



Research Brief

Productive Group Work for Students

Question: What does the research say about the value of group work?
How do you make work groups productive and contribute to student learning?

In a Nutshell

There is clear evidence that students who are involved in productive collaborative groups outperform their peers. Cooperative group work also results in improved self-esteem, improved relationships and enhanced social and decision-making skills. Johnson and Johnson (1993) identified the elements of a successful collaborative activity. They include individual and group accountability as well as the explicit teaching of the interpersonal and small-group skills needed for successful collaborative work.

Student accountability can be strengthened by designing lessons that emphasize larger learning goals, include a series of interim steps, provide clear timelines for each step, and ask students to evaluate their individual as well as group work. Critical interpersonal and small-group skills include communicating clearly, active listening, constructively responding to peers (both providing and receiving feedback) and considering different perspectives.

Summary of Findings:

Some form of group work has been part of teachers' instructional repertoire forever but it is only in the last few decades that there has been a systematic examination of its use and ways to make it productive. Several studies report that while almost all teachers use some sort of group work in their classrooms, most struggle to make the work productive and to promote positive interaction within the groups (Antil, Jenkins, Waye & Vadasy, 1998; Tomlinson, Moon & Callahan, 1997).

Collaborative group work is important and has a positive impact on student learning. A study of high school students who had experienced at least one hour of collaborative work each week in middle school found that they outperformed other students on standardized measures of achievement (Topping & Trickey, 2007). Not only does it impact student learning, it provides students with improved self-esteem, better relationships with other students, and enhanced social skills (Gillies, 2008). Additionally, studies of secondary schools showed that students preferred working on collaborative tasks rather than on independent tasks (Mueller & Fleming, 2001).

Productive Group Work

Productive group work is part of a larger discussion of effective instruction. Incorporating group work into lessons involves lessening a teacher's control over every aspect of the instructional process, toward asking students to assume greater responsibility for their learning (Fisher & Frey, 2008). Fisher and Frey describe the transition in a classroom as moving from one where the teacher "does it" to one where students "do it together." They identified four components to such a classroom:

1. Focus Lesson - The teacher establishes the lesson's purposes and models his or her own thinking for students.
2. Guided Instruction – The teacher strategically uses assessment, prompts, and cues and questions to guide students into increasingly complex thinking and students' assumption of greater responsibility.
3. Collaborative Learning – The teacher designs and supervises tasks that enable students to consolidate their thinking and understanding and that require students to produce individual products that enable the teacher to assess their learning.
4. Independent Tasks – The teacher designs and supervises tasks that require students to apply the information they have learned in new and authentic products. (Frey, Fisher & Everlove, 2009, p. 6).



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Johnson and Johnson (1993) suggest that there are five elements to a successful collaborative activity.

- *Positive Interdependence* – The group activity must be designed so that the participation of every member is necessary to successfully complete the task and students understand their interdependence.
- *Face-to-Face Interaction* – Groups need to have face-to-face interaction so that students can exchange ideas. The interaction cannot be just about how to accomplish the task nor about splitting up to work on parts of the task.
- *Individual and Group Accountability* – Students must know that each individual will get a grade on the task and that the group will also be graded. These systems work best when students provide feedback about their individual and group performance.
- *Interpersonal and Small-Group Skills* – Students need to have the skills for successful collaborative work. These include conflict resolution skills, communication skills, and appreciation for the diverse strengths individuals bring to the group.
- *Group Processing* – Groups must be provided the opportunity to talk with one another about what worked and what didn't so that they can enhance their skills for other collaborative tasks. It is all about learning from their experience in order to be even more successful in the future.

Building on Johnson and Johnson's work, Scardamalie (2002) identified the conditions that must be established so that the shared responsibility of students can occur.

- The work must be connected to real-world problems.
- The work must involve ideas that are improvable.
- The scope of work should not be overly prescriptive so that groups find their own way.
- Group members hold shared responsibility for outcomes.
- The work has an embedded assessment that allows each member, individually and collectively, to evaluate his or her own success.

(Scardamalie, 2002, pp. 75-76).

Building Student Accountability

The heart of accountability is responsibility for your work. Including individual as well as group accountability in collaborative work is one of the essential components. Each student must be responsible for his or her contribution and the group must be responsible for the overall task.

