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USE OF THINKING STRATEGIES IN COLLABORATIVE LEARNING

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Abstract

The present study experimentally investigated the effect of collaborative learning in enhancing the critical thinking skills of young learners. In this experiment, students of grades 4 were provided opportunities to collaborate during various tasks in their learning cycles across various disciplines. The study aimed at equipping young learners with thinking strategies and templates to make their own learning effective. The researcher introduced learners to various templates for individual roles in collaborative activities with an aim to enhance individual accountability and learning through this exercise. In all exercises, the basic elements of Collaborative learning formed the guiding lines to learning.

Keywords: *Thinking strategies, Collaborative learning.*

INTRODUCTION

'Collaborative learning' is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together [3] (Barbara Leigh Smith and Jean T. MacGregor). Collaborative Learning activities are student-centric approaches to learning where students explore and engage with the learning resources in order to find solutions, execute a task or create a product.

"According to researchers Dr. Theodore Panitz, EdD, and Patricia Panitz [4], Collaborative Learning, or CL, is more than a classroom technique, it is a personal philosophy. When it works well, CL "respects and highlights individual group members' abilities and contributions."

Panitz and Panitz also point out that CL is based on consensus building through the cooperation of group members, rather than competition in which individuals try to do better than their fellow group members. Collaborative learning stresses the social nature of learning and the need to train students how to work collaboratively in order to resolve conflicts, interact appropriately

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[3] Smith & MacGregor, 1992, pp. *This is an abbreviation of Smith and MacGregor's article, "What Is Collaborative Learning?" in Collaborative Learning: A Sourcebook for Higher Education, 1992

[4] Panitz, T. &Panitz,P. (1998). Ways to Collaborative Teaching in Higher Education

and actively involve all group members. To be considered collaborative learning, Panitz and Panitz explain that five elements must be present."[1]

Five Elements of Collaborative Learning

Positive interdependence

1. Face-to-face promotive interaction
2. Individual Accountability
3. Interpersonal and small group skills
4. Group processing

Mel Silberman modified Confucius' saying, and made it into, what he called, The Active Learning Credo, which develops the idea of how people learn further:

What I hear, I forget

What I hear and see, I remember a little

What I hear, see, and ask questions about or discuss with someone else, I begin to understand ∞ What I hear see, discuss and do, I acquire knowledge and skills

What I teach to another, I master.

Some of the known CL strategies for effective learning are [2]

1. **Discussion circles/Round Table:** This technique allows students to gauge prior knowledge, share their thoughts and ideas, feedback to peers about their thoughts and reconsider their initial thoughts after peer feedback. The steps are:

   Write: Each student writes one (or 3) sentences about a given topic/prompt/question on a sheet of paper.

   Share: The paper is passed around to the others in the group, one group member at a time. Each group member responds in writing, offers a comment, seeks clarification or shares their disagreement.

[1] The 5 Elements of Collaborative Learning. *Keeping Adjunct Faculty in the Loop*.

[2] (n.d.). www.bates.edu>faculty-commons>files

Summarize: When the original is returned, the student evaluates and shares the collective sense of what was said in the group about the topic/prompt / question.

2. **Jigsaw Technique:** The concept is divided into smaller chunks. Each student becomes an expert to his chunk, then teaches the other group members what he has learnt. The expert group is formed by members from individual groups to discuss and master the concept. The expert members teach the members of the home group.
3. **Write-Pair-Share:** This technique allows highest participation from all individuals as students work in pairs. This technique encourages individual participation and can be used across all grade levels and class sizes. The 3 steps are:

   Write: Every student thinks independently and writes their response to a question / prompt.

   Pair: They share their responses with their partners, in an articulate manner, and also allow the partner to offer feedback.

   Share: Once the responses are exchanged, the two members summarise their responses after consensus and share with the rest of the class.

4. **Knowledge / Concept Web:** In this technique, students work in groups and share their thoughts and ideas as illustrations or key points including the connections that exist between them. The facilitator gives them the big picture with lead questions for students to recall and consolidate prior knowledge. The steps are:

   They work on a big sheet of paper. They arrange the big / main topic in such a way so as to allow the sub-topics to fall into logical parts. The sub-topics are connected using lines to indicate the relationship between them. Supporting details may be added as bullet points under each category / sub-topics.

