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Effect of Collaborative Learning on Learning Outcomes of Students with Special Needs in Inclusive Schools

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Abstract

Inclusive education emphasizes the participation of students with special needs alongside their peers in mainstream classrooms. Collaborative learning has emerged as an effective instructional strategy to support inclusion by promoting peer interaction, social engagement, and shared responsibility for learning. This paper examines the effect of collaborative learning on the academic, social, and behavioral learning outcomes of students with special needs in inclusive school settings. Drawing on existing research and theoretical perspectives, the study highlights how collaborative learning enhances academic achievement, improves social skills, and fosters positive attitudes toward diversity. The findings suggest that when properly implemented, collaborative learning significantly contributes to improved learning outcomes for students with special needs in inclusive schools.

Keywords: Collaborative learning, inclusive education, special needs students, learning outcomes, Peer interaction

1. Introduction

Inclusive education aims to provide equitable learning opportunities for all students, including those with special needs, within regular classroom environments. In inclusive schools, teachers face the challenge of addressing diverse learning abilities, learning styles, and support needs. Traditional teacher-centered approaches often fail to meet these diverse needs, leading to disengagement and limited academic progress among students with special needs.

Collaborative learning, which involves students working together in small, structured groups to achieve shared learning goals, has gained attention as an effective instructional approach in inclusive classrooms. Through collaboration, students actively construct knowledge, support one another, and develop both academic and social competencies. This paper explores the effect of collaborative learning on the learning outcomes of students with special needs in inclusive schools.

2. Rationale of the Study

Inclusive education seeks to provide equal learning opportunities for all students, including those with special needs, within mainstream school settings. Despite policies supporting inclusion, many inclusive classrooms continue to rely on traditional, teacher-centered instructional approaches that may not adequately address the diverse academic and social needs of learners with disabilities. As a result, students with special needs often experience lower academic achievement, limited peer interaction, and reduced participation in classroom activities.

Collaborative learning has been widely recognized as an effective student-centered instructional strategy that promotes active engagement, peer support, and shared responsibility for learning. Through structured group work, students interact with peers, exchange ideas, and construct knowledge collectively. For students with special needs, collaborative learning offers opportunities for academic assistance, social integration, and the development of communication and interpersonal skills. However, despite its potential benefits, collaborative learning is not consistently or effectively implemented in many inclusive schools.

There is a need for empirical evidence that clearly demonstrates the impact of collaborative learning on the learning outcomes of students with special needs in inclusive settings. Understanding how collaborative learning influences academic performance, social interaction, and emotional development will help educators make informed instructional decisions. This study is therefore undertaken to examine the effect of collaborative learning on the learning outcomes of students with special needs in inclusive schools.

The findings of this study are expected to benefit teachers by providing practical insights into effective instructional strategies for inclusive classrooms. School administrators may use the results to support professional development and inclusive teaching practices, while policymakers can draw on the evidence to strengthen inclusive education frameworks. Ultimately, this study aims to contribute to the improvement of educational practices and learning experiences for students with special needs in inclusive schools.

3. Concept of Collaborative Learning

Collaborative learning is an instructional strategy in which learners work together to solve problems, complete tasks, or achieve common academic goals. It is grounded in social constructivist theory, particularly the ideas of Vygotsky, who emphasized the role of social interaction in cognitive development.

Key features of collaborative learning include:

- Positive interdependence among group members
- Individual accountability
- Face-to-face interaction
- Development of social and communication skills

In inclusive classrooms, collaborative learning allows students with special needs to participate actively in learning alongside their peers, reducing isolation and promoting a sense of belonging.

4. Students with Special Needs in Inclusive Schools

Students with special needs include learners with physical, sensory, intellectual, emotional, or learning disabilities. Inclusive schools aim to accommodate these students in regular classrooms with appropriate support and instructional adaptations.

Despite the benefits of inclusion, students with special needs often experience challenges such as limited peer interaction, low self-esteem, and academic difficulties. Teaching strategies that promote engagement and peer support are therefore essential. Collaborative learning provides a natural context for peer-assisted learning and social integration.

