

What works in raising attainment and closing the gap: research evidence from the UK and abroad

Professor Steve Higgins
School of Education
Durham University
s.e.higgins@durham.ac.uk

Overview

1. 'Umbrella' review of recent reviews
2. School level and teacher or class levels
3. Closing the gap
4. The challenges from research
5. The importance of effective evaluation

Review aims

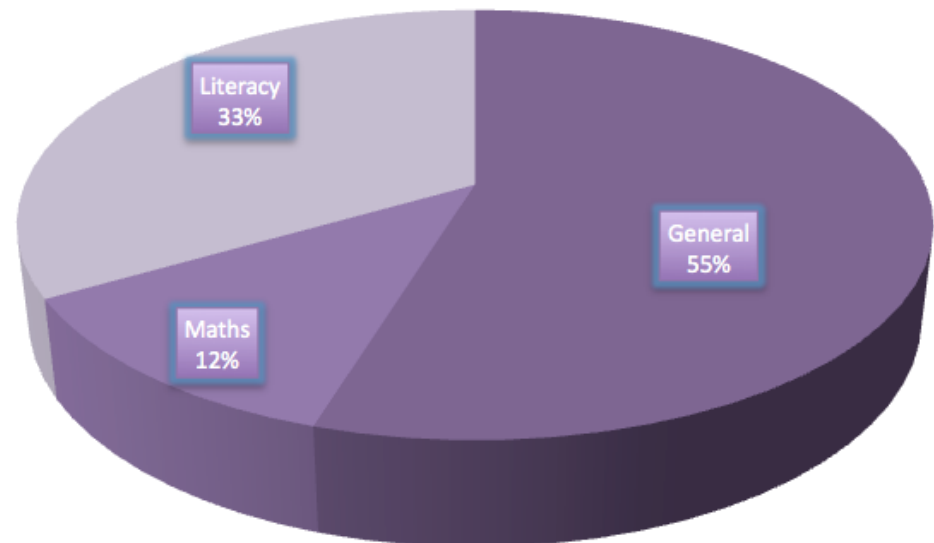
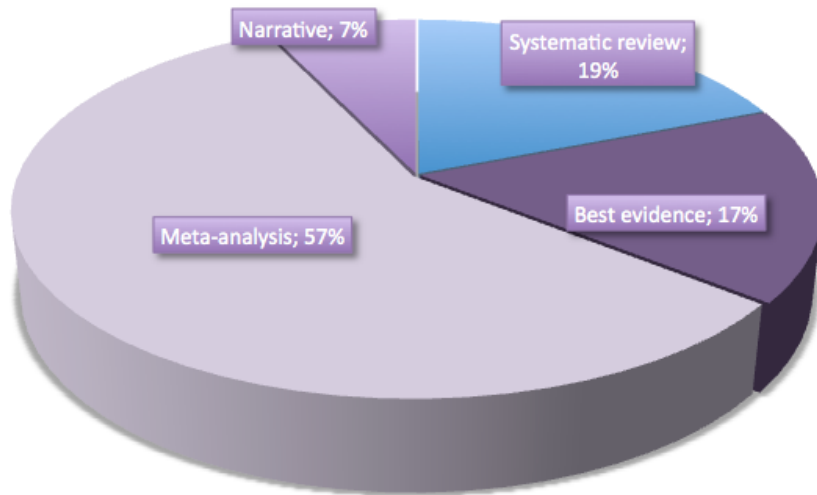
Evidence from research about what we know and don't know, so as to:

1. Support the EEF in identifying promising and innovative approaches when commissioning projects
2. Provide a starting point to develop a useful resource for schools to improve the learning and life chances of disadvantaged pupils

Systematic ‘umbrella’ review

- Reviews of research evidence (a narrative, best-evidence, systematic review or synthesis, or a meta-analysis)
- Improving attainment, closing the gap, overcoming disadvantage
- Published in or since 2000
- Identified 42 reviews
 - School level
 - Class and teacher level
 - Specific focus (reading, maths, parental engagement, SEN etc)

Type of review (n=42)



Focus of review (n=42)

1. Umbrella review

School level actions

- Effective leadership
- A clear focus on improving learning
- Agreed structures and processes in school
- The importance of staff skills and professional development
- Making learning challenging
- Ensuring effective relationships for teaching and learning
- Building partnerships around the school

Challenges

- Sustaining a trajectory of improvement
- How much difference do these different approaches make?
 - E.g. Leadership vs partnerships?
- Difficult to translate general messages into specific practice