   The role of the facilitator is essentially

- To identify opportunities for collaborative learning through various points during the learning cycle;
- To pre-decide and group students in heterogeneous groups with a small group size in order to engage each member to the optimum level.
- To provide resources like reference books, technology, stationery, and make seating arrangements that make collaboration easy.

- To monitor, support and motivate learners during the learning through conferencing, questioning, and offering feedback.
- To provide and train students to use templates, both physical as well as digital, to make their thinking visible to others. Rubrics, checklists, and exit-slips are other ways to assess individual learning.

LITERATURE REVIEW

The following studies strongly highlighted the effect of Collaborative Learning in classrooms.

Study 1: The study by Chandra, R. (2015)[1]clarifies the concept of Collaborative Learning and delves into the educational benefits of these techniques.

The paper highlights CL as student centric learning techniques and differentiates the CL from individual learning. The paper concludes with a discussion about the implications of these issues with respect to achievement of undergraduate students in English. T-test is used to study the difference in means of achievement in English by using collaborative learning and individual learning. The sample comprises 40 students (males 30, females 10) of undergraduate program. Purposive sampling has been used. The researcher established a strong link between academic achievements of final English scores with CL, which was found to be beneficial.

Study 2: In his study Collaborative Learning; Elements, researcher Laal M.(2012)[2] discusses the elements of CL.

The study reviews the vital elements of CL that render it a beneficial pedagogical practice. The article draws attention to basic elements that make the collaborative learning approach an effective choice like positive interdependence: to support and share with each other to achieve the common goal; considerable interaction: improved communication and interaction between team members; individual accountability: every member is responsible and accountable for their part; social skills: team-spirit, empathy, leadership skills, decision making skills, conflict resolution skills; and group self-evaluating.

5 Chandra, R. (2015). Collaborative Learning for Educational Achievement. *International Journal of Research & Method in Education*, *5*(2 Ver III), 00. https://doi.org/2320–7388

[2] Laal, M., & Ghodsi, S. M. (2012). Benefits of collaborative learning. *Procedia - Social and Behavioral Sciences*, *31*(1), 486–490. https://doi.org/10.1016/j.sbspro.2011.12.091

METHODOLOGY

Research Sample:

Forty students of grade 4 participated in this study. They were grouped in heterogeneous groups of mixed ability, and roughly equal ratio of boys and girls. Students with special learning needs were also a part of these groups, and care was taken to ensure that there was a fair rotation in the roles of every member. At any given point in time no group was larger than 4 members in size. Seating arrangement was flexible, which was achieved by minimal movement of furniture. Ample opportunities for display of visuals created by students were made available.

In order to design and facilitate effective collaborative learning, the following techniques were introduced to students to enhance and demystify their roles in group activities.

1. Placemat template for Discussion Circles/Round Tables.
2. Templates for organising concepts into key terms, meaning, illustrations, connections were taught
3. Digital tools like Jamboard, Padlet, break-out rooms etc. were introduced and taught to the students.
4. Rubrics, checklist, exit-slips for assessment.
5. Knowledge organisers like cluster web template, Fish-bone template, Venn Diagram template, flow-chart template etc. were made available.

ASSESSMENTS AND MEASURES

The efficacy of the learning engagement through Collaborative Learning were measured under the following aspects. Rubrics, Checklists, Exit-slips, Quizzes, Paper pencil tests, oral presentations formed the basis for evaluating achievement of individual members.

Key Knowledge, Skills and Attributes Assessed

The class worked on various aspects of the Living World through this learning cycle. They learnt about basic needs of every living thing; adaptations in plants; and adaptations in animals in order to survive challenges. They also researched about any one endangered plant or animal and presented their learning to the whole class at the end of the unit.

Individual learning of key concepts (Knowledge): Every student was evaluated using paper-pencil tests, online quizzes, and their individual presentation / portfolio about what they learnt. 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 was explained to students before the commencement of the learning activities. Every student knew the expectations and how to improve their own involvement was clearly explained. Note-taking templates and exit slips also helped consolidate key learning. Peer evaluation was an important feature in this.

Communication skills work: Students were evaluated on how well they communicated their ideas using words, pictures, illustrations, power-point, etc. Rubrics for presentation were shared. An important element that was included in assessing communication was active listening, responding to feedback and resolving conflicts. This was done in an informal manner. Teachers also supported students with response stems to articulate their thoughts and ideas.

