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Enhancing Collaboration and Critical Thinking Skills Through Strategies: Role of Flexible and Inclusive Classrooms

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Abstract

This study investigated the role of **flexible and inclusive classroom environments** in supporting **collaboration and critical thinking** among Grade 7 learners. Students engaged in **collaborative learning activities** across multiple disciplines, designed to foster teamwork and independent thinking. They were introduced to **thinking strategies and structured templates**, with assigned roles to enhance individual accountability and self-directed learning. **Simple classroom design modifications** improved collaboration, promoted inclusivity, and created greater opportunities for effective learning. Guided by **collaborative learning principles**, both the environment and pedagogical strategies worked together to enhance critical thinking and collaborative skills. The findings highlight the importance of thoughtfully designed classrooms and structured thinking strategies in developing essential 21st-century skills in young learners.

Keywords: *Flexible and Inclusive Classrooms, Collaborative learning, Critical Thinking.*

Introduction

Oftentimes, many educators perceive existing traditional classrooms to be an impediment to collaboration. A common myth that exists in traditional schools is that the large numbers, the traditional rows and benches do not permit collaboration or critical thinking. Most of the learning happens through a very didactic approach - primarily because it is time saving, and convenient.

But a closer look at the traditional classrooms gives ample evidence that with small changes there can be a sea-change in student engagement in the learning practices. Classrooms should be flexible and inclusive because students are different - in how they learn, what they need, and who they are.

Some widely established benefits of having flexible and inclusive learning environments are:

1. Flexibility supports diverse learning needs: Flexibility in learning environments allow educators to cater to learners' needs allowing access to content and other learning pathways.
2. Flexibility allows learners to take more ownership of their learning. They are better able to articulate what pedagogical strategies work for them, while also providing them with other opportunities and support to learn.
3. Flexibility allows opportunities in increasing equity. Barriers to learning can be addressed better through flexibility. Learners benefit through a fair access to open pathways to build skills and learn concepts.

4. Flexibility and Inclusivity prepares learners for real-world preparations. In a world where nobody has all the skills and knowledge, yet everyone has some vital and unique skills and knowledge, collaboration and team work provides solutions to most issues. Ability to provide a flexible and inclusive environment makes learners accountable, responsible and future-ready.

Objectives of this Study

1. To make education accessible to all learners
2. To make learning spaces conducive to collaborative learning
3. To provide thinking strategies that will allow Critical Thinking
4. To provide strategies that can be carried out in all schools, even those with traditional seating
5. To increase student engagement and student agency in learning

Literature Review

1. Teacher Implementation of Cooperative Learning in Indonesia: A Multiple Case Study:

Research on cooperative learning (CL) highlights the challenges of implementing student-centered pedagogies in diverse contexts. In Indonesia, a multiple-case study involving teacher interviews, classroom observations, and field notes identified five themes: implementation of CL principles, limited CL structures, group orientation, group composition, and informal CL practices (Karmina, Dyson, Watson, & Philpot, 2021). Findings suggest that

contextual factors can both enable and constrain CL, emphasizing the need for further research on supporting teachers in transitioning from direct instruction to collaborative, student-centered learning.

2. Classroom participation in EFL speaking classes: Students' perceptions:

While classroom participation is increasingly recognized as important for developing students' English speaking skills, there is limited research on this practice in the Mekong Delta, Vietnam. This study explored students' perceptions of participation in speaking classes, collecting data through questionnaires and interviews from 104 students. Findings showed that students rated their oral participation highly, emphasizing the role of active engagement in language learning. The study also highlights pedagogical implications and avenues for further research.

3. The Influence of Seating Arrangement on EFL Students' Speaking Performance in the Classroom

This study investigates how seating arrangements affect classroom dynamics, student engagement, and learning outcomes. Different setups, including traditional rows, clusters, and circular arrangements, were observed to examine their impact on interaction, focus, and collaboration. Findings show that flexible seating, such as clusters or circles, enhances communication, encourages participation, and supports academic performance. Personalized seating also caters to diverse needs, promoting autonomy and comfort. The study highlights the

importance of considering social and psychological factors when designing classroom spaces to foster effective learning and collaboration.

4. Flexible learning spaces facilitate interaction, collaboration and behavioural engagement in secondary school

A study published in *PLOS One* compared students in traditional and flexible learning environments. Students in flexible spaces spent more time collaborating, interacting with peers, and actively engaging in learning. This highlights how the physical classroom environment can directly influence student participation and engagement.

Methodology

Research Sample

Thirty-two seventh-grade students participated in the study and were organized into heterogeneous groups with balanced abilities and an approximately equal gender ratio. Students with special learning needs were fully included, and group roles were rotated to ensure equitable participation. Group sizes were limited to four members, and flexible, informal seating arrangements facilitate interaction within group members, collaboration, and teacher supervision. Opportunities to display student-generated visuals further supported an inclusive and engaging learning environment that promoted active participation and equitable access to learning experiences.

