiences. I am sure they could have decided to apply a particular skill and strategy in alignment with their interest and comfort. (TE3)

Tutors also reported some challenges while implementing team teaching. One of the most frequently mentioned challenges was the difficulty in finding a common time for collaborative planning and discussion. Although tutors expressed willingness to cooperate, adjusting a common planning time was difficult, as mentioned by TE1: *“Getting a suitable common time for planning lessons and post-lesson discussion was a challenge.”* Another issue reported was inconsistent communication with pre-service teachers, especially when giving directions for steps involved in the microteaching, such as lesson planning template and writing a reflection report, as noted by TE4, *“Different tutors were giving different guidance and instructions to pre-service teachers.....as a result, they were getting confused. When students pointed out such differences, I made sure I clarified after consulting with team tutors.”* Pre-service teachers also highlighted this issue as different instructions sometimes confused them. Likewise, tutors also reported challenges in managing instructional time, coordinating speaking turns, and pacing during lessons. Tutor TE3 mentioned that, *“Initially, we had difficulties in managing speaking time and turns during the lesson deliveries; however, we improved as we progressed in our lessons, mainly because we communicated well during the planning on how much time each student should be speaking.”* Tutors did not report experiencing any interpersonal conflicts.

4. DISCUSSION

4.1. Implementation of Team Teaching

Team teaching is increasingly used in higher education as a response to complex academic demands, such as larger class sizes, interdisciplinary requirements, professional support, and ensuring consistency and quality (Harrison et al., 2022; Minett-Smith & Davis, 2020). Implementation of team teaching in higher

education typically follows a continuum of collaboration, ranging from low collaboration models (One Teach, One Observe) to moderate (Parallel Teaching & Station Teaching) and high collaboration models, “true team teaching” (Álvarez et al., 2024). This study explored the implementation of the team teaching approach and its impacts on pre-service teachers’ understanding of content, classroom engagement, communication, and classroom management in comparison to single tutor teaching. The findings revealed that while both instructional approaches contributed positively to their learning and practice of teaching skills, the team teaching approach demonstrated progressive improvements across all four themes. These findings indicate that implementation of team teaching especially in higher education provides better academic and professional development supports. Pre-service teachers also reported team teaching approach provided them with various knowledge and skills that are necessary in classroom practices. According to Baeten and Simons (2014) and Álvarez et al. (2024), the implementation of team teaching in pre-service and in-service teacher education programmes enhances professional development through collaboration, shared practice, and reflective learning. In this study, team teaching also fostered greater comprehension of subject matter, practice of teaching skills, sustained engagement, and motivation, in line with earlier studies by Ahmadishokouh et al. (2024) and Wilkins (2022). Pre-service teachers reported that they enjoyed the opportunity and flexibility of approaching any of the tutors whenever they had doubts and received tailored constructive feedback and support. These findings are consistent with Gono and De Moraes (2023), Kavianpour (2023), and Gladman (2015), who have mentioned that team teaching enables a more responsive and constructive approach in supporting learners. Providing students with the flexibility of seeking guidance from any member of a teaching team supports learning by ensuring they receive immediate, individualised attention aligned with their personal learning needs (Baeten & Simons, 2014; Yanamandram & Noble, 2006). Team teaching also supported better classroom management and motivated learners by demonstrating shared responsibilities and integrated expertise. This finding aligns with studies by Baeten and Simons (2014) and Mariën et al. (2023), who reported that shared responsibility, integrated expertise, and effective communication among tutors support effective classroom management and create motivating learning experiences.

The above findings also indicate that the collaborative dynamics of team teaching create an inclusive and equitable learning environment for learners that encourages participation, interaction, and reflection. In alignment with earlier studies by Friend and Cook (1992) and Villa et al. (2013), this study verifies that the team teaching approach strengthens learning outcomes and also models professional collaboration, a critical competency for educational practice in higher education. From a pedagogical standpoint, team teaching promotes active learning, learners’ autonomy, peer support, and reflective and collaborative practices, which are necessary for pre-service teachers’ professional development as well (Bacharach et al., 2010; Zadorozhna et al., 2020). Therefore, findings imply that teacher education programmes should integrate structured instructional approaches like team teaching into their coursework or practicum to help prospective teachers experience collaborative planning, integrating expertise, co-instruction, and collective reflection. Such experiences can bridge the gap between theory and practice for prospective teachers by providing professional experience and development of practical skills.