Class and teacher level actions

- Using teaching strategies and developing pedagogy
- Building effective learning relationships
- Improving professional expertise, undertaking effective development and training

Characteristics of effective teaching

- **Monitoring and feedback** (target setting, AfL, use of data and classroom evidence)
- **Teaching for learners' use of strategies**
- **Peer interaction and mutual support**
- **High quality relationships to enable learning**

Interventions and approaches

- Explicit, direct teaching providing feedback to learners
- Collaborative and co-operative approaches
- Peer-tutoring
- Meta-cognitive approaches (planning, monitoring and reviewing one's own learning)
- One-to-one and small group tutoring (ideally by teachers, if not, then well-trained volunteers)

Effective programmes

- Range of evidence, mainly US
 - Reading Recovery
 - Building Blocks Mathematics
 - Peer-Assisted Learning Strategies
 - Student Teams-Achievement Divisions
- Formalise aspects of effective teaching, provide professional development, monitor performance

Issues and challenges

- Provides more evidence about how well different approaches work
- Based on averages...
 - Wide range of effects
 - Some inconsistencies
- Translation of evidence to practice

Closing the gap

- Most approaches ‘work’ for the majority of learners
- Most approaches therefore increase the gap
 - The “Matthew Effect” - ‘advantage begets further advantage’ or “*to them that hath shall more be given*”
- Reducing the gap is a significant challenge



Promising classroom strategies to ‘close the gap’

- Focus on improving teaching and learning processes and methods
 - Collaborative and co-operative learning
 - Peer involvement in learning (*peer tutoring, team approaches*)
 - Meta-cognitive strategies, making learning explicit
 - Specific subject strategies (*e.g. phonics instruction in reading, computer assisted instruction in maths*)
- Effective scaffolding practices by teachers

‘What works’ or ‘what’s worked’?

- Good bets based on research and evidence
- Importance of understanding context and variation
- Not so much what you do but how well you do it

Research issues

- Tentative conclusions – analysis based on averages
- Most reviews call for ‘more research’
- Better understanding of the challenge
- General principles, but no ‘recipe’ for success

Reflections

- Complex and challenging problem
- Evidence offers advice on good and bad ‘bets’
- Remedies or capacity building?
- EEF is an unparalleled opportunity to collect evaluation data, over 10-15 years, to improve the way we educate disadvantaged young people and improve the odds of success

