

HEART

HEALTH & EDUCATION ADVICE & RESOURCE TEAM

Helpdesk Report: Teacher Training and Improved Learning

Date: 23.10.13

Query: Which aspects of teacher training and professional development have been associated with improved learning?

These helpdesks were designed to enable an extensive search for evidence on various methods for improving learning. There are a series of six similar reports, each is based on an edit of a literature search for their chosen method. After the initial search had been done the search fields were expanded to include further search engines and search methods, for more information please see the search strategy section of the report.

The list of methods searched in the series are: textbooks, teacher training, infrastructure and basic facilities, school leadership, school governance and student performance data.

Enquirer: DFID

Content

1. Screened results from search strategy
2. Additional resources
3. Search strategy
4. Screening method

1. Screened results from search strategy

A total of 2 documents were assessed as potentially relevant.

The Early Grade Reading Assessment: Applications and Interventions to Improve Basic Literacy

A. Gove & A. Wetterberg (2011)

RTI International.

Available at: <http://www.rti.org/pubs/bk-0007-1109-wetterberg.pdf>

This book highlights the experience of Liberia in both assessing and improving reading in primary schools. As a result of an Early Grade Reading Assessment, the Ministry of Education and partners, including the United States Agency for International Development, came together to identify and develop strategies for improving reading in schools. Over the course of a year, the partnership provided support and training to teachers, reading books for students, and collaborated with parents to instill a culture of reading in the community. These efforts paid off; the share of students in program-supported schools that are reading with understanding more than tripled, while the results in a comparison group remained nearly flat.

Critical to this process was the use of data to inform decision making. Assessments such as those described in this book are especially important as they identify which skills need reinforcement--information that can directly inform teaching and learning. With training and support, teachers can then use this information to improve their practice in schools and monitor student progress toward achieving goals and standards. Information can also help parents and communities to pressure for and support improvement in schools. This book contains the following: (1) The Early Grade Reading Assessment: An Introduction (Amber Gove and Anna Wetterberg); (2) Using EGRA as a National Reading Diagnostic: Nicaragua and Senegal (Jessica Mejia and Sarah Pouezevara); (3) Gauging Program Effectiveness with EGRA: Impact Evaluations in South Africa and Mali (Wendi Ralaingita and Anna Wetterberg); (4) Teachers' Use of EGRA for Continuous Assessment: The Case of EGRA Plus: Liberia (Marcia Davidson, Medina Korda, and Ollie White Collins); (5) Mother Tongue and Reading: Using Early Grade Reading Assessments to Investigate Language-of-Instruction Policy in East Africa (Benjamin Piper and Emily Miksic); (6) Using Information and Communication Technologies to Sort EGRA (Sarah Pouezevara and Carmen Strigel); and (7) Motivating Early Grade Instruction and Learning: Institutional Issues (Luis Crouch). Appended are: (1) Early Grade Learning Community of Practice Members; and (2) EGRA Subtask Examples. A glossary and an index are included. Individual chapters contain references and footnotes.

Methods

Primary

Non-experimental

Improving Teaching and Learning of Basic Maths and Reading in Africa: Does Teacher Preparation Count?

Kwame Akyeampong, Kattie Lussier, John Pryor and Jo Westbrook (2013)

International Journal of Educational Development, 33 (3), 272-82

Abstract available: <http://www.sciencedirect.com/science/article/pii/S0738059312001216>

Teacher education has an important role in ensuring quality of learning especially for the poorest children. The article draws on a study of teacher preparation for the early primary grades in six African countries--Ghana, Kenya, Mali, Senegal, Tanzania and Uganda--in reading and mathematics. Initial teacher education had the strongest impact on newly qualified teachers but also induced misplaced confidence leading to standardised teacher-led approaches that failed to engage learners. Learning to read was divorced from meaning while mathematical activities were not linked to learning concepts. We suggest that teacher education is reconstructed as a study of classroom practice that places children's learning at its centre.

Methods

Primary

Non-Experimental

2. Additional resources

The following resources were identified through the report on textbooks and improved learning:

Improving Learning in Primary Schools of Developing Countries: A Meta-Analysis of Randomized Experiments

Patrick J. McEwan (2013)

Wellesley College

Available at: <http://academics.wellesley.edu/Economics/mcewan/PDF/meta.pdf>

(Also in the textbooks and teacher training reports)

I identified and coded 76 randomized experiments conducted in developing-country primary schools from the mid-1970s to 2013. The experiments evaluated the impact of 110 school-based treatments on language and mathematics test scores, as compared with “business as-usual” in the same settings. The treatments included instructional interventions, health interventions, and incentive-based interventions. On average, monetary grants and deworming had effects that were close to zero and statistically insignificant. Nutritional treatments, treatments that provided information to parents or students, and treatments that improved school management and supervision had small mean effect sizes (0.04-0.06) that were not always robust to controls for study moderators. The largest mean effect sizes included treatments with instructional materials (0.08); computers or instructional technology (0.15); teacher training (0.12); smaller classes, smaller learning groups within classes, or ability grouping (0.12); student and teacher performance incentives (0.10); and contract or volunteer teachers (0.10). Metaregressions that controlled for treatment heterogeneity and other moderators suggested that the effects of materials and contract teachers, in particular, were partly accounted for by composite treatments that also included teacher training and class size reduction. A caveat is that interventions like deworming and school lunches often affected enrollment and attainment independently of learning, implying that student time is not always used productively in schools. There is insufficient data to gauge the relative cost-effectiveness of categories of interventions.