4.2. Pre-service Teachers’ Perceptions and Experiences on the Team Teaching Approach

The findings highlighted positive perceptions and experiences of pre-service teachers with the team teaching approach. In general, they viewed team teaching as a collaborative approach to teaching and learning. The majority mentioned that the presence of team tutors exposed them to diverse perspectives, expertise, and teaching styles that enabled a comprehensive understanding of subject matter and the practice of skills. Some earlier studies by Cook and Friend (1995), Gono and De Moraes (2023), and Kavianpour (2023) have similarly noted that team teaching promotes interactive learning experiences, active participation, and engagement with multiple tutors. Pre-service teachers reported receiving need-based support and guidance from the team tutors. This finding resonates with the observation of Barron et al. (2019) that team-taught classes facilitate an inclusive and collaborative learning space in engaging learners in their learning process. According to Bacharach et al. (2010), pre-service teachers benefit significantly from exposure to diverse teaching styles, multiple perspectives, and integration of expertise during their teaching preparation. The synchronised lesson delivery by a team of tutors demonstrated shared responsibility, integration of expertise, and collaborative dynamics. Team teaching serves as a practical model of professional teamwork in higher education and benefits courses where collaborative skills are

essential (Álvarez et al., 2024; Yanamandram & Noble, 2006). Pre-service teachers also reported that team-taught classes enhanced motivation, engagement, and communication. Studies by Gladman (2015), Gono and De Moraes (2023), and Vrieling-Teunter et al. (2024) have reported that team teaching fosters deeper engagement, knowledge construction, and skills development through social interaction and collaborative dynamics.

At the same time, pre-service teachers identified some challenges in the implementation of the team teaching approach. They observed that differences in tutors' knowledge of the content, teaching experience, and variations in teaching styles sometimes resulted in different markings and feedback. According to Marzocchi et al. (2021) and Stepić and Popović (2022), such discrepancies and confusion can be minimised through effective collaboration in planning, clear role allocation, and effective communication among tutors while implementing a team teaching approach. Pre-service teachers also indicated that without proper planning and coordination, the strength of team teaching may not succeed due to organisational and technical difficulties. When reflecting on their previous experiences with the single tutor approach, pre-service teachers mentioned their familiarity and a stronger connection with the tutor. However, they also felt that it limited opportunities for broader interactions and exposure to varied perspectives, knowledge, expertise, and teaching styles. Therefore, the team teaching approach was seen as a promising instructional approach with significant potential for enriching learning in higher education, though it demanded cooperation, effective planning, sharing of expertise, and teamwork among tutors.

Studies have reported that students' experiences with team teaching in higher education include a comprehensive understanding of complex topics, exposure to diverse expertise (Hanusch et al., 2009), enhanced interest and motivation (Roberts et al., 2023), individualised attention and better academic achievement (Álvarez et al., 2024), and modelling professionalism (Minett-Smith & Davis, 2020). Empirical evidence from higher education contexts suggests that team teaching can lead to improved course results, higher test scores, and better retention of complex concepts (Álvarez et al., 2024). This study was limited to investigating students' learning experiences and professional modelling within a team-teaching context and did not examine academic achievement in a team. Future research could explore the effects of team teaching in higher education on students' academic achievement.

4.3. Opportunities and Challenges of Team Teaching

The tutors reported several opportunities for team teaching, such as a common understanding of content and teaching skills, expected learning outcomes of the module, and the required competencies in the pre-service teachers. Collaborative lesson planning and classroom delivery allowed tutors to integrate their subject matter expertise and other pedagogical knowledge and skills. Pre-service teachers also benefited from the presence of team tutors who provided diverse perspectives and expertise, enabling them to understand concepts clearly, followed by the practice of the particular teaching skill. Such collaboration and integrated expertise fostered vibrant and interactive classroom environments where both pre-service teachers and tutors were meaningfully engaged. These results align with findings of Rathee (2014), Gono and De Moraes (2023), and Kavianpour (2023), who emphasised that team teaching promotes comprehensive understanding of content, fosters greater motivation, engagement, critical thinking, problem-solving skills, and desired academic outcomes. Likewise, Härkki et al. (2022) reported that collaborative instruction inspires and motivates learners, while Pizana (2022) emphasised that leveraging diverse expertise also promotes inclusivity and pedagogical effectiveness.

Furthermore, tutors also reported that teaching in a team fostered a common comprehension of content and pedagogy, which in turn facilitated coherence and clarity during lesson delivery. Delivering content in a team provides tutors with a holistic overview of the entire curriculum and helps them to understand students' overall learning dynamics (Roberts et al., 2023). Tutors also received the opportunity to refine their instructional approaches and engage in mutual learning in a team. As tutor T3 expressed, the presence of a team of tutors helped "filter out wandering ideas" and become more intentional and accountable in classroom practices. These results align with studies suggesting that team teaching serves as a potent, real-time reflective lens on one's own practice, helping to identify instructional gaps and trial innovative pedagogies (Álvarez et al., 2024), and enhances continuous learning through collegial dialogue and peer support (Cook, 2004; Laughlin et al., 2011; Smith et al., 2020). Similarly, recent studies have highlighted that team teaching promotes professional growth by expanding educators' instructional

