Scaffolding Pre-service Teachers' Knowledge Construction through Collaborative Learning

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Abstract

Learning to teach is a complex process. Pre-service teachers (PSTs) are provided theoretical inputs and practicum experience in training programmes which prepare them for the challenges of everyday teaching in their future careers. In addition to course inputs and tutor guidance, peer interaction and support can scaffold the co-construction of a strong theoretical knowledge base in teaching for PSTs. This article documents how 15 PSTs enrolled in the course, *Teaching English to Young Learners*, supported each other in gaining insights into how to teach English to young learners through two collaborative learning tasks (CLTs): Thematic Unit (TU) and Training Workshop (TW). Findings reveal that CLTs offered cognitive, linguistic, pedagogic, and affective gains which together contributed to the construction of Subject Matter Knowledge (SMK) as well as Pedagogic Content Knowledge (PCK) of the PSTs.

Keywords: Collaborative learning, peer support, pedagogic content knowledge, pre-service teachers

Introduction

Language classrooms are dynamic, interactive, and fluid spaces. Teachers require both SMK, (the 'what' of teaching) as well as PCK, (the 'how' of teaching) to transact learning in the classroom. For PSTs, such knowledge construction occurs in teacher training programmes. Collaborative learning (CL), where two or more students work together on a shared learning goal (Asterhan & Schwarz, 2016), contributes to knowledge building significantly. CL underlines positive interaction among students (Johnson & Johnson, 2009). During CL, students are

encouraged to ask questions, give elaborate explanations, exchange arguments, formulate new ideas and problem solutions, and so on (van Leeuwen and Janssen, 2019, p. 72). This article demonstrates that CL can be gainfully employed in teacher training programmes to enable PSTs to co-construct the knowledge-base and acquire the skill set required for real-time teaching in their prospective careers.

Collaborative Learning: A Brief Overview

Collaborative learning is adopted by language teachers as it enhances interaction among students, develops soft skills and critical thinking, and promotes values such as responsibility, solidarity, and teamwork to achieve personal and academic success. Researchers have distinguished between cooperative learning and collaborative learning based on the argument that cooperative learning involves division of labour, while collaborative learning entails "mutual engagement of participants in a coordinated effort to solve the problem together" (Roschelle & Teasley, 1995, pp. 69-97). For the present study, we embrace the term Collaborative Learning (CL). CL is effective when students display on-task interaction. Such interaction is not limited to cognitive activities (e.g., explaining, summarizing) or interaction focused directly on the concepts involved in the task. Rather, it includes regulative activities or social-affective activities that contribute to successful attainment of the group's goals (Janssen et al., 2007). Mullins et al., (2011) hold that deeper learning occurs when, in addition to being on-task, students engage in high-level elaboration (e.g., give extended and elaborate answers or help, ask for reasons and clarification). Johnson & Johnson (2009) investigated the impact of CL on student learning. They found that CL has positive effects on cognitive, meta-cognitive, affective-motivational, and social aspects of learning. Researchers have also demonstrated that students working in small groups achieve higher learning outcomes than students working on a task individually (Chen et al., 2018; Kyndt et al., 2014; Roseth et al., 2008).

Theoretical Support

Collaborative Learning presupposes positive interdependence wherein the team members are aware of the group objective and how to achieve the expected purpose together. Thus, each member of the group must be clear that the effort of each one depends on the success of the others