Methods

Secondary

Non-Systematic Review

Education Inputs In Uganda: An Analysis of Factors Influencing Learning Achievement in Grade Six

Harriet Nannyonjo (2007)

World Bank Group: Washington

Available at:

<https://openknowledge.worldbank.org/bitstream/handle/10986/6758/405290UG0Educa101OFFICIAL0USE0ONLY1.pdf?sequence=1>

(Also in the textbooks report)

This study on effective use of school inputs in Uganda is intended to contribute to the policy debate on how to make the best use of available resources to improve learning outcomes. It comes at an opportune time in Uganda when there are increasing demands on the education budget, yet it is unlikely that substantial increases in the sector budget envelope will be provided given other competing national priorities, as well as the need for additional resources to finance post primary education and training. This report emphasizes: the need for a balanced focus on resource availability and use, because without appropriate use or management, resources may not lead to improved learning; helping teachers to effectively teach large classes; and the importance of investing more in in-service training focused on pedagogical practices than on training teachers to acquire academic qualifications. The study also points to the need to examine and include teacher effectiveness as key criteria for determining teacher remuneration. With regard to automatic promotion, this study, and indeed the general literature suggest that repetition tends not to work within the same context and the same teaching styles. The findings of this study clearly demonstrate the need to focus on school and classroom processes and better use of education resources focused on improvement of learning.

Methods

Primary and Empirical

Non-experimental design

3. Search strategy

Databases and websites searched:

- Education Resources Information Centre (ERIC)
- British Education Index (BEI)
- Web of Knowledge – limited to Social Sciences Citation Index only
- R4D DfID Research For Development
- Gov.uk: Publications section and DFID evaluation reports
- 3ie Systematic Review Database
- 3ie Database of Impact Evaluations
- The Campbell Library
- EPPI Centre
- Google Scholar

Search strategy concepts

The search strategy was tailored to the functionality of the different databases searched. In searching the academic databases, ERIC, BEI and Web of Science, search strings were developed for the search concepts, Teacher training, DFID priority countries and Learning Achievement and these were combined. Both keyword and subject heading searches were carried out. Please see Annex C for the full search strategy for these databases. Other databases had more limited search functionality and were searched within topic/ sector areas e.g. Education or using fewer keywords.

The full search strategies for ERIC, BEI and Web of Science are included in Annex B. Please see the following table for summaries of the search strategies and results.

ERIC, BEI and Web of Science

| Database and Dates covered | Date searched | Concept search strategy | Hits | Notes | LMIC hits | Tier-2 countries added (18-10-13) |
|--|---------------|---|------|--|-----------|-----------------------------------|
| British Education Index (BEI) 1975 - present | 7-10-13 | As ERIC but No primary or secondary school limit included | 9 | | | 1 |
| Education Resources Information Centre (ERIC) 1966- present | 7-10-13 | Teacher Training and DfID countries and Learning Achievement. Limited to Primary & Secondary Education, yrs 2000-2013 | 159 | Pedagogy term didn't prove useful, too many irrelevant hits. | 950 | 14 |
| Science Citation Index & Social Sciences Citation Index WOS 1900 - present | 8-10-13 | As ERIC but No primary or secondary school limit included | 53 | Pedagogy added | 273 | 4 |

Further detail on the search methods are outlined in Annex C.

4. Screening method

Studies were assessed against the following inclusion criteria:

- **Geography:** DFID priority countries. A list of priority countries is provided in Annex A. Both Tier 1 and Tier 2 countries were included
- **Language:** Limited to English language only
- **Relevance:** Studies which address the thematic research question i.e. **In what circumstances has teacher training and professional development been associated with improved learning?** and which look at **effects** on learning achievement
- **Study design:** Primary empirical studies (quantitative or qualitative) and secondary analysis (systematic reviews or rigorous literature reviews) which meet the relevance criterion were included. Case studies, theoretical, conceptual and policy papers were excluded.
- **Publication date:** Within last 10 years

Studies were screened on the basis of the abstract. Where studies were potentially relevant but their adherence to the inclusion criteria could not be fully ascertained from the abstract (for example, evaluation methodology was not stated), they were included in the list, so they can undergo further screening from the full text at a later date.

Study design was described using the DFID How To Note: Assessing the Strength of Evidence:

<https://www.gov.uk/government/publications/how-to-note-assessing-the-strength-of-evidence>

Authors

This query response was prepared by Laura Bolton, Judy Wright and Thomas Veale

About Helpdesk reports: The HEART Helpdesk is funded by the DFID Human Development Group. Helpdesk reports are based on 3 days of desk-based research per query and are designed to provide a brief overview of the key issues, and a summary of some of the best literature available. Experts may be contacted during the course of the research, and those able to provide input within the short time-frame are acknowledged.

For any further request or enquiry, contact info@heart-resources.org

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