Motivation: Massive online courses (MOOCs) isolate students.

Goal: More engagement and better learning via small group discussions (peer learning).

Question: How best to group students?

Participants answer multiple choice questions, discuss them, then revise answers.

Every 5 minutes, all waiting participants are placed arbitrarily into groups of 3.

EXPERIMENTAL SETUP

More participants will improve from an incorrect to a correct response if there's at least one correct participant in the group initially than if there is no such person. (Fisher’s test, p < 0.05)

All-correct groups tend to remain all-correct; all-incorrect groups tend to remain all-incorrect (both >80% of the time in sample).

Suggests design: Automatically form groups (based on initial responses) where some but not all members are correct.

New peer-learning method, not feasible in in-person classroom.

Should 1 or 2 students be correct? Neither was significantly more likely to lead to improvement (Fisher’s test, p > 0.5). May depend on domain.

Similarly: can give hints to some group members but not others.

RESULTS: Groups with at least 1 correct student improve.

- More participants will improve from an incorrect to a correct response if there's at least one correct participant in the group initially than if there is no such person. (Fisher’s test, p < 0.05)
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Note: This experiment simulated students with Mechanical Turk workers.

Future work: deploy the design suggested by this work on real MOOCs.

REFERENCES


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