The Impact of Optional Group Work on the Student Experience



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Research Question

CS education has widely accepted pair programming.

What about group work in theory courses?

The CS department has adopted optional group work in two of its 1st and 2nd year intro theory courses.

Are we helping or hurting students by giving them the option to work in groups on assignments?

Methods / Data



- ✓ Data from 1354 undergraduate students: 832 CSC165 + 522 CSC263
- ✓ Grade breakdown by question on assessments and prerequisite course grades.
- ✓ Survey + group information for each assignment.

Six Preliminary Results for CSC263

Students work in groups to manage their workload.

Group members scored better on assignments and about the same on tests.

Group members
were more
satisfied with their
answers than
individuals.

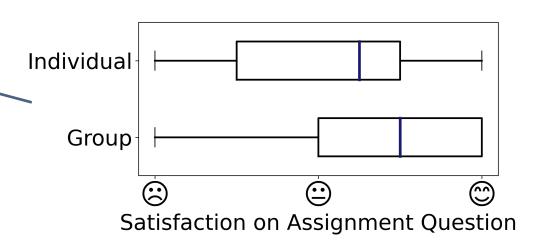
Students recognize that working in groups can raise their grades.

Students working alone are 2.5 times as likely to drop.

Groups splitting the work can lead to worse performance on related test questions.

75% felt encouraged to work in a group because of their overall workload

Assessment	Group Mean	Individual Mean	P-value
Test	54.6%	52.2%	0.14
Assignment	84.4%	74%	7e-9



66% agree that students in groups achieve higher assignment grades.
39% agree that students in groups achieve higher overall course grades.

Group Drop Rate Non-Group Drop Rate

2%		5%
Group work on Assignment Question Collaborative Mostly Partner	0	2 4 6 8 Grade on Test Question

Discussion

What is the impact of groups on grades used for program admission?

How has online learning impacted group formation?

Are students who don't know anyone at a disadvantage?

How can we help students find compatible groupmates?

Do we need to revisit *why* we give students the option to work in a group?

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