

Effects of an early childhood intervention on classroom quality and child outcomes in Pakistan

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Abstract

- Background:** Early childhood intervention programmes around the world have been found to enhance children's cognitive and social competencies in the short and long term (C. Kagitcibasi et al., 2009; K. Sylva et al., 2008). In Pakistan, however, only 43% of preschool children have access to preschool education (UNESCO, 2009). The Aga Khan Foundation implemented an intervention programme to improve access to quality early childhood care and education in Pakistan. This included improving learning environments and processes in preschool and early grade classrooms.
- Objective:** This research study examines the effects of the RCC intervention on classroom quality in preschool and Grade 1, and children's learning achievement in Grade 1, at government schools in the province of Sindh.
- Method:** Stratified random sampling was used to select intervention schools. Comparison non-intervention schools were randomly sampled from the same districts. Research assistants gathered school-level information, observed classroom processes and environments, and assessed children's early literacy and numeracy.
- Results:** Findings indicate that RCC classrooms demonstrated higher quality than non-RCC classrooms at both preschool and Grade 1 levels. Classroom quality was correlated with higher average literacy and numeracy scores in Grade 1.
- Discussion and Conclusion:** The RCC intervention seems to have had a substantial impact on preschool and early grade classroom quality and learning achievement at government schools in Pakistan. Teacher training seems to play a critical role in this process.



Background

Early childhood care and education is important for Pakistan.

- Pakistan's public education system is characterized by low enrollment rates, high drop out rates, and low levels of learning - especially in the early grades (UNESCO, 2009; SAFED, 2012).
- Good quality early childhood care and education can improve children's readiness for school and their capacity to succeed in the early grades (Arnold, 2004).
- Longitudinal research studies show that the cognitive and social effects of good quality early interventions may be sustained into adulthood (Kagitcibasi et al., 2009; Sylva et al., 2008).

Very few children in Pakistan have access to quality early childhood care and education.

- Only 43% of preschool children have access to preschool education in Pakistan (UNESCO, 2009).
- The quality of this preschool education is often far from adequate. In many government schools, preschool children are often left unattended or sitting in the back of Class 1 (Aga Khan Foundation, 2011).

Objective

- The Aga Khan Foundation implemented an early childhood intervention programme to improve access to quality early childhood care and education in Pakistan: the Releasing Confidence and Creativity (RCC) Programme.
 - The RCC programme established classrooms and recruited teachers for preschool students in schools where this was not already in place, trained and supported preschool and early grade teachers, and provided classroom materials.
 - The RCC programme involved partnerships with a number of local community-based organizations, and espoused a holistic and multi-dimensional model. It was implemented from 2002 to 2011 in over 250 schools in four provinces of Pakistan. The programme was initially funded by USAID and later by the Royal Netherlands Embassy.
- This research study examines the effects of the RCC early childhood intervention on classroom quality in preschool and Grade 1, and children's learning achievement in Grade 1.



Method

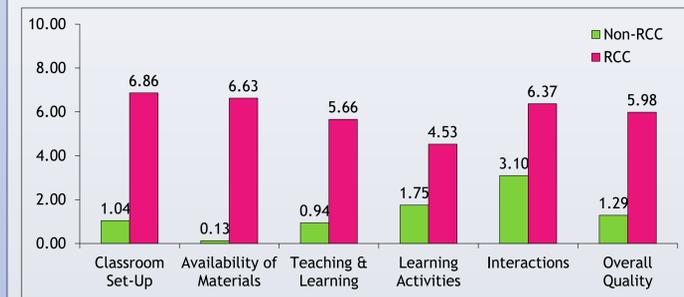
- Stratified random sampling was used to select intervention schools. Comparison non-intervention schools were randomly sampled from the same districts.
- Trained research assistants worked in pairs and visited schools twice in the academic year to gather data.
- Classroom observations** were carried out mid-year with a locally developed systematic observation tool which assessed:
 - ✓ Classroom set-up
 - ✓ Availability of various learning materials
 - ✓ Teaching and learning
 - ✓ Occurrence of various learning activities
 - ✓ Interactions
- Learning achievement** was assessed at the end of the year using locally developed, curriculum-aligned Learning Achievement Tests for:
 - ✓ English literacy
 - ✓ Sindhi or Urdu literacy
 - ✓ Numeracy
- The present study focuses on data gathered in the province of Sindh in the 2010-2011 academic year.