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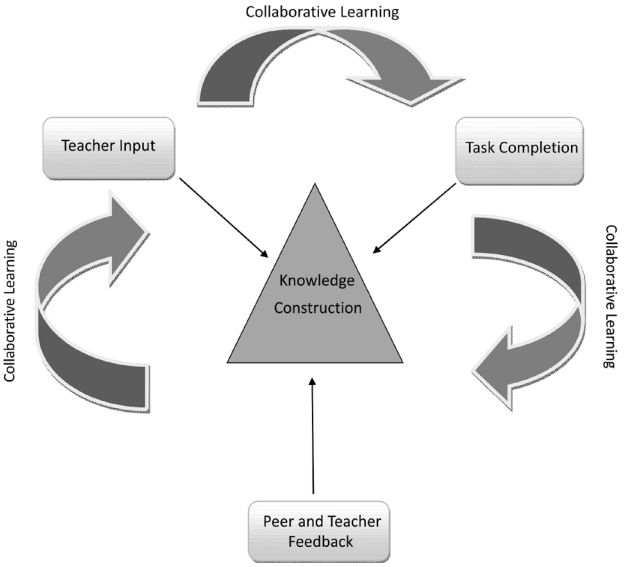
(Ortiz et al., 2019 cited in Montellanos-Solís et al., 2021). CL develops interpersonal skills through reciprocal support and enables constructive problem-solving and higher-order learning (Luna, 2021). Sánchez-Molina et al. (2021) maintain that CL allows students to improve their emotional and socio-affective state and predisposes them to the acquisition of new knowledge; for this, teachers have the responsibility of planning challenging activities. Castillo and Suárez (2020, cited in Montellanos-Solís et al., 2021) hold that relevant, motivating, useful, lasting, and, significant learning occurs through CL as it provides an interface between the theoretical and the practical, improving academic results. They further argue that CL promotes transversal competence, effective communication of ideas, critical analysis, decision-making, and conflict resolution. Group members learn to adapt to changes, and show empathy towards others contributing to a learning environment of mutual respect and camaraderie. CL also helps learners to develop and exercise autonomy and agency. Thus, CL is perceived as the fundamental axis to develop skills (Marin et al., 2019).

The course, *Teaching English to Young Learners* was executed in the following manner: the teacher provides learning input in the form of course readings and tasks. The PSTs carry out the tasks in small groups adhering to the principles of collaborative learning. This is followed by feedback sessions where, in addition to peer and teacher feedback, perceptions regarding learning gains are shared by individual students. Thus, as shown in the figure below, a three-pronged collaborative learning framework—Teacher Input (TI), Task Completion (TC), and Peer and Teacher Feedback (PTF)—was used to facilitate Knowledge Construction (KC).

The figure demonstrates that knowledge construction occurs through all three stages as shown by the arrows from the three rectangles (teacher input, task completion, and peer and teacher feedback) to the triangle (knowledge construction) at the center. The three circular arrows indicating collaborative learning extend the idea of collaboration to all three stages (and not limit it to the task completion stage alone). In other words, while the PSTs co-construct knowledge in the task completion stage, knowledge is also constructed collaboratively when the teacher presents the learning input using elicitation, where learners' existing knowledge is tapped to provide and link the new knowledge and also

in the peer and teacher feedback stage wherein modifications are made in the knowledge structures based on the feedback.

Figure: *Collaborative Learning Framework*



Objectives of the Study

The study aims to explore how collaborative learning tasks can be used to help PSTs build their knowledge base about issues related to language teaching, in this case, teaching English to young learners. The following questions are addressed:

a) What kind of tasks can be designed to encourage collaborative learning among PSTs?

b) How do collaborative learning tasks contribute to the knowledge construction of PSTs?

c) What gains do collaborative tasks accrue/afford/accord to the PSTs?

Methodology

Fifteen PSTs—eleven females and four males—participated in the study. The PSTs had very minimal teaching experience. The course had 10 modules focusing on a variety of topics such as teaching LSRW,

grammar, and vocabulary to Young Learners (YLs), using songs, stories, and drama for YLs, classroom management, assessing YLs, etc. While elicitation was used as the main instructional strategy, several tasks and activities were developed to deliver the course content.

Data was collected through three tools: 1. Reflective write-ups that documented the experience of collaborative learning. In their write-ups, the PSTs discussed the benefits and challenges of working in pairs and small groups. They also mentioned all the gains that collaborative learning offered them. 2. Focus group interviews confirmed and complemented the data collected through the reflective write-ups. The PSTs recollected how the pairs and group members distributed work, supported each other in understanding the concepts, selected materials and designed tasks, and pitched in for someone when necessary. 3. Field notes by the researcher documented how the PSTs supported each other while working on the tasks in the class. The challenges involved in organizing collaborative learning and sustaining learner motivation are also recorded.