5. Effect of Collaborative Learning on Learning Outcomes

Academic Outcomes

Research indicates that collaborative learning improves academic achievement among students with special needs. Working in mixed-ability groups enables these students to receive academic support from peers, clarify concepts through discussion, and learn by observing others. Peer explanations often use simpler language and relatable examples, which enhances understanding and retention.

Collaborative learning also encourages active participation, which is critical for students who may struggle in lecture-based classrooms. As a result, students with special needs demonstrate improved performance in subjects such as reading, mathematics, and problem-solving.

Social Outcomes

One of the most significant benefits of collaborative learning is its positive impact on social development. Students with special needs often face social exclusion; collaborative group work promotes interaction, communication, and cooperation with peers.

Through collaborative activities, students develop social skills such as turn-taking, listening, conflict resolution, and teamwork. These interactions help build friendships, reduce stigma, and foster mutual respect among students with and without disabilities.

Behavioral and Emotional Outcomes

Collaborative learning has been shown to improve classroom behavior and emotional well-being. Students with special needs often feel more motivated and confident when they are actively involved in group learning. Positive peer relationships contribute to increased self-esteem and reduced anxiety.

Additionally, collaborative learning environments encourage shared responsibility and positive behavior, leading to reduced disruptive behaviors and increased engagement in learning tasks.

6. Hypotheses of the Study

Null Hypotheses (H_0)

1. There is **no significant difference** in the academic achievement of students with special needs taught through collaborative learning and those taught through conventional teaching methods in inclusive schools.
2. There is **no significant difference** in the social skills of students with special needs taught through collaborative learning and those taught through conventional teaching methods.
3. There is **no significant difference** in classroom participation of students with special needs exposed to collaborative learning and those exposed to traditional instructional methods.
4. There is **no significant difference** between the pre-test and post-test learning outcomes of students with special needs taught using collaborative learning strategies.

Research / Alternative Hypotheses (H_1)

1. There is a **significant improvement** in the academic achievement of students with special needs taught through collaborative learning compared to those taught through conventional teaching methods in inclusive schools.
2. Students with special needs exposed to collaborative learning demonstrate **significantly better social skills** than those taught using traditional teaching methods.
3. Collaborative learning leads to **significantly higher classroom participation** among students with special needs in inclusive schools.
4. There is a **significant difference** between the pre-test and post-test learning outcomes of students with special needs taught using collaborative learning strategies.

Directional Hypotheses *(optional, if required)*

1. Collaborative learning **positively affects** the learning outcomes of students with special needs in inclusive schools.
2. Students with special needs taught through collaborative learning will achieve **higher post-test scores** than those taught through conventional methods.

7. Methods of Selecting Collaborative Learning Groups

Effective collaborative learning depends largely on how student groups are formed. Proper group selection ensures active participation, positive interdependence, and meaningful learning experiences. The following are commonly used methods for selecting collaborative learning groups.

1. Heterogeneous Grouping

Heterogeneous grouping involves placing students with diverse abilities, learning styles, backgrounds, and needs into the same group. This method is widely used in inclusive classrooms.

Advantages:

- Promotes peer tutoring and support
- Encourages social interaction among diverse learners
- Benefits students with special needs through shared learning

2. Homogeneous Grouping

In homogeneous grouping, students are grouped based on similar ability levels, skills, or learning needs.

Advantages:

- Allows targeted instruction
- Helps teachers address specific learning challenges
- Useful for short-term tasks or skill reinforcement

3. Random Grouping

Random grouping assigns students to groups by chance, such as numbering off, drawing names, or using digital tools.

Advantages:

- Prevents bias and favoritism
- Encourages students to work with different peers
- Saves instructional time

4. Student-Selected Grouping

Students choose their own group members based on friendships or personal preferences.

Advantages:

- Increases comfort and motivation
- Enhances communication and cooperation

Limitations:

- May exclude some students
- Can reduce diversity within groups

5. Teacher-Selected Grouping

The teacher deliberately forms groups based on academic ability, behavior, social skills, or special needs.

Advantages:

- Ensures balanced participation
- Supports inclusion and equity
- Allows strategic placement of students with special needs

6. Interest-Based Grouping

Students are grouped according to shared interests, topics, or project preferences.

