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Enhancing Speaking Confidence through the Calm Map Speaking (CMS) Approach among Third-Year BTLEd Home Economics Students: A Classroom-Based Action Research

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Abstract

Many pre-service teachers find it difficult to speak in front of others, particularly to organize their ideas and to manage anxiety during oral recitation. This classroom-based action research examined the effect of the Calm Map Speaking (CMS) Approach on the oral recitation performance and speaking confidence of 32 third-year Bachelor of Technology and Livelihood Education (BTLEd) students majoring in Home Economics at Davao Oriental State University. The CMS Approach combines three components: calm-mind training (guided breathing, stretching and positive self-talk), the Tree Method for organizing ideas (Root–Trunk–Branch–Fruit) and peer reflective oral practice. It was delivered in four weekly 60-minute sessions in the course School Food Service Management. An embedded mixed-methods design was used, with oral performance rubrics, a researcher observation rubric and a confidence self-rating scale as the main quantitative measures, supported by reflection journals. Mean oral performance scores rose from 15.81 to 32.75 out of 35 in Lesson 1 and from 16.69 to 32.53 in Lesson 2; no student passed either pretest, while 31 of 32 passed both posttests. Researcher observation scores rose from 27.59 to 38.78 out of 40, and self-rated confidence rose from 48.62% (poor) to 83.19% (good). All gains were statistically significant ($p < 0.001$) with large effect sizes (Cohen's $d_z = 2.00$ to 4.84), and Wilcoxon signed-rank tests gave the same result. Reflection journals described reduced nervousness, clearer sequencing of ideas and fewer mental blocks; the main challenges were remembering the CMS steps and putting too much information on the map, which students addressed by writing down the steps, simplifying their maps and practising. Because there was no comparison group and two rubric criteria assessed techniques taught only during the intervention, the results should be interpreted with caution. The CMS Approach offers a low-cost, structured routine for building the oral communication of pre-service teachers.

Keywords: Calm Map Speaking Approach, Speaking Confidence, Oral Recitation, Mindfulness, Tree Method, Pre-service Teachers, Action Research

1. Introduction

Speaking is a vital skill that students must master because it allows them to express their ideas and engage

effectively in class. Yet many students still struggle with speaking, especially in oral recitation, and confident learners tend to perform better orally than anxious ones [1]. Lack of confidence affects performance because it commonly leads to self-doubt and negative thoughts that make students question their own knowledge and abilities. Addressing low speaking confidence through a well-structured strategy is therefore important, as it allows active participation in class discussion, presentation and oral recitation. Davao Oriental State University (DOrSU) offers the Bachelor of Technology and Livelihood Education (BTLEd) major in Home Economics. The policies, standards and guidelines of the Commission on Higher Education (CHED) for the BTLEd program, CHED Memorandum Order No. 78, Series of 2017, expect graduates to communicate effectively orally and in writing [2]. Communication is an essential skill for teachers because it builds the teacher–student relationship and allows them to convey ideas, knowledge and values clearly [3]. University students commonly experience anxiety when speaking in public, a challenge that can hinder their academic and professional growth [4]. Students try to overcome it by practising in front of a mirror, rehearsing pronunciation, practising with friends, mastering the material, making notes and watching educational videos [5], and speaking and listening activities have been proposed to reduce students' oral communication apprehension [6]. Future teachers in particular need good public speaking skills, which play a crucial role in their professional development and teaching effectiveness [7], yet public speaking remains a common challenge among pre-service teachers who are still in professional preparation [8].

Diagnostic data collected in November 2025 confirmed the problem among 32 third-year BTLEd-HE students enrolled in HE 6 (School Food Service Management). In four pretest oral recitations scored with an oral performance rubric, no student reached the 75% passing score; in each lesson most students (21 to 26 of 32) were rated Poor, the rest Very Poor or Moderate, and no student was rated Good or Very Good. A survey of the same students identified the factors behind their low performance. This action research therefore implemented the Calm Map Speaking (CMS) Approach, a structured routine designed to help students calm their minds before speaking, organize their ideas clearly and build speaking confidence.