Data Presentation and Interpretation

Although several tasks are used throughout the course, two tasks are chosen for the present study—Thematic Unit (TU) and Training Workshop (TW). The following sections present a detailed discussion of the tasks in terms of three key aspects: task design (by the tutor), task completion (by the PSTs), and task contribution (to knowledge construction of PSTs).

Collaborative Learning Task 1: Thematic Unit

Task design: A TU consists of two or three lessons that are woven around the same topic. This task provides hands-on experience in lesson design. PSTs worked in pairs to develop two lesson plans each consisting of 40 minutes duration. In terms of task support, a sample TU titled 'Delicious Dishes' consisting of two lessons was shared with the class. Here is an excerpt:

Lesson 1: Healthy Breakfast (A Sample Shared with PSTs)

80 Minutes (Can be done in 2 Class Sessions of 40 Minutes each)

Student Profile: Grade 2, Age 8+, ESL Context (Exposed to target language both in school and outside school)

Skills to be emphasized: Integrated Skills

Target Structure: Imperatives

Target Vocabulary: Tasty, Yummy, Delicious, Hot, Cold, Warm, Fresh, Stale (to describe quality);

Boil, Soak, Grind, Roast, Fry, Mix, Add, Beat, Heat (to describe how food is cooked)

Objectives

By the end of the lesson, children should be able to

- ❒ use the words listed above to describe their choice of food item
- ❒ identify ingredients required to make a breakfast of their choice
- ❒ talk about how a breakfast of their choice is made
- ❒ write short sentences describing their choice of breakfast

A thorough discussion of the lesson components was undertaken to help the PSTs design a TU that is complete and comprehensive.

Task completion: The PSTs were allowed to choose their partners for this task. They were given ample time to complete the lesson plan. The pairs had elaborate discussions outside of class to decide on the theme of the TU and the tasks to be included in the lessons. Here is an excerpt of one of the lessons designed by the PSTs.

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Lesson Plan 2 (Designed by PSTs)

Lesson Overview

Name of lesson plan activity: Learning Vocabulary from menu cards

Skill-focused: Vocabulary

Learner profile: This lesson is designed for Class III students (7 years of age) of the CBSE board. The students are from an urban background and studying English as L2.

Materials used in the class:

1. Blackboard and chalk
2. Restaurant menu card
3. Worksheet 1, 2 & 3
4. Sample menu card

Time: 45 minutes

Class strength: 20

Objectives of the lesson:

1. To build food-related terms vocabulary.
2. To increase students' knowledge of the names of different food items they consume in a restaurant.

Assumed Knowledge: The students can speak, read, and write basic English

The pairs shared their TUs with their peers through Google Classroom. A thorough analysis of the lesson plans was undertaken in class in terms of all the components of the lesson such as lesson goals, lesson outcomes, task challenge, materials selected, etc. There were disagreements on several points, justifications of teacher choices, alongside an appreciation of the best tasks and materials all leading to knowledge construction.

Task contribution: Designing the TUs was a demanding experience for the PSTs and working in pairs was beneficial. They could share ideas for themes and tasks. Analyzing the TUs designed by their peers was rewarding. One of the PSTs remarks, "I gained valuable insights into the challenges and rewards of being ready for a class. The multiple aspects of a lesson that we discussed offered a deeper understanding of the complexities and nuances of teaching young children. It reminded me of the importance of being open-minded and adaptable." The PSTs felt that planning for the lesson is a key aspect of teaching. One of them comments, "Looking through the lesson plans of my friends was an opener. The themes were wonderful, and the tasks were creative. I realize how much hard work goes into creating a lesson plan and what an

absolutely important document a lesson plan is!" Besides the cognitive and affective gains of acquiring knowledge and bonding well with each other, creating the thematic unit also offered motivational gains. One of the PSTs comments, "We, me and my peer, first prepared individually. We then sat together to design our tasks and activities. It was fun and interesting." The observations of the PSTs reaffirm that the nature of the tasks designed and how they are executed contribute to knowledge construction—tasks should be challenging and task completion should happen through collaborative learning.