Advantages:

- Increases engagement and enthusiasm
- Encourages deeper exploration of topics

7. Ability-Based Grouping

Groups are formed based on students' academic performance or skill levels for specific subjects.

Advantages:

- Facilitates differentiated instruction
- Helps students progress at an appropriate pace

8. Mixed-Gender Grouping

This method ensures that both male and female students are represented in each group.

Advantages:

- Promotes gender equity
- Encourages diverse perspectives

9. Flexible Grouping

Flexible grouping allows students to move between different groups depending on the task, subject, or learning objective.

Advantages:

- Addresses varying learning needs
- Prevents labeling of students
- Supports continuous assessment

8 . Role of Teachers in Implementing Collaborative Learning

The effectiveness of collaborative learning in inclusive classrooms largely depends on the teacher's role. Teachers must:

- Carefully plan group composition
- Provide clear instructions and roles
- Monitor group interactions
- Offer necessary accommodations and support

Professional development and training are essential to equip teachers with the skills needed to manage collaborative learning effectively in inclusive settings.

9. Challenges of Collaborative Learning in Inclusive Schools

Despite its benefits, collaborative learning presents certain challenges, including unequal participation, lack of teacher preparedness, and limited resources. Students with special needs may require additional support to participate fully, and peers may need guidance to collaborate effectively. Addressing these challenges is crucial for maximizing the benefits of collaborative learning.

10. Methodology

Research Design

The study adopted a **quantitative quasi-experimental research design** to examine the effect of collaborative learning on the learning outcomes of students with special needs in inclusive schools. A pre-test and post-test control group design was used to compare the learning outcomes of students taught using collaborative learning strategies with those taught using conventional teaching methods.

Population of the Study

The population of the study comprised **students with special needs enrolled in inclusive schools**, along with their peers without disabilities, within the selected geographical area. The study focused on students at the upper primary level, where collaborative learning activities are commonly implemented.

Sample and Sampling Technique

A sample of **60 students with special needs** was selected from two inclusive schools. Purposive sampling was used to identify inclusive schools, while simple random sampling was employed to select students within the schools. The sample was divided into:

- **Experimental group (30 students):** taught using collaborative learning
- **Control group (30 students):** taught using traditional teaching methods

Research Instruments

The following instruments were used for data collection:

1. **Achievement Test:** A researcher-developed test was used to assess students' academic learning outcomes before and after the intervention.
2. **Observation Checklist:** Used to record students' participation, interaction, and engagement during classroom activities.
3. **Social Skills Rating Scale:** Used to measure changes in social interaction and cooperative behavior among students with special needs.

The instruments were validated by experts in special and inclusive education. Reliability was established using the test–retest method.

11. Procedure of the Study

The study was conducted in three phases:

1. **Pre-test Phase:** Both the experimental and control groups were administered the achievement test to assess baseline learning outcomes.
2. **Treatment Phase:**
    - The experimental group was taught using collaborative learning strategies such as small-group discussion, peer tutoring, and cooperative problem-solving.

- The control group received instruction through conventional lecture-based methods. The intervention lasted for **six weeks**.

3. **Post-test Phase:** After the intervention, the same achievement test and social skills scale were administered to both groups.

Variables of the Study

- **Independent Variable:** Collaborative learning
- **Dependent Variables:** Academic achievement, social skills, and classroom participation of students with special needs

Data Analysis Techniques

Collected data were analyzed using descriptive and inferential statistics. Mean, standard deviation, and percentage scores were used for descriptive analysis, while **t-tests** were employed to determine significant differences between pre-test and post-test scores of the experimental and control groups.

Ethical Considerations

Informed consent was obtained from school authorities, teachers, parents, and students. Confidentiality and anonymity of participants were ensured. The study was conducted without causing harm or discrimination to any participant.

12. Conclusion

Collaborative learning is a powerful instructional approach that positively affects the learning outcomes of students with special needs in inclusive schools. It enhances academic achievement, promotes social integration, and supports emotional and behavioral development. When implemented thoughtfully and supported by trained teachers, collaborative learning contributes significantly to the success of inclusive education. Schools should therefore encourage the use of collaborative learning strategies to create supportive, engaging, and equitable learning environments for all students.

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