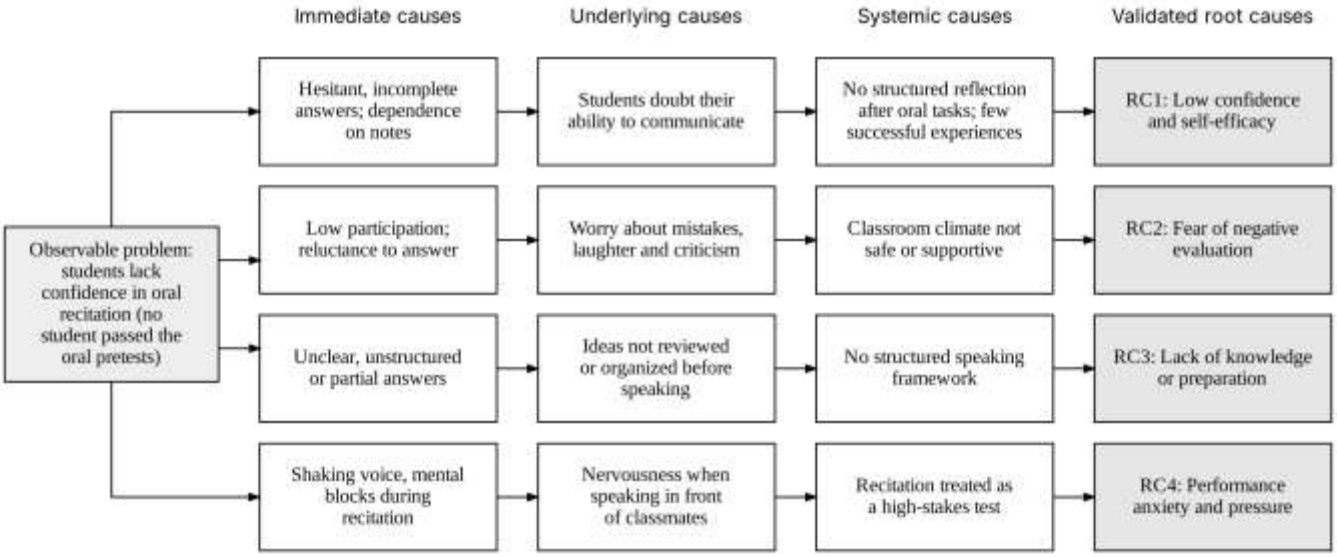
1.1 Problem Statement

Third-year BTLEd-HE students in HE 6 showed low mastery in oral performance, which constrained their participation in class discussion and their ability to express their thoughts coherently in front of others. In the student survey, 27 of 32 students (84.38%) reported low confidence and self-efficacy in oral performance, 24 (75.00%) reported fear of negative evaluation from peers or the instructor, 22 (68.75%) reported a lack of knowledge or preparation, 21 (65.63%) reported performance anxiety and pressure, and 16 (50.00%) reported that language barriers affected their ability to express their ideas. The problem therefore involves both affective and cognitive aspects of learning.

1.2 Root Cause Analysis

The researchers used a Why-Why analysis, drawing on classroom observation, the pretest results and the survey responses, to trace the problem from its observable symptoms to its root causes (Figure 1). At the immediate level, students gave hesitant, incomplete or unclear answers, avoided participating and showed signs of nervousness such as a shaking voice or mental blocks. At the underlying level, students doubted their speaking ability, worried about mistakes and about classmates' laughter and criticism, came to recitation without reviewing or organizing their ideas, and felt nervous speaking in front of classmates. At the systemic level, there was no structured speaking framework, no regular reflection after oral tasks, a classroom climate that did not always feel safe, and a tendency to treat recitation as a high-stakes test rather than a learning activity.

Figure 1: Why-Why Diagram Tracing the Causal Chain from the Observable Problem to the Root Causes



Each probable root cause was checked against the evidence and assessed for controllability (Table 1). Four root causes were validated as within the teacher's control and became the targets of the intervention: low confidence and self-efficacy (RC1), fear of negative evaluation (RC2), lack of knowledge or preparation (RC3), and performance anxiety and pressure (RC4). Language difficulty and introversion or shyness were also confirmed but are only partly within the teacher's control and require longer-term, individualized support, so they were not direct targets of the intervention.

Table 1: Root Cause Validation Matrix

Probable Root Cause	Students Reporting, f (%)	Evidence Source	Controllability	Conclusion	Priority
RC1: Low confidence and self-efficacy	27 (84.38%)	Student survey, observation	Within control	Valid	High
RC2: Fear of negative evaluation	24 (75.00%)	Student survey, observation	Within control	Valid	High
RC3: Lack of knowledge or preparation	22 (68.75%)	Student survey, observation	Within control	Valid	High
RC4: Performance anxiety and pressure	21 (65.63%)	Student survey, observation, oral recitation scores	Within control	Valid	High
Language difficulty	16 (50.00%)	Student survey, observation	Partly or beyond control	Valid; not targeted	Medium

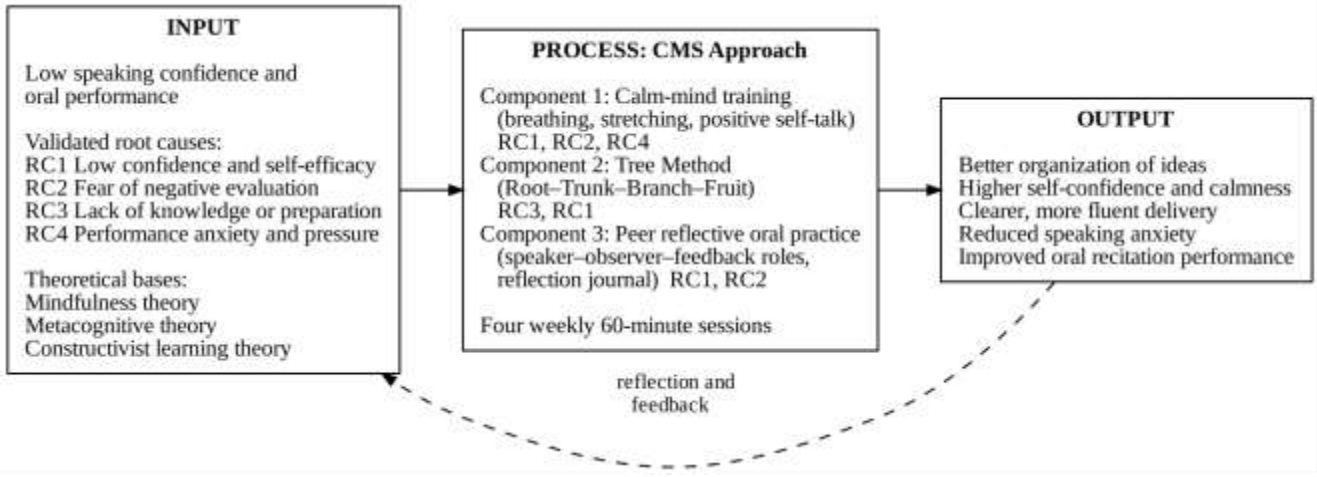
Probable Root Cause	Students Reporting, f (%)	Evidence Source	Controllability	Conclusion	Priority
Introversion and shyness	Not counted	Student survey, observation	Beyond control	Valid; not targeted	Medium

1.3 Conceptual Framework

The study draws on three theories. Mindfulness theory, associated with Jon Kabat-Zinn, emphasizes present-moment awareness, calmness and self-regulation, which are linked to lower anxiety and greater well-being [9]. Metacognitive theory, associated with John Flavell, holds that learners who are aware of how they plan, organize and monitor their own thinking learn and perform better [10]. Constructivist learning theory, associated with Piaget and Vygotsky, holds that knowledge is built actively through experience, reflection and interaction with others [11].