**For every complex problem
there is a solution that is
simple, neat...
and WRONG!**

H.L. Mencken 1880-1956

Included reviews

- Alton-Lee, A. (2003). *Quality Teaching for Diverse Students in Schooling: Best Evidence Synthesis June 2003*. Synthesis. Wellington.
- Baker, S., Gersten, R., & Lee, D.S. (2002). A Synthesis of Empirical Research on Teaching Mathematics to Low-Achieving Students. *The Elementary School Journal*, 103(1), 51-73.
- Barley, Z., Lauer, P. A., Arens, S. A., Aphthorp, H. S., Englert, K. S., Snow, D., & Akiba, M. (2002). *Helping At-Risk Students Meet Standards: A Synthesis of Evidence-Based Classroom Practices*. Washington D.C. Retrieved from <http://www.mcrel.org/topics/products/116/> [Accessed August 2011]
- Borman, G. D., Hewes, G. M., Overman, L. T., & Brown, S. (2003). Comprehensive School Reform and Achievement: A Meta-Analysis. *Review of Educational Research*, 73(2), 125-230.
- Burger, K. (2010). How does early childhood care and education affect cognitive development? An international review of the effects of early interventions for children from different social backgrounds. *Early Childhood Research Quarterly*, 25(2), 140-165.
- Chambers, B., Cheung, A., Slavin, R. E., & Laurenzano, M. (2010). Effective Early Childhood Education Programs: A Systematic Review. *Best Evidence Encyclopedia* www.bestevidence.org/word/early_child_ed_Sep_22_2010.pdf [Accessed July 2011]
- Chappell, S., Nunnery, J., Pribesh, S., & Hager, J. (2011). A Meta-Analysis of Supplemental Educational Services (SES) Provider Effects on Student Achievement. *Journal of Education for Students Placed at Risk (JESPAR)*, 16(1), 1-23.
- Cooper, H., Charlton, K., Valentine, Jeff C., Muhlenbruck, L., & D, G. (2000). Making The Most Of Summer School: And A Meta-analytic Review. *Monographs of the Society for Research in Child Development*, 65(1), 1-127.
- Darrow, C. L. (2009). *Language and Literacy Effects of Curriculum Interventions for Preschools Serving Economically Disadvantaged Children: A Meta Analysis*. Evanston, IL: Society for Research on Educational Effectiveness. Retrieved from <http://www.eric.ed.gov/PDFS/ED514949.pdf> [Accessed July 2011]
- DuBois, D. L., Holloway, B. E., Valentine, J. C., & Cooper, H. (2002). Effectiveness of mentoring programs for youth: a meta-analytic review. *American Journal of Community Psychology*, 30(2), 157-197.
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. *Child development*, 82(1), 405-32.
- D'Agostino, J. V., & Murphy, J. A. (2004). A Meta-Analysis of Reading Recovery in United States Schools. *Educational Evaluation and Policy Analysis*, 26(1), 23-28.
- Elbaum, B., Vaughn, S., Tejero Hughes, M., & Watson Moody, S. (2000). How effective are one-to-one tutoring programs in reading for elementary students at risk for reading failure? A meta-analysis of the intervention research. *Journal of Educational Psychology*, 92(4), 605-619.
- Farrell, P., Alborz, A., Howes, A., & Pearson, D. (2010). The impact of teaching assistants on improving pupils' academic achievement in mainstream schools: a review of the literature. *Educational Review*, 62(4), 435-448.
- Ginsburg-Block, M. D., Rohrbach, C. A., & Fantuzzo, J. W. (2006). A meta-analytic review of social, self-concept, and behavioral outcomes of peer-assisted learning. *Journal of Educational Psychology*, 98(4), 732-749.
- Jeynes, W. H. (2008). A Meta-Analysis of the Relationship Between Phonics Instruction and Minority Elementary School Student Academic Achievement. *Education and Urban Society*, 40(2), 151-166.
- Jeynes, William H., & Littell, S. W. (2000). A Meta-Analysis of Studies Examining the Effect of Whole Language Instruction on the Literacy of Low-SES Students. *The Elementary School Journal*, 101(1), 21-33.
- Kendall, S., Straw, S., Jones, M., Springate, I., & Grayson, H. (2008). *A Review of the Research Evidence (Narrowing the Gap in Outcomes for Vulnerable Groups)*. Slough: NFER.
- Kunsch, C. A., Jitendra, A. K., & Sood, S. (2007). Research — Special Issue The Effects of Peer-Mediated Instruction in Mathematics for Students with Learning Problems: A Research Synthesis. *Learning Disabilities Research & Practice*, 22(1), 1-12.
- Kyriakides, L., Creemers, B., Antoniou, P., & Demetriou, D. (2010). A synthesis of studies searching for school factors: implications for theory and research. *British Educational Research Journal*, 36(5), 807-830.
- Lauer, P. A., Akiba, M., Wilkerson, S. B., Aphthorp, H. S., Snow, D., & Martin-Glenn, M. L. (2006). Out-of-School-Time Programs: A Meta-Analysis of Effects for At-Risk Students. *Review of Educational Research*, 76(2), 275-313.
- Li, Q., & Ma, X. (2010). A Meta-analysis of the Effects of Computer Technology on School Students' Mathematics Learning. *Educational Psychology Review*, 22(3), 215-243.
- Marulis, L. M., & Neuman, S. B. (2010). The Effects of Vocabulary Intervention on Young Children's Word Learning: A Meta-Analysis. *Review of Educational Research*, 80(3), 300-335.