Collaborative Learning Task 2: Training Workshop

Task design: A Training Workshop (TW) offers a high level of challenge. The PSTs are divided into groups of three. They have to design tasks and activities to train teachers in a 60–90-minutes professional workshop. They can choose any topic related to teaching young learners. They can conduct the workshop with the help of a PPT with relevant content and adequate visual appeal. To support PSTs with this rather overwhelming task in terms of task challenge, a sample workshop on the theme of classroom management for young learners was conducted. Here is an example of a task used in the workshop.

Task from the Sample Workshop: Pairing Children

Here are a few statements about pair/group work. Do you agree with them? Why/why not?

1. It is a very efficient way of working when teaching language.
2. It is simple to organize and easy to explain.
3. Group work should not be attempted before the children are used to working in twos first.
4. Let pupils sitting next to each other work together.
5. Establish a routine.
6. Pairing up students who do not like each other is a disaster waiting to happen.

Task completion: Groups were formed in such a manner that PSTs get to work with peers who are not necessarily their friends. The idea was to push them to collaborate with everyone in the class so that they build a strong rapport with their peers and achieve a sense of group identity in addition to the cognitive gains they would accrue through discussions. The groups met several times beyond class hours to work on the

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slides and to decide their parts so that the workshop can be conducted coherently and seamlessly. Here is an excerpt from the TW conducted by the PSTs with a sample task used.

Workshop Title: Thoughtful Connections: Thematic Lesson Planning (Prepared by PSTs)

Audience for the Workshop: ELT/TESL Learners

Duration of the Workshop: 90 minutes

Outline of the Workshop:

I. Topic-based approach
- Topic-based planning: what, why, how to organize, etc.
- Benefits, problems, and solutions

II. Developing a thematic lesson unit
- Characteristics of a thematic unit
- Steps involved in creating a thematic unit

III. Effective lesson planning
- Lesson planning: when, why, what, how
- Creating a lesson plan template

IV. Conclusion

Sample Task Used in the Workshop

Task: How to organize topic work?

In groups of three draw up a checklist of questions for topic-based planning. Some broad categories are provided. Think of questions for these.

1. Materials
2. Tasks and activities and time
3. Grouping children
4. Classroom organization
5. Recording and monitoring children's progress

Task contribution: Planning for and conducting the workshop facilitated a deeper understanding of the theory and principles of teaching young learners thereby contributing to and enriching the domain knowledge. Although the PSTs had made several PPT presentations, conducting a workshop was a novel experience for them. One of the PSTs comments, "Conducting a workshop was a new experience for me. From sitting in front of the dais to standing on the dais and making my peers

participate actively was a new challenge. I felt the engagement level with the content was deep when we were conducting the workshop as well as meaningful loaded interaction happened in the group. The goal was to add something to already existing theories and practices through discussion, worksheets, and other tasks. It was a wonderful experience and fruitful learning took place." Another PST reverberates, "While presentations made me feel like a student, the workshop made me feel like a professional....Through this workshop, my learning experience was in two ways—learning by doing and learning by observing others conducting the workshop. If there are workshops like this for ELT/TESL students occasionally, then it would help every aspiring and prospective teacher gain deeper insights into the domain of ELE and help us become better performers as teachers."

PSTs highlight how a workshop is different from a PPT presentation. One of them comments, "For presentation, the focus is just to present the content effectively, but for the workshop, the focus was not only to deliver the content, but to engage, involve, and ensure active participation of participants." Conducting the workshop within the stipulated time was a challenge. One of the PSTs remarks, "I could not manage time properly to make the participants do the worksheets and draw implications but I learned how to plan better from that experience." PSTs acknowledge the benefits of collaborative learning. One of them observes, "The process started with reading the texts.… Each of us took one chunk.... Working in a group helped in designing and sequencing the tasks." PSTs also record how using ICT tools facilitated better collaboration. One of them comments. "We collaborated through Google Slides which allowed us to work together at the same time and see what the other members were doing, which allowed us to change our slide structure and elements to match each other in real-time even if we were not physically together. I think this element of collaborating and working together is what made this workshop different from a PPT presentation." The comments of the PSTs confirm the value of collaborative learning in knowledge construction through challenging tasks—both SMK and PCK are strengthened.