Figure 2 shows how these theories are put into practice. The input is students' low speaking confidence and its four validated root causes. The process is the CMS Approach and its three components: calm-mind training applies mindfulness and targets low confidence, fear of evaluation and performance anxiety; the Tree Method applies metacognition by having students organize a response as a Root (main idea), Trunk (supporting reason), Branches (examples) and Fruit (conclusion), and targets lack of preparation; and peer reflective oral practice applies constructivist learning through speaker, observer and feedback roles and reflection journals, and targets low confidence and fear of evaluation. The expected outputs are better organization of ideas, higher self-confidence and calmness, clearer and more fluent delivery, less speaking anxiety and better oral recitation performance.

Figure 2: Conceptual Framework of the Study



1.4 Research Questions and Hypothesis

The study addressed the central question: How does the implementation of the CMS Approach affect college students' oral recitation performance and speaking confidence? Specifically, it sought to answer the following questions:

1. What is the starting point of the students' confidence and performance in oral recitation before the implementation of the CMS Approach?

2. To what extent does the CMS Approach help students calm their minds and focus before expressing ideas during oral recitation?
3. How does the CMS Approach affect students' ability to organize and express their ideas with precision and confidence?
4. What is the level of students' speaking confidence and oral recitation performance after the intervention?
5. How confident do students perceive themselves to be during oral recitation after experiencing the CMS Approach?
6. What challenges are encountered during the implementation of the CMS Approach, and how are these addressed in the action research process?

For Research Question 4, the null hypothesis tested at the 0.05 level was that there is no significant difference between the students' pretest and posttest scores.

1.5 Scope, Delimitation and Limitation

The study covered one intact class of 32 third-year BTLEd-HE students enrolled in HE 6 (School Food Service Management) at DOrSU in the first semester of Academic Year 2025–2026. It focused on calmness before and during speaking, organization of ideas and speaking confidence in oral recitation, and did not cover written communication or long-term academic performance. It examined the effect of the CMS Approach as a whole rather than the separate effect of each component. Because only one class in one course took part and there was no comparison group, the findings may not apply to other classes, courses or disciplines.

1.6 Significance of the Study

The study gives students a structured way to overcome their fear of oral recitation, arrange their ideas and stay calm when presenting. It gives teachers a ready, low-cost routine for supporting students who struggle in oral recitation, and the Tree Method can be applied across subjects. For the institution, it supports the preparation of graduates who communicate competently, and for future researchers it offers a model for addressing similar problems through action research.

2. Methodology

2.1 Research Design

The study used a classroom-based action research design with an embedded mixed-methods model, in which one strand is primary and a secondary strand is embedded to support and strengthen its interpretation [12]. The quantitative strand was primary: oral performance, researcher observation and confidence self-rating scores were compared before and after the intervention. The qualitative strand, consisting of students' reflection journals, was embedded to explain the quantitative results and to document the challenges students encountered. The intervention followed the plan–act–observe–reflect cycle of action research [13].

2.2 Participants

The participants were all 32 third-year BTLEd-HE students enrolled in HE 6 (School Food Service Management) in Academic Year 2025–2026, aged 18 to 23 years. The intact class was selected purposively because the diagnostic results showed that all of its students were below the mastery level in oral recitation. The researchers, who were fourth-year BTLEd-HE students completing FS 101 (Field Observation), implemented the intervention in the class of the cooperating teacher. Consent was obtained

from the students and approval from the subject teacher. Each student was assigned a code (S01 to S32) so that no identifying details appeared in the data files or research outputs.

2.3 Research Instruments

Four instruments were used (Table 2). The oral performance rubric was used for the pretest and posttest oral recitations in four lessons of the course: procurement and inventory management, staffing and training, food production and preparation, and financial management. The researcher observation rubric was used to rate observable speaking behaviours before and after the intervention, and the confidence self-rating scale was completed before the intervention, after each session and after the intervention. At the end, students also rated the implementation of the CMS Approach on ten aspects. Reflection journals with guided prompts were collected after the sessions. The instruments were reviewed by three expert validators for clarity, relevance and alignment with the learning objectives; for example, the researcher observation rubric was rated 95.4, 100 and 100 out of 100 (Exemplary).