Acknowledgements

This research study was funded and supported by the Aga Khan Foundation-Geneva, the Aga Khan Foundation-Pakistan, and the Royal Netherlands Embassy. Support was also provided by the Dr. Eric Jackman Institute of Child Study (Ontario Institute for Studies in Education, University of Toronto).

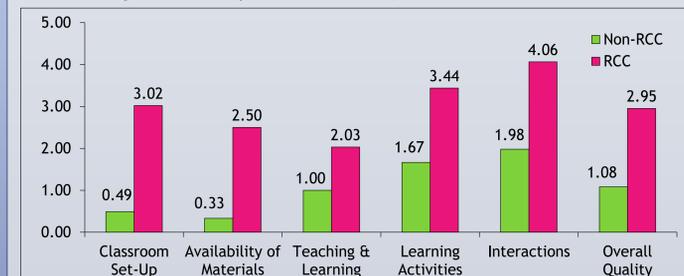
Results

- Preschool classrooms were of higher quality at RCC intervention schools than they were at non-RCC comparison schools (all t-tests were significant at $p < .05$ or lower).



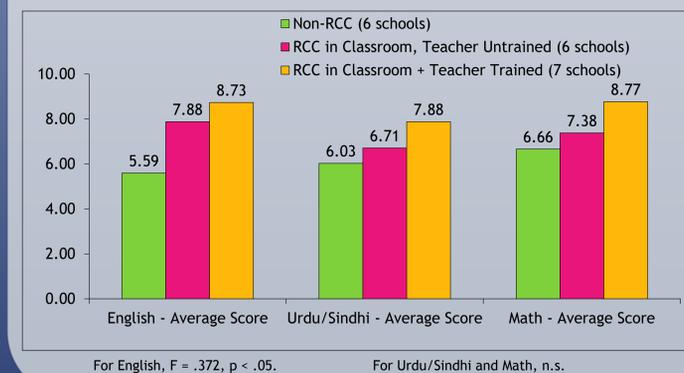
This above analysis examines 8 non-RCC schools (9 non-RCC schools did not have preschool classrooms) and 16 RCC schools.

- Grade 1 classrooms were of higher quality at RCC intervention schools than they were at non-RCC comparison schools (all t-tests were significant at $p < .05$ or lower).



The above analysis examines 12 non-RCC schools and 16 RCC schools.

- Grade 1 literacy and numeracy averages tended to be higher at RCC intervention schools than they were at non-RCC comparison schools but at the school level these differences were not statistically significant.
- Teacher training played an important role: RCC classrooms where the observed teacher had herself been trained by RCC had higher classroom quality** and higher learning achievement scores (English literacy*) than RCC classrooms where the observed teacher had not herself been trained.



Results (continued)

- Preschool classroom characteristics tended to correlate with Grade 1 learning outcomes (Spearman's rho values below).

Preschool Classroom Quality	Grade 1 English literacy	Grade 1 Urdu / Sindhi literacy	Grade 1 Numeracy
Classroom Set-Up	.566*	.539*	.600*
Availability of Materials	.589*	.652**	.715**
Teaching & Learning	.525*	.474	.438
Learning Activities	.473	.400	.431
Interactions	.500*	.534*	.359
Overall Quality	.655**	.556*	.498

** $p < .01$ * $p < .05$

- Grade 1 classroom characteristics tended to correlate with Grade 1 learning outcomes (Spearman's rho values below).

Grade 1 Classroom Quality	Grade 1 English literacy	Grade 1 Urdu / Sindhi literacy	Grade 1 Numeracy
Classroom Set-Up	.338	.289	.327
Availability of Materials	.568*	.432	.378
Teaching & Learning	.518*	.433	.482*
Learning Activities	.712**	.662**	.772**
Interactions	.405	.304	.403
Overall Quality	.626**	.484*	.526*

** $p < .01$ * $p < .05$

Discussion and Conclusions

- The RCC intervention seems to have had a substantial impact on many aspects of preschool and Grade 1 classroom environments at government schools in Pakistan.
- In turn, these higher quality learning environments are correlated with improved literacy and numeracy knowledge in children.
- Teacher training plays an important role in classroom quality and in children's learning outcomes.
- RCC and non-RCC differences in average literacy and numeracy scores were not found to be statistically significant. This is likely due to the small sample size examined in this analysis.
- Classroom quality improvements were greater in preschool classrooms - reflective of RCC's programmatic focus. However, Grade 1 classroom quality is also correlated with children's outcomes. In developing and implementing early childhood interventions, it is important to focus on the early grades as well as the preschool years.