- Mattingly, D. J., Prislun, R., McKenzie, T. L., Rodriguez, J. L., & Kayzar, B. (2002). Evaluating Evaluations: The Case of Parent Involvement Programs. *Review of Educational Research*, 72(4), 549-576.
- Mol, S. E., Bus, A. G., & de Jong, M. T. (2009). Interactive Book Reading in Early Education: A Tool to Stimulate Print Knowledge as Well as Oral Language. *Review of Educational Research*, 79(2), 979-1007.
- Moran, J., Ferdig, R., Pearson, P. D., Wardrop, J., & Blomeyer, R. (2008). Technology and Reading Performance in the Middle-School Grades: A Meta-Analysis with Recommendations for Policy and Practice. *Journal of Literacy Research*, 40(1), 6-58.
- Muijs, D., Harris, A., Chapman, C., Stoll, L., & Russ, J. (2004). Improving Schools in Socioeconomically Disadvantaged Areas? A Review of Research Evidence. *School Effectiveness and School Improvement*, 15(2), 149-175.
- Pearson, P. D., Ferdig, R. E., & Moran, J. (2005). *The Effects of Technology on Reading Performance in the Middle-School Grades: A Meta-Analysis With Recommendations for Policy*. Learning. Naperville, IL.
- Potter, D., Reynolds, D., & Chapman, C. (2002). School Improvement for Schools Facing Challenging Circumstances: A review of research and practice. *School Leadership & Management*, 22(3), 324-256.
- Redd, Z., Cochran, S., Hair, E., & Moore, K. (2002). *Academic Achievement Programs and Youth Development: A Synthesis* (pp. 1-103). Washington D.C. Edna McConnell Clark Foundation (ERIC ED465456) http://www.childtrends.org/what_works/clarkwww/acadach/acadachrpt.pdf [Accessed 30/9/2011]
- Reynolds, D., Hopkins, D., Potter, D., & Chapman, C. (2001) School Improvement for Schools facing Challenging Circumstances: A Review of Research and Practice London: DfES http://www.highreliability.co.uk/Files/Downloads/School_improvement/DRDHDPCC2001.pdf [Accessed 30/9/2011]
- Ritter, G. W., Barnett, J. H., Denny, G. S., & Albin, G. R. (2009). The Effectiveness of Volunteer Tutoring Programs for Elementary and Middle School Students: A Meta-Analysis. *Review of Educational Research*, 79(1), 3-38.
- Rohrbach, C. A., Ginsburg-Block, M. D., Fantuzzo, J. W., & Miller, T. R. (2003). Peer-assisted learning interventions with elementary school students: A meta-analytic review. *Journal of Educational Psychology*, 95(2), 240-257.
- Scruggs, T. E., Mastropieri, M. a, Berkeley, S., & Graetz, J. E. (2009). Do Special Education Interventions Improve Learning of Secondary Content? A Meta-Analysis. *Remedial and Special Education*, 31(6), 437-449.
- Senchal, M. (2006). *The Effect of Family Literacy Interventions On Children's Acquisition of Reading The Effect of Family Literacy Interventions On Children's Acquisition of Reading: From Kindergarten to Grade 3*. Director. Portsmouth, New Hampshire. National Institute for Literacy http://lincs.ed.gov/publications/pdf/lit_interventions.pdf [Accessed 30/9/2011]
- Senchal, M., & Young, L. (2008). The Effect of Family Literacy Interventions on Children's Acquisition of Reading From Kindergarten to Grade 3: A Meta-Analytic Review. *Review of Educational Research*, 78(4), 880-907.
- Sharples, J., Slavin, R., Chambers, B., & Sharp, C. (2011). *Effective classroom strategies for closing the gap in educational achievement for children and young people living in poverty , including Schools and Communities Research Review* (Vol. 4). Retrieved from www.c4eo.org.uk/.../classroomstrategies/.../classroom_strategies_research_review.pdf [Accessed 30/9/2011]
- Shulruf, B. (2011). Do extra-curricular activities in schools improve educational outcomes? A critical review and meta-analysis of the literature. *International Review of Education*, 56(5-6), 591-612.
- Slavin, R. E., & Lake, C. (2008). Effective Programs in Elementary Mathematics: A Best-Evidence Synthesis. *Review of Educational Research*, 78(3), 427-515.
- Slavin, R. E., Lake, C., Chambers, B., Cheung, A., & Davis, S. (2009). Effective Reading Programs for the Elementary Grades: A Best-Evidence Synthesis. *Review of Educational Research*, 79(4), 1391-1466.
- Slavin, R.E., Lake, C., & Groff, C. (2009). Effective programs in middle and high school mathematics: A best-evidence synthesis. *Review of Educational Research*, 79(2), 839-911.
- Slavin, R. E., Cheung, A., Groff, C., & Lake, C. (2008). Effective Reading Program for Middle and High Schools: A Best-Evidence Synthesis. *Reading Research Quarterly*, 43(3), 290-322.
- Slavin, R. E., Lake, C., Davis, S., & Madden, N. A. (2011). Effective programs for struggling readers: A best-evidence synthesis. *Educational Research Review*, 6(1), 1-26.
- van Steensel, R., McElvany, N., Kurvers, J., & Herppich, S. (2010). How Effective Are Family Literacy Programs?: Results of a Meta-Analysis. *Review of Educational Research*, 81(1), 69-96.
- Weiser, B., & Mathes, P. (2011). Using Encoding Instruction to Improve the Reading and Spelling Performances of Elementary Students At Risk for Literacy Difficulties: A Best-Evidence Synthesis. *Review of Educational Research*, 81(2), 170-200.