Table 2: Research Instruments

Instrument	Construct Measured	Items and Scale	Score Interpretation
Oral performance rubric (pretest and posttest, Lessons 1–4)	Oral recitation performance	7 criteria (calmness/composure, Tree Method/organization, clarity of expression, delivery, confidence/engagement, integration of Calm Mind and Tree Method, accuracy of answer), 1–5 each; total 35	31–35 Very Good; 26–30 Good; 21–25 Moderate; 15–20 Poor; 7–14 Very Poor; passing ≥ 27 (75%)
Researcher observation rubric (pretest and posttest)	Calmness and confidence behaviours	8 criteria (breathing control, posture, voice, facial expression and eye contact, overall composure, focus, movement control, recovery from nervous moments), 1–5 each; total 40	36–40 Very Good; 31–35 Good; 26–30 Moderate; 21–25 Needs Improvement; 8–20 Poor; passing ≥ 30 (75%)
Confidence self-rating scale (pretest, Sessions 1–4, posttest)	Perceived speaking confidence	10 statements, 1 (not confident at all) to 5 (extremely confident); total 50, expressed as a percentage	91–100% Very Good; 78–90% Good; 53–77% Moderate; 31–52% Poor; ≤ 30% Very Poor; passing ≥ 75%
Assessment of implementation success (after the intervention)	Students' rating of the CMS Approach	10 aspects, 1–5 each	Mean per aspect
Reflection journal	Experiences, strategies and challenges	4 guided prompts	Thematic analysis

2.4 Data Analysis

Scores were summarized using frequency, percentage, mean and standard deviation, and interpreted using the scales in Table 2; a score of 75% or higher was considered passing, in line with the institutional standard. A paired-sample t-test (two-tailed, $\alpha = 0.05$) was used to test the difference between pretest and posttest scores. Because the Shapiro–Wilk test showed that the score differences were not normally distributed for the oral performance and observation measures ($p < 0.01$), the Wilcoxon signed-rank test was also used to confirm the results. Effect size was calculated as Cohen's d for paired samples (d_z, the mean difference divided by the standard deviation of the differences) and interpreted as small (0.2), medium (0.5) or large (0.8) [14]; for the Wilcoxon test, $r = z/\sqrt{n}$ was reported. Totals were recalculated from the item scores before analysis. Computations were done in Microsoft Excel and checked in Python (SciPy).

The reflection journals were analyzed using the six phases of thematic analysis described by Braun and Clarke [15], [16]. The researchers read the journal entries repeatedly, assigned initial codes to statements about calmness, organization of ideas, confidence and difficulties, grouped related codes into categories and refined them into themes. The number and percentage of students whose entries reflected each theme were then counted, and each theme was illustrated with students' own statements.

2.5 Procedure and Ethical Considerations

In the pre-implementation phase in November 2025, the researchers finalized and reproduced the CMS materials, obtained consent and administered the pretests to establish baseline data. The CMS Approach was then delivered in four 60-minute sessions, one per week, each followed by two observation days; the attendance record list six class meetings between 19 November and 4 December 2025. Each session followed the same time structure to keep the dosage consistent: calm-mind training (10 minutes), Tree Method instruction and modelling (15 minutes), guided speaking practice and peer interaction (25 minutes), and reflection and feedback (10 minutes). Implementation fidelity was monitored with progress tracking sheets and the observation rubric, which recorded whether the planned activities were carried out, task completion and students' use of the CMS strategies. The posttests and reflection were completed at the end of the fourth week. All records were kept in secure storage, and students were informed of their results only after grading so that the feedback did not affect sessions still in progress.

3. The Intervention: Calm Map Speaking (CMS) Approach

3.1 Components

The CMS Approach integrates emotional regulation, cognitive organization and experiential practice in one routine (Table 3). In each session, students first calm their minds through guided breathing, stretching and positive self-talk; they then map their response with the Tree Method, using the "reason before example" principle; and finally they deliver their response and exchange feedback in pairs or triads, rotating the roles of speaker, observer and feedback giver, before writing in their reflection journals. The teacher's role shifts from lecturer to facilitator who guides students through emotional preparation, cognitive mapping and practice.

Table 3: Components of the CMS Approach

Component	Root Causes Targeted	Key Features	Implementation	Expected Outcomes
Calm-mind training (mindfulness-based emotional regulation)	RC1, RC2, RC4	Guided breathing, stretching, positive self-talk and relaxation cues; calm-mind journal prompts	Opens each session; led by the teacher at first and by students later	Less speaking anxiety; greater composure before speaking
Tree Method for organized speaking (metacognitive application)	RC3, RC1	Root (main idea), Trunk (reason), Branches (examples), Fruit (conclusion); graphic organizer; "reason before example"	Used in the planning stage before each response; teacher-led, then collaborative, then independent	Clearer and more logically sequenced answers
Peer reflective oral practice (experiential and constructivist application)	RC1, RC2	Speaker, observer and feedback roles; peer checklist on calmness, clarity and confidence; reflection journal	Structured pair or triad practice after mapping, followed by journaling	Higher self-efficacy; ability to accept and apply feedback

3.2 Four-Week Implementation

The four sessions moved students gradually from guided awareness to independent application (Table 4). The sessions used topics from the HE 6 course, including procurement and inventory management, staffing and training, food production and preparation, and financial management, and food service scenarios such as customer interaction and menu explanation.

Table 4: Weekly Sessions of the CMS Approach

Week	Focus	Key Activities
1	Orientation and baseline	Seminar on Calm Mind techniques and the Tree Method; calm breathing, stretching and positive self-statements; "Tree in Practice" mini-activity in which students answer questions with their own tree outlines; self-reflection and progress tracking sheet
2	Hands-on speaking practice and confidence building	Student-led Calm Mind refresh; Tree Method mini-task; one-minute "Show and Tell" speech with peer feedback; partner role-play of food service scenarios; reflection
3	Expressive and impromptu speaking	Self-initiated calm-mind warm-up; voice and expression drill; impromptu speaking from a random question with a one-minute tree outline and a 1–2-minute speech; one strength and one improvement from a peer; reflection

Week	Focus	Key Activities
4	Integration, performance and self-assessment	Oral presentation showcase on real-world scenarios using the Tree Method and Calm Mind techniques without teacher direction; self-assessment with the rubric; goal setting and reflection

The required materials were Calm Mind handouts, Tree Method worksheets, rubrics and checklists, reflection journals, progress tracking sheets, a projector and recording devices. The materials cost Php 4,254.00 including a Php 1,000.00 contingency fund, and were funded by the researchers. Sessions were held in the Caregiving Laboratory, arranged with flexible seating for breathing exercises, stretching and pair work.

