

Education Students' Knowledge and Perceptions of Collaborative Learning and Implications for Future Use in Their Field

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INTRODUCTION

WHAT IS COLLABORATIVE LEARNING?

A situation in which two or more people learn or attempt to learn something together (Dillenbourg, 1999).

To supplement this broad definition, Dillenbourg identifies common attributes of collaborative learning (CL):

- **A collaborative situation:** shared goals, symmetry among members
- **Collaborative interactions:** interactive, synchronous, and negotiable
- **Common mechanisms:** inductive reasoning, measuring cognitive load, explanation, dealing with conflict, empathy
- **Social benefits:** develops support systems and learning communities, builds diversity understanding, improves interpersonal skills
- **Psychological benefits:** increases self-esteem, develops positive attitudes towards teachers and peers
- **Academic benefits:** promotes critical thinking skills, actively involves students, personalizes content, increases depth and width of understanding
- **Provides alternative assessment techniques**

RESEARCH QUESTIONS

1. What do education students know about CL?
2. How does knowledge on the theoretical concepts regarding CL affect student learning outcomes?
3. How will this experience of CL in combination with a collaborative project influence participants' use of CL in their future career?



SIGNIFICANCE

CL is becoming increasingly common in United States classrooms. It is known that student perceptions of their learning context influence consequential learning outcomes, however, little research has been done on student perspectives of CL, especially in a teacher education context (Almajed).

ABOUT THE STUDY

CONTEXT AND DESIGN

Student participants were Middle Childhood to Early Adolescence (MCEA) Education majors enrolled in a fine arts integration course. The study focused on a collaborative project required as a part of the course, however participation in the study itself was voluntary. The study is meant to serve as a preliminary investigation of the research questions.

Two anonymous surveys were administered to participants through Qualtrics, one prior to the collaborative project and one post-project. At the time of the pre-project survey, participants were provided with a document describing theoretical concepts regarding CL as supplemental material. The surveys investigated student's knowledge of CL, their experience with the project and other group learning situations, and their thoughts on using CL in their future career.

An interview was conducted with the course professors prior to the project. The interview investigated the professors' observations of student knowledge of CL, their experiences with the collaborative project, and the achievement of learning outcomes. It served to contextualize the project for the researcher and to suggest areas of focus in data analysis.

DATA ANALYSIS

Pre- and post-project survey data was qualitatively analyzed for recurring themes using open to focused coding. These themes are organized by relation to specific research questions and compared to the attributes of CL included in Dillenbourg's description. The intent in data analysis was to identify trends and potential areas of impact to explore in future studies.

RESULTS

WHAT DO EDUCATION STUDENTS KNOW ABOUT CL?

Over 90% of participants reported participating in CL previously. When asked to define CL and describe characteristics of their CL experiences, participants touched on the following recurring themes related to Dillenbourg's description:

- A collaborative situation – **shared goals**
- Collaborative interactions – interactive and **synchronous**
- Common mechanisms – explanation
- Social benefits – builds diversity understanding, develops learning communities, **improves interpersonal skills**
- Academic benefits – **promotes critical thinking skills**, increases width and depth of understanding

The other areas of Dillenbourg's description were rarely or never present in students' definitions and descriptions. Noteworthy among these were the absences of common mechanisms, psychological benefits, and the role of assessment. This suggests that students can generally identify CL in context and have some understanding of the theoretical concepts; however, the understanding is shallow and/or contains gaps.

EFFECT OF CL KNOWLEDGE ON LEARNING OUTCOMES

The vast majority of participants reported that their knowledge of CL positively affected their experience of the collaborative project. Participants said their knowledge helped guide them in their decision-making and approach to creating a collaborative situation and engaging in collaborative interactions. Participants consistently recognized an increase in social benefits as a result of their CL knowledge; however, they rarely or never identified increases in psychological and academic benefits.

IMPLICATIONS FOR FUTURE USE IN THEIR FIELD

All participants said they would at least consider using CL as an educator. Upon reflection, each participant was able to identify ways the knowledge gained from the collaborative experience will positively inform their future use.

GOING FORWARD

SUGGESTIONS FOR FURTHER STUDY

The potential disparity between education students' knowledge of CL and Dillenbourg's full theoretical description, in combination with the high potential for use of CL in their future career, merits further study on what education students know and do not know regarding CL. The results of this study highlight the potential for education students to house an incomplete/shallow understanding of CL, limiting the benefits it has to offer by using an incomplete model.

In addition, further investigation into the relationship between knowledge of potential CL benefits and benefits truly perceived is needed. Participants in this study did not frequently report knowledge nor perception of academic and psychological benefits, which could potentially indicate a lack of achievement of these outcomes. Further study could investigate the accuracy of this result and potential correlation between knowledge and achievement.



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