For ease of collaboration, 2 students each from two rows sat facing each other with the writing paper shared on a common table between. The students from the front row just turned around and sat with their legs hanging out of the back of their benches. Other students were allowed to move out into the corridor or front of the class, and use the floor space to work in their groups. Regular learning tools like pens, sketch pens, and regular chart papers were used. Students stuck these around the class as they presented their thoughts to other students. Gallery walks were encouraged for other students to quiz them, share thoughts and support ideas.

Assessments and Measures

The efficacy of the learning engagement through Flexible and inclusive classrooms were measured under the following aspects.

Key Knowledge, Skills and Attributes Assessed

The class worked on an extract that was aimed at testing reading comprehension based on a history unit at that grade level. Additionally, students were given an extension task of writing a personal position on the given prompt.

Individual learning of key concepts (Knowledge): Every student was evaluated using paper-pencil tests to check for understanding of the given extract. Teachers also feedback on grey areas that the student probably missed out.

Group work: Students' active participation and group dynamics were assessed using rubrics, which were explained to students prior to the commencement of learning activities.

Clear guidance was provided on performance expectations and strategies for improving individual involvement. Opportunities to investigate global and local issues, engage in discussions and debates, and deliver oral presentations provided avenues for students to explore and consider diverse perspectives.

Communication skills work: The assessment prioritized inclusive practices by emphasizing active listening, constructive feedback, and collaborative conflict resolution. Small group discussions, non-verbal presentations, and encouragement for peer support provided students with low ability or low confidence opportunities to engage in the learning process with dignity. Conducted in an informal, supportive environment, teachers provided scaffolds, such as response stems, to ensure all students, including those with diverse learning needs, could fully express their ideas and participate meaningfully.

Results

The study evaluated the impact of a flexible and inclusive learning environment on the following areas.

1. Student Engagement
2. Collaboration Skills
3. Academic Performance (Standardised Test Score Average)
4. Student voice and confidence
5. Inclusion and belonging
6. Critical Thinking Development: Idea Generation, Depth of Reasoning, Perspective-taking.

Outcome

Key Areas Evaluated	Parameters	Classroom Type	Result
Student Engagement	% of students reporting high engagement	Traditional Rows	48%
		Flexible & Inclusive set-up	83%
Collaboration Skills	Average Peer-collaboration score(out of 10)	Traditional Rows	5.4
		Flexible & Inclusive set-up	8.6
Academic Performance	Reading Scores	Traditional Rows	74
		Flexible & Inclusive set-up	86
Student voice & confidence	“I feel comfortable sharing my ideas in class”	Traditional Rows	45 %
		Flexible & Inclusive set-up	76%
Inclusion & belonging	“I feel I belong”	Traditional Rows	52%
		Flexible & Inclusive set-up	83%
Critical Thinking	Idea Generation	Traditional Rows	6/10
		Flexible & Inclusive set-up	9/10
	Depth of Reasoning	Traditional Rows	5/10
		Flexible & Inclusive set-up	8/10
Perspective-Taking		Traditional Rows	4/10
		Flexible & Inclusive set-up	8/10

Conclusion

This case study examined the effect of flexible and inclusive classroom environments on Grade 7 learners, focusing on accessibility, collaboration, critical thinking, adaptability, and engagement, and directly addressed the study objectives.

- **Accessibility (Objective 1):** Student grouping strategies with specific roles such as Inclusion Monitor, Scribe & Illustrator, Researcher & Fact Finder, and Presenter enhanced educational accessibility. As a result, 83% of students reported high engagement and 83% felt a sense of belonging.
- **Collaborative Learning (Objective 2):** Flexible layouts and structured roles supported collaboration among students, reflected in peer-collaboration scores increasing from 5.4 to 8.6.
- **Critical Thinking (Objective 3):** The use of structured thinking strategies promoted critical thinking, with improvements in Idea Generation, from 6 out of 10 to 9 out of 10; Depth of Reasoning, from 5 out of 10 to 8 out of 10; and Perspective-Taking, from 4 out of 10 to 8 out of 10.
- **Applicability in Traditional Classrooms (Objective 4):** These strategies were adaptable to traditional classroom setups, resulting in academic gains, with reading scores improving from 74 to 86 across different learning contexts.
- **Student Engagement and Agency (Objective 5):** Student engagement and agency increased noticeably, with 76% of students reporting that they felt comfortable sharing ideas, and overall engagement rising from 48% to 83%.

Overall, the findings indicate that flexible and inclusive classrooms, combined with structured strategies, effectively enhance equity, collaboration, critical thinking, and learner-centered outcomes, offering a model that can be applied more broadly in educational contexts.

Discussion

This strategy has worked extremely well in the set-up that the researcher administered it in. Future studies could further consolidate the efficacy of Flexible and Inclusive environments by exploring learning spaces beyond the classrooms, more in the rural set-up where there is more opportunity and less formal resources.

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