4. Results and Discussion

4.1 Starting Point of Students' Confidence and Oral Performance

Before the intervention, no student reached the passing score of 27 out of 35 in either the Lesson 1 or the Lesson 2 oral recitation (Table 5). The mean pretest score was 15.81 (SD = 2.58) in Lesson 1 and 16.69 (SD = 2.60) in Lesson 2, both interpreted as Poor; most students were rated Poor and the rest Very Poor or Moderate. The four pretests showed the same pattern, with means between 15.81 and 16.69. Students scored lowest on the two criteria that assess the CMS techniques themselves, Tree Method/organization (mean 1.16 in both lessons) and integration of Calm Mind and Tree Method (1.19 and 1.31), which they had not yet learned.

Table 5: Distribution of Oral Performance Scores Before and After the Intervention (n = 32; total score = 35)

Category	Score	Lesson 1 Pretest	Lesson 1 Posttest	Lesson 2 Pretest	Lesson 2 Posttest
Very Good	31–35	0 (0.00%)	23 (71.88%)	0 (0.00%)	23 (71.88%)
Good	26–30	0 (0.00%)	9 (28.13%)	0 (0.00%)	9 (28.13%)
Moderate	21–25	3 (9.38%)	0 (0.00%)	3 (9.38%)	0 (0.00%)
Poor	15–20	21 (65.63%)	0 (0.00%)	26 (81.25%)	0 (0.00%)
Very Poor	7–14	8 (25.00%)	0 (0.00%)	3 (9.38%)	0 (0.00%)
Mean (SD)		15.81 (2.58)	32.75 (2.88)	16.69 (2.60)	32.53 (2.82)
Interpretation		Poor	Very Good	Poor	Very Good
Passed (≥ 27)		0 (0.00%)	31 (96.88%)	0 (0.00%)	31 (96.88%)

The researcher observation showed a similar starting point. The mean pretest observation score was 27.59 out of 40 (SD = 4.46), interpreted as Moderate; 11 students were rated Good, 10 Moderate, 10 Needs Improvement and one Poor, and only 15 of 32 (46.88%) reached the passing score of 30. Students' confidence self-ratings were low: the mean was 24.31 out of 50 (SD = 8.75), or 48.62%, interpreted as Poor (Table 9), and only 2 students rated themselves at 75% or higher. These results confirm that the class needed an intervention for both performance and confidence.

4.2 Calmness and Focus Before Expressing Ideas

The observation items that reflect calmness and focus all improved after the intervention (Table 6). Breathing control rose from 3.38 to 4.56, overall composure from 3.53 to 4.94, focus and attentiveness from 3.50 to 4.81, and recovery from nervous moments from 3.62 to 4.81. The composite item mean rose from 3.45 to 4.85. All 32 students improved, and after the intervention 30 were rated Very Good and two Good. On the oral performance rubric, calmness/composure rose from 2.75 to 4.72 in Lesson 1.

Table 6: Researcher Observation Before and After the Intervention (n = 32; each item scored 1–5)

Criterion	Pretest Mean	Posttest Mean	Mean Gain
Breathing control	3.38	4.56	+1.18
Posture and body language	3.22	4.84	+1.62
Voice, tone and clarity	3.25	4.97	+1.72
Facial expression and eye contact	3.56	4.91	+1.35
Overall composure	3.53	4.94	+1.41
Focus and attentiveness	3.50	4.81	+1.31
Movement control	3.53	4.94	+1.41
Recovery from nervous moments	3.62	4.81	+1.19
Composite item mean	3.45	4.85	+1.40
Total score out of 40, mean (SD)	**27.59 (4.46)**	**38.78 (1.50)**	**+11.19**

The reflection journals help explain these gains (Table 7). Twenty-eight students (87.50%) described feeling nervous, shy, pressured or afraid of judgment before speaking; one wrote, “I feel really nervous answering in front of my classmates because I was afraid they would laugh at me if my answer is wrong” (S19). Twenty-two (68.75%) described the calming techniques as helpful. Physical regulation was especially important for students with physical symptoms: “I feel nervous during the oral my hands is shaking so I apply the calm techniques and the tree method while answering which really helps me a lot not to stutter” (S16), and “applying the calming techniques like deep breathing help me focus” (S14).

Table 7: Themes from Students’ Reflection Journals on Calmness and Organization of Ideas (n = 32)

Theme	f (%)	Key Descriptors from Students
Pre-speaking anxiety	28 (87.50%)	Nervous, shy, shaking hands, pressured, afraid of judgment
Cognitive and mental blocks	12 (37.50%)	Mental block, cannot process ideas, cannot focus
Effectiveness of the Calm phase	22 (68.75%)	Deep breathing, positive self-talk, calming techniques
Effectiveness of the Tree Method	29 (90.63%)	Organizing ideas, sequencing words, knowing what to say next

4.3 Organization and Expression of Ideas

The largest item gains on the oral performance rubric were for Tree Method/organization, from 1.16 to 4.62 in both lessons, and for integration of Calm Mind and Tree Method, from 1.19 to 4.69 in Lesson 1 and from 1.31 to 4.69 in Lesson 2. Clarity of expression rose from 2.69 to 4.75 in Lesson 1, and on the observation rubric voice, tone and clarity rose from 3.25 to 4.97, the highest posttest item mean. Part of these gains reflects the fact that students had not yet been taught the Tree Method at the pretest.