RESULTS

The study revealed that Collaborative Learning was an excellent pedagogical strategy that aimed at improving attainment of individual students while working in small groups. Various challenges posed by the large teacher-pupil ratio in various schools could be addressed through careful planning and execution of these learning activities. Students gained in difefernt ways through their collaboration.

Outcome 1

The learning cycle became more interesting and livelier. Students were actively engaged in the learning process - they constructed knowledge and developed skills through a range of strategies and resources. They could explain and transfer the knowledge and skills so gained to other areas of life. They found a purpose that motivated them to find solutions, create products, etc.

Outcome 2

They developed the essential peoples' skills required to succeed in the real world. Every member was responsible not just for their own success but also for the success of their group. This in turn made them realise the importance of individual roles, responsibilities and accountabilities. But most importantly supporting those that lacked the necessary knowledge or skills in order to succeed as a group. Key skills like communication, conflict resolution, critical thinking, decision making was developed through these collaborations.

DISCUSSION

This strategy has worked extremely well in the set-up that the researcher administered it in. Future studies at grass-root levels that are devoid of rich educational resources and tools could further consolidate the efficacy of Collaborative Learning as a pedagogical practice.

REFERENCES

Barkley, E. F., Cross, P. K., & Major, C. H. (2004). *Collaborative Learning Techniques: A Handbook for College Faculty* (1st ed., pp. 1-30). Jossey-Bass.

Bower, Matt & Richards, Deborah. (2006). Collaborative learning: Some possibilities and limitations for students and teachers. 1.

Chandra, R. (2015). Collaborative Learning for Educational Achievement. *International Journal of Research & Method in Education*, *5*(2 Ver III), 00. https://doi.org/2320–7388

Del Pozo, M. M., Gómez-Pablos , V. B., & Muñoz-Repiso, A. G. V. (2017). A quantitative approach to pre-service primary school teachers' attitudes towards collaborative learning with video games: Previous experience with video games can make the difference. *International Journal of Educational Technology in Higher Education*, *14*(11), 40-62. https://doi.org/10.1186/s41239-017-0050-5

Dillenbourg , P. (1999). What do you mean by collaborative learning? *Collaborative-Learning: Cognitive and Computational Approaches.*, pp.1-19. https://doi.org/Oxford: Elsevier

Gokhale, A. A. (1995). Collaborative Learning Enhances Critical Thinking. *Journal of Technology Education*, *7*(No. 1, Fall 1995). https://doi.org/10.21061/jte.v7i1.a.2

Keyser, Marcia. (2000). Active learning and cooperative learning: Understanding the difference and using both styles effectively. Research Strategies. 17. 35-44. 10.1016/S0734-3310(00)00022-7.

Kuwabara, M., Einbinder, S. D., Sun, R., & Azizi, R. (2020). Collaborative Learning Techniques, Student Learning Outcomes, and Equal Workload within Groups in Different Teaching Modalities. *International Journal of Teaching and Learning in Higher Education*, *32*(2). https://doi.org/www.isetl.org › ijtlhe › pdf › IJTLHE3768

Laal, M., & Ghodsi, S. M. (2012). Benefits of collaborative learning. *Procedia - Social and Behavioral Sciences*, *31*(1), 486–490. https://doi.org/10.1016/j.sbspro.2011.12.091

Le, H., Janssen, J., & Wubbels, T. (2018). Collaborative learning practices: Teacher and student perceived obstacles to effective student collaboration. *Cambridge Journal of Education*, *48*(1), 103-122. https://doi.org/10.1080/0305764X.2016.1259389

Panitz, P., & Panitz, T. (1999). Assessing Students and Yourself Using the One Minute Paper and Observing Students Working Cooperatively. *Reports Descriptive (141)*, 11.

Soller, A. L. (2001). Supporting Social Interaction in an Intelligent Collaborative Learning System. *International Journal of Artificial Intelligence in Education (IJAIED)*, *12*, 40-62.

Wismath, S. L., & Orr, D. (2015). Collaborative Learning in Problem Solving: A Case Study in Metacognitive Learning. *The Canadian Journal for the Scholarship of Teaching and Learning*, *Volume 6 | Issue 3 Article 10*, pp.1-19. https://doi.org/12-11-2015

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