A study of the most successful collaborative projects found that they shared several characteristics. They include:

- Tasks that emphasized larger learning goals rather than more discrete knowledge.
- Teachers provided students with smaller tasks before asking them to tackle larger, longer and more complex tasks.
- Timelines for both individual and group responsibility was explicit in each part of the activity.
- Each task included a series of interim steps so that individuals and the group could monitor their work and assess their progress toward completing the larger task.
- Students were asked to evaluate their individual as well as the group's work.
- Teachers included both individual and group evaluations when assigning a grade to a project.

(Adapted from: Frey, Fisher & Everlove, 2009)

Interpersonal and Small-Group Skills



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Research shows that students must be taught the skills needed for successful collaborative work. Such skills are not innate, nor intuitive for all students. Common interpersonal skills for success in a collaborative endeavor include decision-making; trust building, active listening and conflict management.

Several classroom routines that foster interpersonal and small-group skills have also been identified (Frey, Fisher & Allen, 2009; Frey, Fisher & Everlove, 2009).

- One skill is the importance of communicating with clarity. For example, teaching students to use graphic organizers such as Venn diagrams, process maps or T-charts.
- Active listening is also a critical skill. Students need to listen and appreciate what others say. Providing opportunities for students to restate and clarify what they have heard, reflecting or paraphrasing what was said, or summarizing the conversation all help to build active listening skills.
- A third skill is responding to peers such as offering constructive criticism that is well received. One way to build this skill is to ask students to provide both warm (supportive) and cool (critical) feedback, or to focus on the content rather than the speaker.
- Finally, considering different perspectives is an important interpersonal skill. A teacher can help to reinforce this skill by asking students to consider a situation or issue from different perspectives, encouraging students to disagree with one another on topics, and to talk about both advantages and disadvantages of issues.

Assessing Productive Group Work

Doug Fisher and Nancy Frey, authors of *Productive Group Work* (2009) developed a rubric for measuring the success of group work. The rubric includes six indicators of successful group work. Those indicators include:

- Complexity of task: *The task is a novel application of a grade-level appropriate concept and is designed so that the outcome is not guaranteed (a chance for productive failure exists).*
- Joint attention to tasks or materials: *Students are interacting with one another to build each other's knowledge. Outward indicators include body language and movement associated with meaningful conversations, and shared visual gaze on materials.*
- Argumentation not arguing: *Student use accountable talk to persuade, provide evidence, ask questions of one another, and disagree without being disagreeable.*
- Language support: *Written, verbal, teacher, and peer supports are available to boost academic language usage.*
- Teacher role: *What is the teacher doing while productive group work is occurring?*
- Grouping: *Small groups of 2-5 students are purposefully constructed to maximize individual strengths without magnifying areas of needs (heterogeneous grouping).*

The complete rubric, including a four-point scale for assessing the productivity of group work, and other useful information about productive group work is available on their website

http://www.fisherandfrey.com/?page_id=20.



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What Principals Can Do

As with most instructional activities principals play an important role in both encouraging teachers to use research-based instructional practices, like collaborative group work, and in monitoring the design, implementation and assessment of those practices. There are some specific things principals can do to support the use of productive classroom groups.

- Assure that teachers have access to the resources that will help them develop the skills for designing productive group activity. Look for professional development resources and training to support these endeavors.
- Talk with teachers about their group activities and provide specific suggestions for ways to make group work more productive.
- Model the characteristics of productive group work at meetings and other times you work with your teachers and other staff.
- Provide time for teachers to meet; share their successful experiences with productive group work, and to collaboratively design other lessons for use in their classrooms.

Summary

There is evidence about the value of collaborative group work on student learning. But all group work is not productive. Teachers need to be intentional in designing the collaborative task and assuring that students have the knowledge and skills to engage in successful group activity.