Twenty-nine students (90.63%) described the Tree Method as helpful in their journals (Table 7). It worked as a cognitive scaffold that helped students overcome mental blocks: "by the help of the tree method at least it cause me to think what will be the next word I have to say" (S13). It also helped students who were stronger in writing than in speaking (S7), helped them "think faster because the tree method is a structured method" (S21), and helped them avoid overlapping ideas (S31) or "missing important information" (S29).

4.4 Speaking Confidence and Oral Performance After the Intervention

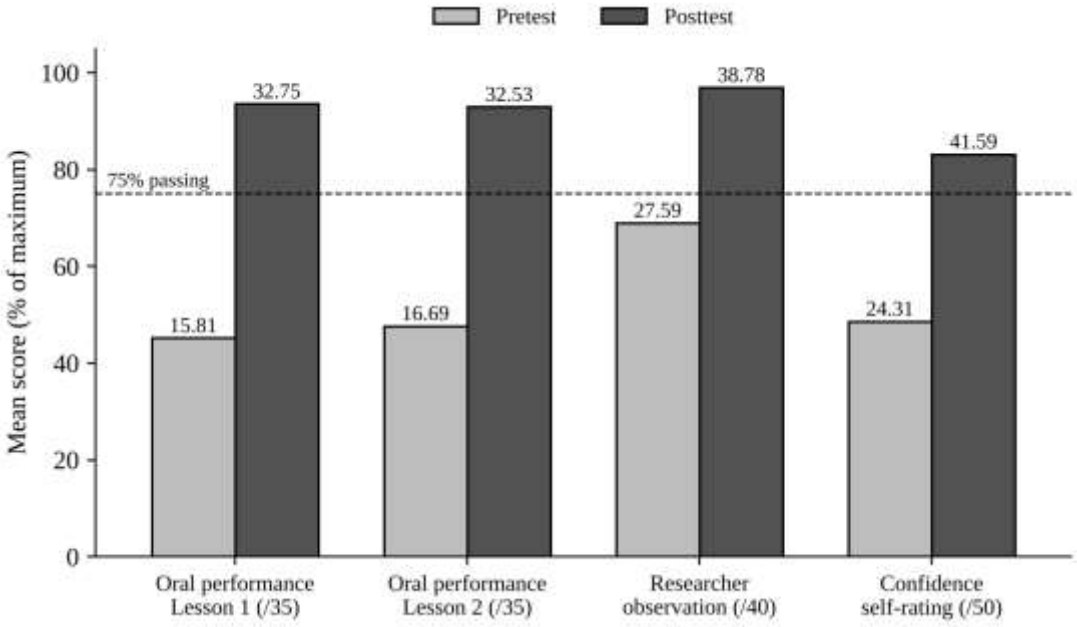
After the intervention, the mean oral performance score rose to 32.75 (SD = 2.88) in Lesson 1 and 32.53 (SD = 2.82) in Lesson 2, both Very Good (Table 5). In each lesson, 23 students were rated Very Good and 9 Good, and 31 of 32 students (96.88%) passed; one student (S31) scored 26 in both lessons, one point below the passing score. Every student improved, and 16 students in Lesson 1 and 12 in Lesson 2 obtained the maximum score of 35. The mean observation score rose to 38.78 out of 40 (SD = 1.50), and all 32 students passed.

The paired-sample t-tests showed that all gains were statistically significant (Table 8), so the null hypothesis was rejected. The mean gain was 16.94 points in Lesson 1, $t(31) = 27.37$, $p < 0.001$, and 15.84 points in Lesson 2, $t(31) = 27.38$, $p < 0.001$, and 11.19 points in the researcher observation, $t(31) = 15.21$, $p < 0.001$. The effect sizes were large ($d_z = 4.84$, 4.84 and 2.69). The Wilcoxon signed-rank tests confirmed these results ($p < 0.001$, $r = 0.87$ for every measure), as all 32 students scored higher on every posttest. Figure 3 compares the pretest and posttest means as percentages of the maximum score.

Table 8: Paired-Sample t-Tests and Wilcoxon Signed-Rank Tests of Pretest and Posttest Scores (n = 32)

Measure	Pretest M (SD)	Posttest M (SD)	Mean Gain (95% CI)	t(31)	p	d_z	Wilcoxon z	r
Oral performance, Lesson 1 (/35)	15.81 (2.58)	32.75 (2.88)	16.94 (15.68 to 18.20)	27.37	< 0.001	4.84	4.94	0.87
Oral performance, Lesson 2 (/35)	16.69 (2.60)	32.53 (2.82)	15.84 (14.66 to 17.02)	27.38	< 0.001	4.84	4.95	0.87
Researcher observation (/40)	27.59 (4.46)	38.78 (1.50)	11.19 (9.69 to 12.69)	15.21	< 0.001	2.69	4.94	0.87
Confidence self-rating (/50)	24.31 (8.75)	41.59 (6.21)	17.28 (14.17 to 20.39)	11.32	< 0.001	2.00	4.94	0.87

Figure 3: Pretest and Posttest Mean Scores as Percentages of the Maximum Score



4.5 Students' Perceived Confidence After the Intervention

Students' self-rated confidence rose steadily across the sessions, from 24.31 at the pretest to 30.19, 35.66, 35.91 and 38.03 after Sessions 1 to 4, and 41.59 at the posttest (Figure 4). The posttest mean of 41.59 (SD = 6.21), or 83.19%, is interpreted as Good; no student remained in the Poor or Very Poor categories, and 24 students (75.00%) rated themselves at 75% or higher (Table 9). The gain of 17.28 points was significant, $t(31) = 11.32$, $p < 0.001$, with a large effect size ($d_z = 2.00$; Table 8). Self-ratings at the posttest were, however, not significantly related to the observation scores (Spearman's $\rho = 0.25$, $p = 0.17$), which suggests that some students still underestimated or overestimated their own performance.

