Co-operative Learning: What Makes Group Work Work?

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How can teachers make best use of group work?

Having students work in groups can be enormously beneficial or it can be of little value. So how can teachers ensure they make best use of this classroom tool? One researcher set out to analyse different kinds of co-operative learning approaches reported in research (all experimental studies involving control groups taught using traditional approaches) to find the key to effective learning through group work.

He found two kinds of co-operative learning methods:

- structured team learning (characterised by individual accountability, which means that team success depends on individual learning, and rewards to teams based on the learning progress of their members); and

- informal group learning methods (which are more focused on social dynamics and discussion).

The evidence showed that team rewards and individual accountability were essential elements for enhancing achievement. It isn't enough to simply tell students to work together; they must have a reason to take one another's achievement seriously.

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Collaboration; Classroom management; Pedagogy; Peer groups; Peer tutoring; Pupil grouping; Pupils' participation; Teaching and learning

Contents

What did structured team learning methods involve?

More than half of the experimental studies involved student team learning. In one study, the teacher presented a lesson (such as decimals or fractions) and the students worked within their four-member learning teams to make sure that all team members had mastered the lesson. Then all the students took individual quizzes.

The approach has been used in a wide variety of subjects and with all ages. In a reading and writing version for example, teachers used reading texts and reading groups, as with traditional reading programmes. But the students were assigned to teams composed of two pairs. While the teacher worked with one reading group, the paired students in the other groups worked on a series of activities, including reading to one another, making predictions about how stories will end, summarising stories to one another, writing responses to stories and practising spelling. During writing lessons, students engaged in writing drafts, revising and editing one another's work and finalising team books.

What is important with student team learning is that students don't just do something together - they learn something as a team. Three concepts are central to the approach:

- team rewards;
- individual accountability; and
- equal opportunities for success.

Teams earn certificates or other team rewards if they achieve above a designated criterion. Individual accountability means that the team's success depends on the individual learning of all the team members. This focuses team activity on explaining concepts to one another and making sure that everyone on the team is ready for a quiz or other assessment that they will be taking without help from their team mates. With equal opportunities for success, students contribute to their teams by improving on their past performances, so that high, average and low achievers are equally challenged to do their best and the contribution of all team members is valued.

What did informal group learning methods involve?

The researcher gave the example of the 'jigsaw' method. With this method, students were put into six-member teams to work on academic material that had been broken down into sections. For example, a biography might be divided into early life, first accomplishments, major setbacks, later life and impact on history. Each team member reads his/her section. Members of different teams who have studied the same sections then meet in 'expert groups' to discuss their sections, after which the students return to their teams and take turns teaching their team mates about what they

have learned with the others sharing the same section material. Since the only way students can learn material other than their own is to listen carefully to their team mates, they are motivated to support and show interest in one another's work. The method works best when used in social studies and other subjects where learning from text is important.

Another example given by the researcher was 'group investigation' whereby students work co-operatively in small groups with inquiry, group discussion and shared planning and project realisation. In this method, students form themselves into groups. After choosing sub-topics from a unit being studied (such as 'climate' in a unit on France), the groups further break down their sub-topics into individual tasks and carry out the activities necessary to prepare group reports. Each group then makes a presentation or display to communicate its findings to the rest of the class.

Was there a difference in the impact of the two approaches to group work?

The researcher cited a review of 99 studies of co-operative learning that had taken place over at least four weeks which compared the achievement gains of the co-operative approaches with control groups where traditional approaches were used. Of 64 studies that involved structured team learning methods, 50 found significantly positive effects on achievement and none found negative effects. The mean effect size for the studies from which effect sizes could be calculated was 0.32.

Studies of informal group learning methods which used group goals based on a single product from the work or provided no rewards by contrast found few positive effects. Group goals based on the sum of individual learning performances were a necessary ingredient to the effectiveness of co-operative approaches.

Co-operative learning methods generally work equally well for all types of students. While some studies found particular advantages for high or low achievers, boys or girls, most found equal benefits for all types of students. The research provides no support for the widely held view that co-operative learning will hold back high achievers. The research shows that high achievers gain from co-operative learning (relative to high achievers in traditional classes) as much as low and average achievers do. In other words, students gain as much from helping other students as receiving help themselves.

What did the researcher conclude?

Use of co-operative learning almost always improves affective outcomes. Students love to work in groups, and they feel more successful and like the subjects where group work is used. They also have more friends of different ethnic groups and are more accepting of others different from themselves.

Regarding achievement however, outcomes depend on how co-operative learning is used. In general, two elements must be present if co-operative learning is to be effective:

- group goals; and

- individual accountability.

That is, the groups must work to achieve some goal, reward or recognition and the success of the group must depend on the individual learning of every group member.

The researcher gave the following reason for why group goals and individual accountability are so important. When students work together to complete a single worksheet or to solve a problem together there is little reason for more able students to take the time to explain what is going on to their less able group mates or to ask their opinions. When the group task is to *do* something rather than to *learn* something, the participation of less able students may be seen as interference rather than help. It may be easier in this circumstance for students to give each other answers than to explain concepts or skills to one another.

But when the group's task is to ensure that every group member *learns* something, it is in the interest of every group member to spend time explaining concepts to his/her group mates. The researcher cited studies that show that students who gain most from co-operative work are those who give and receive elaborated explanations.

How was the research designed?

This study sought to find out:

- the effects that collaborative learning methods have on student achievement and other outcomes;

- the forms of co-operative learning that are most effective; and

- the components that must be in place for co-operative learning to work.

To find out, the researcher reviewed a large number of studies of co-operative learning in schools focusing in particular on experimental studies that used control groups studying the same objectives, but who were taught using traditional methods. He found two main kinds of co-operative learning methods: 'structured team learning' and 'informal group learning' methods and reviewed both.

Implications

In completing this digest the authors began to ask the following questions about implications for practitioners.

- When setting up group work in your classroom, would you find it helpful to consider what you want your students to get out of working collaboratively? Are you aiming to improve the social dynamics of the groups and their speaking and listening skills? Or are you aiming to ensure that students help each other to master particular concepts?

- If you are aiming to improve your students' team working and speaking and listening skills, could you plan to use some of the informal learning methods outlined in this study, such as working in groups to make a presentation to the rest of the class?

- If you are aiming to enable students to help each other master particular concepts, could you build team rewards into the group tasks based on the learning progress of all the group members, through getting everyone to prepare for a quiz or other assessment so that everyone in the group has to contribute to the group's success?

In addition the authors began to ask the following questions about implications for school leaders:

- The study showed how different ways of setting up group work resulted in different impacts on students. Would your colleagues benefit from collectively reflecting on and discussing the findings of this research?

- Could your colleagues try out the structured team learning methods described in this study and feed back to each other how they set the tasks up and the impact they felt the tasks had on their students' learning?

Where can I find out more?

Collaborative mathematics: www.gtce.org.uk/tla/rft/collabmaths/

Raising achievement through group work: www.gtce.org.uk/tla/rft/achieve1106/

What role does communication play in co-operative learning?
http://webarchive.nationalarchives.gov.uk/20081022134159/http://standards.dfes.gov.uk/research/themes/pupil_grouping/communicationplay/

The effects of co-operative learning on junior high school students during small group learning:
http://webarchive.nationalarchives.gov.uk/20081022134159/http://standards.dfes.gov.uk/research/themes/pupil_grouping/ThuAug261107362004/

Improving the quality of pupils' talk and thinking during group work:
http://webarchive.nationalarchives.gov.uk/20081022134159/http://standards.dfes.gov.uk/research/themes/English/improvingthequality/