Print Resources:

- Antil, L., Jenkins, J., Wayne, S., & Vadasy, P. (1998). Cooperative learning: Prevalence, conceptualizations, and the relation between research and practice. *American Educational Research Journal*, 35(3), 419-454.
- Frey, N., Fisher, D. & Allen, A. (2009). Productive group work in middle and high school classrooms. In S. Parris, D. Fisher & K. Headley (Eds.). *Adolescent Literacy, Field Tested: Effective Strategies for Every Classroom* (pp. 70-81). International Reading Association.
- Fisher, D. & Frey, N. (2008). *Better learning through structured teaching: A framework for the gradual release of responsibility*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Frey, N., Fisher, D. & Everlove, S. (2009). *Productive group work: How to engage students, build teamwork, and promote understanding*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Garmston, R. & Wellman, B. (2009). *The adaptive school: A sourcebook for developing collaborative groups* (2nd ed.). Norwood, MA: Christopher Gordon.
- Gillies, R. M. (2008). The effects of cooperative learning on junior high school students' behaviours, discourse, and learning during a science-based learning activity. *School Psychology International*, 29(3), 328-347.
- Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1993). *Circles of learning: Cooperation in the classroom* (6th ed.). Edina, MN: Interaction.
- Mueller, A. & Fleming, T. (2001). Cooperative learning: Listening to how children work at school. *The Journal of Educational Research*, 94, 259-265.



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Scardamalia, M. (2002). Collective cognitive responsibility for the advancement of knowledge. In B. Smith (Ed.), *Liberal education in a knowledge society* (pp. 67-78). Chicago: Open Court.

Tomlinson, C., Moon, T. & Callahan, C. (1997). Use of cooperative learning in the middle level: Insights from a national survey. *Research in Middle Level Education Quarterly*, 20(4), 37-55.

Topping, K. J. & Trickey, S. (2007). Collaborative philosophical inquiry for schoolchildren: Cognitive gains at 2-year follow-up. *British Journal of Educational Psychology*, 77(4), 787-796.

Online Resources:

Productive Group Work in Middle and High Schools – This chapter discusses important lessons about creating a collaborative classroom in secondary schools.

www.fisherandfrey.com/wp-content/uploads/2010/02/groupwork_ira.pdf

Study Guide for *Productive Group Work* from ASCD

This guide is a companion to the ASCD publication, *Productive Group Work: How to Engage Students, Build Teamwork, and Promote Understanding* (Frey, Fisher, Everlove, 2009).

www.ascd.org/publications/books/109018/chapters/A_Study_Guide_for_Productive_Group_Work@_How_to_Engage_Students_Build_Teamwork_and_Promote_Understanding.aspx

SmartBrief on Productive Group Work – This brief describes strategies for productive group work. To access the information you must scroll toward the bottom of the brief.

<http://alquemie.smartbrief.com/alquemie/servlet/encodeServlet?issueid=DF63CD58-97DF-478D-B097-B5F8474DC527&lmcid=archives>

Productive Group Work (Frey, Fisher, Everlove, 2009) from ASCD – Access ample chapters including one on Individual and Group Accountability

<http://www.ascd.org/publications/books/109018.aspx>

How to Get Started: Productive Work Group from The Teachers' Network

<http://www.teachersnetwork.org/ntny/nychelp/mentorship/groupwork.htm>

Making Group Work Count – A college student's look at their experience with group work. It offers helpful guidance for all educators.

<http://www.evergreen.edu/washcenter/resources/acl/b2.html>

Resources and Publications on Productive Group Work – This website from the authors of *Productive Group Work* provides links to several additional articles and publications.

http://www.fisherandfrey.com/?page_id=18

Center for Adaptive Schools – This organization's mission is developing collaborative groups. Their work is with adults but they provide many useful publications and tools that can be adapted for use with secondary school students.

<http://www.adaptiveschools.com/>

Seven Norms of Collaboration – The norms, developed by Garmston & Wellman (2009) are research-based strategies for managing effective collaborative groups. This site includes a description of the seven norms and a set of inventories that can be used to measure their use.

<http://www.adaptiveschools.com/inventories.htm>



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Rubric for Productive Group Work – This site includes several documents that may be downloaded including a rubric for assessing productive group work.

http://www.fisherandfrey.com/?page_id=20

Johnson and Johnson's Cooperative Learning Website – This site provides links to information about cooperative learning and has a set of frequently asked questions about collaborative work.

<http://www.co-operation.org/pages/cl.html#skills>

Classroom Management Techniques During Group Work – This article provides ideas for managing productive work groups.

<http://www.brighthub.com/education/k-12/articles/19616.aspx>

Group Work in the Classroom – This article identifies the things to consider when designing group work.

<http://www.brighthub.com/education/k-12/articles/19619.aspx>

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