Figure 4: Mean Confidence Self-Rating Across the Intervention (error bars show ±1 SD)

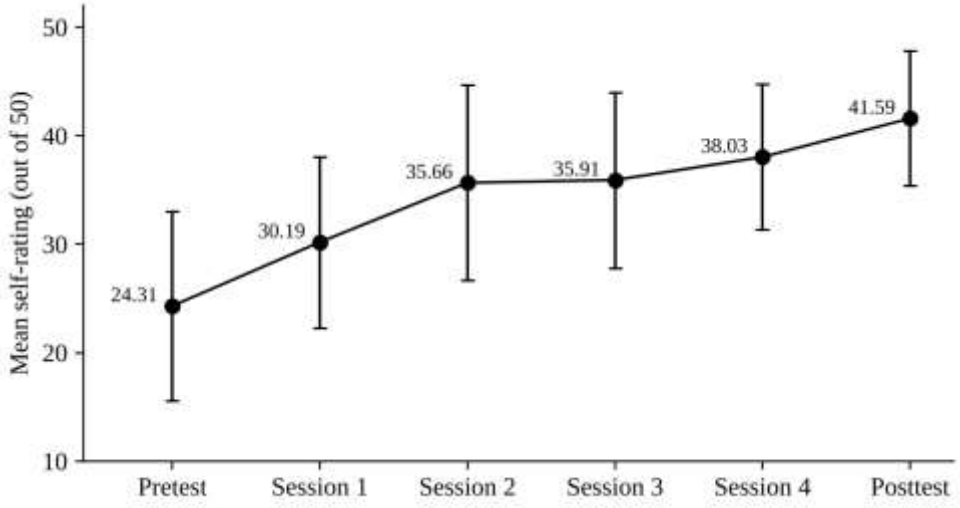


Table 9: Distribution of Confidence Self-Ratings Before and After the Intervention (n = 32; total score = 50)

Category	Percentage of Total Score	Pretest	Posttest
Very Good	91–100%	1 (3.13%)	11 (34.38%)
Good	78–90%	1 (3.13%)	11 (34.38%)
Moderate	53–77%	8 (25.00%)	10 (31.25%)
Poor	31–52%	18 (56.25%)	0 (0.00%)
Very Poor	≤ 30%	4 (12.50%)	0 (0.00%)
Mean score (percentage)		24.31 (48.62%)	41.59 (83.19%)
Interpretation		Poor	Good

In their assessment of the implementation, students rated all ten aspects of the CMS Approach highly, with an overall mean of 4.54 out of 5 (Table 10). Overall helpfulness (4.81), peer feedback impact (4.72) and motivation (4.62) were rated highest, and confidence was rated lowest (4.19), with most students choosing 4 rather than 5 for this aspect. In their journals, all 32 students described a boost in confidence or reduced nervousness, 30 (93.75%) reported clearer organization of ideas, 28 (87.50%) greater calmness and self-regulation, and 25 (78.13%) attributed their confidence to the guided strategies of the approach (Table 11). As one student wrote, "Having a map on how to organize our ideas has a very big impact … Because of that I can share my ideas without doubting myself" (S21).

Table 10: Students' Assessment of the Implementation of the CMS Approach (n = 32)

Aspect	f (2)	f (3)	f (4)	f (5)	Mean
Calmness and focus	0	1	14	17	4.50
Confidence	0	2	22	8	4.19
Organization of ideas	1	0	13	18	4.50
Clarity and coherence	0	1	14	17	4.50
Expression and delivery	0	2	11	19	4.53
Application of skills	0	3	10	19	4.50
Self-awareness	0	1	12	19	4.56
Motivation	0	2	8	22	4.62
Peer feedback impact	0	0	9	23	4.72
Overall helpfulness	0	0	6	26	4.81
Overall					**4.54**

Table 11: Themes from Students' Reflections on Confidence (n = 32)

Theme	f (%)
Confidence boost or reduced nervousness	32 (100.00%)
Organization of ideas and clarity	30 (93.75%)
Calmness and self-regulation	28 (87.50%)
Strategy-based or guided confidence	25 (78.13%)
Positive reinforcement and encouragement	18 (56.25%)
Less judgment anxiety and self-doubt	15 (46.88%)

4.6 Challenges and Coping Strategies

Although the results were positive, the journals showed that students faced difficulties in applying the CMS Approach (Table 12). The most frequent was remembering the sequence of the CMS steps (12 students, 37.50%); for example, S1 struggled with following the steps and S16 sometimes forgot the purpose of the approach. Cognitive overload was reported by nine students (28.13%), who wrote too much on their maps or put too many ideas in them (S17, S23). These results suggest that for some learners the mental load of the CMS Approach required a short period of adjustment.

