

Technical Appendix

Definition

Small group tuition is where one teacher or professional educator works directly with a small group of pupils (usually two to five). This arrangement enables the teacher to focus exclusively on these learners, usually in a separate classroom or working area. Intensive tuition in small groups is often provided to support lower attaining learners or to help those who are falling behind to catch up, but it can also be used as a more general strategy to ensure effective progress, or for teaching challenging topics or skills. It is distinguished from One to One Tuition by group size (i.e. more than one and less than six in the group of learners) and from group work in Collaborative learning where there the teacher has responsibility for managing several groups in a whole class setting.

Search terms: Small group teaching/ tuition/ instruction; dyad/paired teaching

Evidence Rating

Although there are three meta-analyses and one best evidence synthesis, two of these reviews consider group work in relation to other strategies (teaching pupils with reading difficulties and the use of technology) and one calculates effect sizes for cost/benefit estimates. Only one meta analysis was conducted in the last ten years. None of the reviews have the impact of group work on academic attainment as the main focus of the review. Overall, therefore, the evidence is rated as limited.

References

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Summary of effects

Meta-analyses	Effect size	FSM effect size	
Elbaum, B., Vaughn, S., Hughes, M. T., Moody, S. W., & Schumm, J. S., (2000)	0.40	-	(Pairs)
	1.61	-	(Small group - NB only one study)
Lou, Y., Abrami, P. C., & d'Apollonia, S., (2001)	0.16	-	(Individual)
	0.31	-	(Small group)
	0.08	-	(Pairs compared with groups of 3-5)
Slavin, R. E., Lake, C., Davis, S., & Madden, N. A., (2011)	0.31	-	
Washington State Institute for Public Policy , (2014)	0.27	-	
Single Studies	Effect size	FSM effect size	
Buckingham, J., Wheldall, K., & Beaman, R. (2012)	0.36	-	Word reading
NFER (2015a)	-0.08	-0.05	English
	-0.04	-0.02	Maths
NFER (2015b)	0.05	0.09	Maths
Torgerson, D., Torgerson, C., Mitchell, N., Buckley, H., Ainsworth, H., Heaps, C. & Jefferson, L. (2014)	0.24	-	(Small group intervention vs control)
	0.21	-	(Small group vs. whole group)
		-	
Weighted mean effect size	0.31		

The right hand column provides detail on the specific outcome measures or, if in brackets, details of the intervention or control group.

Meta-analyses abstracts

2 Elbaum, B., Vaughn, S., Hughes, M. T., Moody, S. W., & Schumm, J. S. (2000)

This meta-analysis examines the link between reading outcomes and grouping format. The following grouping formats were investigated: Cooperative Learning: mixed ability groups work together on class assignments; Student Pairing: students work together in groups of 2; Peer-Tutoring: Originally peer-tutoring usually meant an older or higher ability student tutoring a younger, disabled, or low-achieving student, but studies have shown that children with disabilities benefit from being the tutor as well; Reciprocal tutoring: where students take turns leading the group, has also shown to be effective for both regular and special education students; Small-Group Instruction: this within class grouping practice can be done either with homogeneous or heterogeneous ability groups that are either led by the students or the teacher; Multiple-Grouping Formats: many classrooms use a variety of the grouping formats listed above instead of limiting themselves to just one. Findings: Grouping children instead of teaching the whole class at once significantly improves the reading performance of students with disabilities. There are not many studies on the effect of small-group instruction for teaching reading to students with LD, but the studies that exist imply that groups of 4 or fewer are better than larger groups, and reciprocal teaching is an effective strategy to use in small-group reading instruction. Being paired with another student was beneficial for students with disabilities regardless of whether the student with a disability was in the role of the tutee or acting as reciprocal tutor. Cross-age tutoring has a positive impact on older students with disabilities who tutor younger students. However, younger students with disabilities do not benefit from being tutored by older students with disabilities. The average effect size for all grouping formats used in the reading instruction of students with LD was 0.43.

5 *Lou, Y., Abrami, P. C., & d'Apollonia, S. (2001)*

This study quantitatively synthesized the empirical research on the effects of social context (i.e. small group versus individual learning) when students learn using computer technology. In total, 486 independent findings were extracted from 122 studies involving 11,317 learners. The results indicate that, on average, small group learning had significantly more positive effects than individual learning on student individual achievement (mean ES = +0.15), group task performance (mean ES = +0.31), and several process and affective outcomes. However, findings on both individual achievement and group task performance were significantly heterogeneous. Through weighted least squares univariate and multiple regression analyses, we found that variability in each of the two cognitive outcomes could be accounted for by a few technology, task, grouping, and learner characteristics in the studies.

9 *Slavin, R. E., Lake, C., Davis, S., & Madden, N. A. (2011)*

This article reviews research on the achievement outcomes of alternative approaches for struggling readers ages 5–10 (US grades K-5): One-to-one tutoring, small-group tutorials, classroom instructional process approaches, and computer-assisted instruction. Study inclusion criteria included use of randomized or well-matched control groups, study duration of at least 12 weeks, and use of valid measures independent of treatments. A total of 97 studies met these criteria. The review concludes that one-to-one tutoring is very effective in improving reading performance. Tutoring models that focus on phonics obtain much better outcomes than others. Teachers are more effective than paraprofessionals and volunteers as tutors. Small-group, phonetic tutorials can be effective, but are not as effective as one-to-one phonetically focused tutoring. Classroom instructional process programs, especially cooperative learning, can have very positive effects for struggling readers. Computer-assisted instruction had few effects on reading. Taken together, the findings support a strong focus on improving classroom instruction and then providing one-to-one, phonetic tutoring to students who continue to experience difficulties.

14 *Washington State Institute for Public Policy (2014)*

The small-group tutoring programs included in this analysis are structured, systematic approaches to tutoring struggling students in specific English language arts and/or mathematics skills. The evaluated programs include a variety of specific approaches and curricula such as (in no particular order) Read Aloud, Proactive Reading, Responsive Reading, Leveled Literacy, Spell Read, Corrective Reading, and Number Rockets. An average program provides about 40 hours of tutoring time to groups of two to six (usually three) early elementary students. Certificated teachers provide tutoring and receive about 35 hours of training with a focus on the specific content and strategies used in the programs.