Findings and Implications

The findings of the study are discussed with respect to the research questions addressed:

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1. What kind of tasks can be designed to encourage collaborative learning among pre-service teachers?

Tasks that demand knowledge, comprehension, application, analysis, synthesis, and evaluation enhance the benefits of collaborative learning. For instance, both the TU and the TW required the learners to acquire knowledge about a chosen topic, comprehend it from several angles and demonstrate knowledge application, analysis, and synthesis. Further, tasks should inherently lend themselves to collaborative learning. For example, tasks such as the TU and the TW yield maximum learning when carried out in pairs and small groups since they demand sharing and co-construction of knowledge.

2. How do collaborative learning tasks contribute to the knowledge construction of PSTs?

Collaborative learning contributed to the construction of the subject matter knowledge (SMK) as well as the pedagogic content knowledge (PCK) of the PSTs. For instance, the TU task offered knowledge about how to design lessons on a chosen theme. PSTs demonstrated this knowledge through their lesson plans which were based on a variety of themes and included tasks that closely reflected the lesson goals. Working together with peers contributed to concept comprehension as well as the application of the knowledge gained which is evidenced in the training workshops.

3. What gains do collaborative tasks accrue/afford/accord to the PSTs?

Collaborative learning tasks offered cognitive, linguistic, pedagogic, and affective gains for the PSTs. To elaborate, peer interaction enabled PSTs to achieve a deeper understanding of the content. Their critical thinking and analysis and synthesis skills were sharpened. The TU and the workshop demanded coherence, precision, and negotiation thereby enhancing their linguistic ability in all language skills and elements. The TW, in specific, enhanced their pedagogic skills (the how of teaching) since the success of the workshop depended on how they facilitated learning for their peers. Working together in pairs and small groups helped the PSTs to develop emotional intelligence skills too; they had to understand and manage their feelings as well as the feelings of their peers. This was tough but eventually resulted in better group dynamics and sustained rapport in and outside of class.

The findings above have implications for PSTs, teacher educators, and teacher education institutions. PSTs should engage in collaborative learning which enriches and expands their knowledge horizon. Teacher educators should develop positive attitudes toward collaborative learning in PSTs by designing challenging tasks and ensuring task completion through appropriate scaffolding mechanisms. Teacher training institutions should integrate cooperative learning into the institutional culture of knowledge-building and transaction.

Limitations

- The study is limited to two collaborative learning tasks: The TU and the TW. If the PSTs were provided an opportunity for micro-teaching, it would have helped them in further application and consolidation of the knowledge gained.
- The PSTs who participated in the study were favourably disposed toward the idea of collaborative learning. They were also perceptive and articulate which maximized the benefits of cooperative learning. With a different set of trainees, the results may not have been similar.

Further Research

- Further research can train PSTs in designing collaborative learning tasks that can be used to develop language proficiency for their learners. PSTs can be provided an opportunity to implement these tasks in practicum and gauge their effectiveness.
- A longitudinal study can be conducted to investigate how the knowledge gained through collaborative learning during the training programme is used in real-time teaching of the PSTs.
- A study that focuses on how the knowledge structures are modified owing to classroom experience can throw insights into how PSTs realign their beliefs, assumptions, and knowledge (BAK).

Conclusion

The success of collaborative learning as an approach to teaching and training draws from three aspects: The ability of the tutor to design engaging tasks, the willingness of the PSTs to consistently support each other, and the overall rapport that the tutor and the PSTs together

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create that helps sustain the enthusiasm to co-learn and co-construct knowledge.

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