Table 12: Challenges Encountered During the Implementation and Students' Coping Strategies (n = 32)

Challenge	f (%)	Typical Student Statement	Coping Strategies
Procedural memory (remembering the steps)	12 (37.50%)	"I sometimes forget the order of the steps, so I write them down and use them as a guide while speaking." (S3)	Writing the steps down; reviewing the sequence slowly; using the map as a recall aid (S1, S3, S11)
Cognitive overload	9 (28.13%)	"It's challenging when I get confused with too much information, so I simplify my CMS map to only the essential points." (S5)	Keeping only essential points; filtering details; short phrases; breaking ideas into small parts (S5, S14, S17, S23)
Nervousness and overthinking	7 (21.88%)	"I feel pressured when I rush through CMS, so I slow down and follow each step with calmness." (S8)	Focusing on the main idea; slowing down; deep breathing before mapping (S4, S8, S24)
Focus and mental blocks	4 (12.50%)	"I get stuck on one part of the map, but I move on first and return to it later with a clearer mind." (S21)	Short breaks; moving on and returning later (S7, S21)

Students adapted the CMS tools to these difficulties. To reduce clutter and overload, they focused only on the main idea (S4), filtered out unnecessary details (S23), kept each section short (S17) or broke their ideas "into small, clear parts" (S14). Those who had trouble with the order of the steps made their own guides (S3) or highlighted the main points on their maps (S13), and S11 relied on the map "to recall my key

points." Students who felt nervous used physiological regulation and pacing, such as taking deep breaths before mapping (S24) or slowing down (S8). Others overcame difficulty in application (S20) and lack of confidence (S12) through regular practice, and S32 found that "learning the pattern helps me adjust it to any topic." These self-initiated strategies suggest that the CMS Approach supported students' self-regulation and served as a flexible pattern rather than a scripted response.

4.7 Discussion

The baseline results are consistent with research showing that communication apprehension, low self-confidence and fear of negative evaluation are interwoven factors in the oral performance of college students [17], [18], and that public speaking is among the fears most commonly reported by students [19]. In this class, these affective barriers were combined with a cognitive difficulty in organizing ideas, which is why the root cause analysis identified both.

After the intervention, students' oral performance, observed calmness and self-rated confidence all improved substantially. The pattern of results is consistent with the design of the CMS Approach: the calming techniques addressed anxiety and composure, which is reflected in the gains in breathing control, composure and recovery from nervous moments, while the Tree Method gave students an outline to follow, which is reflected in the gains in organization and clarity and in students' statements that they knew what to say next. This supports the view that giving speakers a clear structure reduces tension because they can concentrate on their message rather than on being assessed [20]. The findings are also consistent with the three theories behind the approach: mindfulness supported emotional regulation [9], the Tree Method provided explicit metacognitive support for planning and monitoring ideas [10], and peer practice and reflection allowed students to build confidence through interaction and feedback [11].

These findings should be interpreted with caution. The study used one intact class without a comparison group, so the improvement cannot be attributed to the CMS Approach alone; practice with oral recitation, familiarity with the student-teachers and regular coursework may also have contributed. Two of the seven oral performance criteria assessed the Tree Method and the integration of the CMS techniques, which students had not been taught at the pretest, so part of the gain reflects learning the technique itself. The researchers who delivered the intervention also rated the performances and no inter-rater agreement was computed, and many posttest scores were at or near the maximum, which limits the measurement of further growth. The posttest score sheets for Lessons 3 and 4 duplicated those for Lessons 1 and 2, so only Lessons 1 and 2 are reported. Finally, the confidence ratings and journal entries are self-reports collected by the researchers, which may have encouraged positive responses.

5. Conclusion

The CMS Approach was associated with substantial improvement in the oral recitation performance and speaking confidence of third-year BTLEd-HE students. Before the intervention, no student passed the oral pretests and students rated their confidence as poor; after four sessions of calm-mind training, Tree Method mapping and peer reflective practice, all but one student passed the posttests, observed calmness and composure reached the Very Good level, and self-rated confidence rose to Good, with large and statistically significant gains. Students described the approach as reducing their nervousness and helping them organize their ideas, and they addressed its initial demands by writing down the steps, simplifying their maps and practising.

5.1 Sustainability and Action Plan

To sustain the approach, the CMS routine will be integrated into regular speaking activities such as reporting, microteaching, lesson demonstrations and performance tasks, and the Calm-Mind Routine, Tree Method and peer reflective practice will be used as standard steps for speaking tasks. Teachers will receive a short orientation, peer mentors will be trained to help classmates use the routine, and new BTLEd cohorts will be introduced to it at the start of each semester. The materials are inexpensive and will be kept as editable templates in a shared digital resource bank. The action plan includes catch-up sessions for students who arrive late or miss a session, additional support for students who do not pass a CMS task, completion of each component before moving to the next, weekly progress monitoring with the CMS rubrics and reflection journals, and a review of the rubrics, reflections and progress sheets at the end of each major examination period and at annual department meetings.

5.2 Reflection and Recommendations

The implementation showed that students learn the CMS routine at different speeds: many adopted it quickly, while others needed more support and practice to complete speaking tasks effectively, which highlights the need to recognize individual learning needs in performance-based activities. The reflective tasks helped both the teachers and the learners identify strengths and weaknesses. It is recommended that the CMS Approach be integrated into other BTLEd courses that require structured presentation, such as lesson planning, demonstration teaching and project proposal defense; that CMS-aligned rubrics be adopted to make oral assessment more consistent across the department; and that peer leaders be trained to conduct reflection sessions and guided oral practice. Future studies should use a comparison group, independent raters, a pretest rubric that does not assess techniques students have not yet learned, and a longer follow-up to determine the effect of the approach on students' teaching practicum performance.

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