techniques, problem-solving skills, and adapting to diverse classroom needs (Karathanos-Aguilar & Ervin-Kassab, 2022; Shaffer & Thomas-Brown, 2015; Soslau et al., 2019). These findings imply that when tutors engage in team teaching, they gain valuable opportunities for professional development through shared expertise, observation, and dialogue. Studies have reported that team teaching in higher education offers emotional support and reduces isolation, and helps to prevent burnout common in repeated solo sessions (Yanamandram & Noble, 2006), and instructors feel more energised, motivated, and cheerful when working in a team (Khoshnodifar et al., 2020). However, realising abovementioned benefits of team teaching requires supportive institutional framework to provide time and space for planning, implementation, and reflection (Stepić & Popović, 2022). Future research could further investigate how team teaching can have a sustainable long term professional development in higher education.

While team teaching reported a lot of positive experiences, the findings also revealed several challenges for pre-service teachers as well as tutors. One recurring issue reported by pre-service teachers was confusion about different directives from different tutors. These challenges echo findings by Gono and De Moraes (2023), who reported that confusing guidance and feedback in team-taught classes can hamper effective engagement and learning. Additionally, the dynamics of team-taught classes at times made it difficult for pre-service teachers to adapt to multiple teaching styles and personalities, which hindered their learning, a challenge also reported by Stepić & Popović (2022). Therefore, effective planning, coordination, and clear communication among tutors are pivotal in team teaching (Gono & De Moraes, 2023).

Fundamental differences in teaching philosophies, levels of experience, and individual backgrounds can also lead to friction and ineffective teamwork (Álvarez et al., 2024). Additionally, tutors also reported some professional and logistical challenges while implementing team teaching. The major issue reported was coordinating a common planning schedule. This concern aligns with the observations of Buss (2022), who reported that limited planning and preparation time affect the effectiveness of team teaching. Arranging a scheduled time for collaborative planning will help tutors to develop a shared understanding of content, instructional strategies, learning activities, and assessments (Marzocchi et al., 2021). The findings remind us that although team teaching enhances professional growth, it also requires clear interpersonal communication, trust among the team members, and institutional support. A scheduled time for collaborative planning, clear distribution of roles and responsibilities, and effective communication could help mitigate challenges while implementing team teaching. Overall, the findings emphasise that the success of team teaching depends not only on tutors' willingness to collaborate but also on institutional support to administer planning, coordination, clarity, and professional balance. Studies have highlighted that the practice of team teaching in teacher education colleges supports professional development in preservice teachers, therefore the concerned institutions should provide training in collaborative instructional strategies and their practical applications.

5. LIMITATIONS

This study had certain limitations, such as the sample size being relatively small, as it was implemented in a single class with 40 pre-service teachers for a semester, which may limit the generalisability of the findings. Likewise, all tutors were researchers, and reporting of findings might have been done according to researchers' expectations. Researchers were also known to respondents, and they might have also given desirable responses. Since the duration of the intervention was short, it limited the ability to examine the effects of team teaching on students' academic achievement. During the post-lesson discussions, tutors must provide only positive feedback to fellow team members by ignoring pedagogical weaknesses and the fear of offending their teammates.

6. CONCLUSION AND RECOMMENDATIONS

This study explored the practical implementation of team teaching in a teaching skill module offered to the B.Ed secondary programme. The findings reported that team teaching enhanced pre-service teachers' understanding of content, classroom engagement, communication, and overall learning experience compared to single-tutor instruction. It also fostered collaboration, communication, reflection, and professional growth among tutors. The success of team teaching was credited to joint planning, shared

responsibilities, integration of expertise, and varied teaching styles, which enriched classroom instructions and engagement. However, the study also reported some challenges, such as limited time for collaborative planning, differing instructions and feedback, and occasional confusion in the lesson delivery time span, which sometimes strained the coherence of instruction.

Despite these constraints, the study emphasises that team teaching is an impactful instructional approach that promotes learner-centred classrooms, integration of expertise, and professional development for tutors as well as prospective teachers. This approach is also gaining popularity in higher education owing to its multifaceted benefits. To enhance its effectiveness, it is recommended that institutions provide administrative support and schedule structured time for collaborative planning, instruction, assessment, and reflection. Professional development programmes should also be offered to strengthen tutors' collaborative and communication skills, and develop a team teaching framework. As per the current B.Ed. programme structure of the College, pre-service teachers are also required to do team teaching in the subsequent module, *PDY302: Pedagogical Practices*, so it is recommended that team teaching is practiced as a prerequisite to teach this module. This practice would allow pre-service teachers to understand the dynamics and collaborative processes involved in effective team teaching. Furthermore, a future longitudinal study is recommended to examine the impact of team teaching on pre-service teachers' academic achievements and tutors' professional growth. Overall, team teaching can serve as a transformative model for improving learning and teaching through professional collaboration.

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