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The Impact of Early Childhood Development Centres on Performance of Children in Early Primary School

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Abstract

Communities in Malawi establish Early Childhood Development (ECD) centres where children aged from 3 to 5 years are enrolled. At the age of 6, children enrol in Grade 1 in primary school. Community members claimed that graduates from ECD centres performed better in early primary school than non-ECD centre graduates. However, there was lack of empirical evidence to substantiate the claim. This study was aimed at assessing the impact of ECD enrolment on children's performance in early primary school by tracking the performance of ECD centre graduates in Grade 1 and comparing it with performance of non-ECD centre graduates. Four primary schools which enrolled more ECD centre graduates in Grade 1 were purposively sampled for this study in Blantyre district, Malawi. Performance of 943 children was tracked, of which 159 were ECD centre graduates. End of year Grade 1 assessment results for the 943 children were used to get numbers of children who were promoted to Grade 2, who repeated in Grade 1 and who dropped out of Grade 1. Then promotion rate, repetition rate and dropout rate for ECD centre graduates and non-ECD centre graduates were calculated and compared. The results revealed that promotion rate was higher for ECD centre graduates than for non-ECD centre graduates while repetition rate and dropout rate were lower for ECD centre graduates than for non-ECD centre graduates. It was therefore concluded that Early Childhood Development centres impact positively on children's performance in early primary school.

Keywords: *Early Childhood Development, feeder ECD Centres, early primary school, promotion rate, repetition rate, dropout rate*

Introduction

Communities in Malawi establish Early Childhood Development (ECD) centres where children aged from 3 to 5 years are enrolled. Many of these ECD Centres are established with the support of either government or non-government organisations. ECD Centres prepare children for enrolment in Grade 1 at a primary school. Upon reaching age 6, the children graduate from the ECD Centre to enrol in Grade 1 at a primary school. It was a common belief among community members that graduates from ECD centres performed better in early primary school than non-ECD centre graduates. However, the claim could not be substantiated due lack of empirical evidence.

The purpose of the study was to assess the impact of ECD Centre attendance on children's performance in Grade 1 at early primary school by tracking the performance of ECD centre graduates in Grade 1 and comparing it with performance of non-ECD centre graduates. To achieve this purpose, the study focused on the following objectives:

1. Calculate the promotion rates from Grade 1 to Grade 2 of ECD Centre graduates and non-ECD Centre graduates in the sampled primary schools.
2. Compare Grade 1 repetition rates of ECD Centre graduates and non-ECD Centre graduates in in sampled primary schools.
3. Compare Grade 1 dropout rates of ECD Centre graduates and non-ECD Centre graduates in sampled primary schools.

This study was significant in that it provided research evidence that ECD programs produce desirable benefits. Such empirical evidence can be used for mobilising political and public support for financing the establishment of more ECD Centres.

Literature review

Early childhood Development education involves provision of supervised programs with social and educational goals for children aged 3 to 5 years. These children participate in ECD education until age of school entry. Participating in early childhood Development education helps to enhance a child's readiness for primary school enrolment (Estes, 2015). Rao et al. (2014) reported that ECD educational interventions resulted in consistent positive effects on children's cognitive development and school success and reduced the achievement gap between children from low-income families and their more advantaged peers. They argued that since ECD education enhanced children's cognitive development and learning, it leveled the playing field for disadvantaged children during the early years of primary school. Similar cognitive and academic achievement in early primary school was also reported to be positive for children who graduated from preschool (Ramey et al, 2000).

In their study of the benefits of ECD education interventions in relation to academic success, Campbell, et al. (2002), Loeb, et al. (2007) and Nores & Barnett (2010) found that children who participated in preschool earned significantly higher scores on intellectual and academic measures as compared to children who never enrolled in pre-school. The studies also revealed that pre-school education enhanced the children's skills in mathematics and reading. These findings agreed with what Berlinski, Galiani & Gertler (2006) found in their investigation of the effect of pre-primary school on subsequent primary school performance in Argentina. The investigation confirmed that pre-primary school attendance positively affected children's performance in primary school. Similar findings were also revealed by Camilli, et al. (2010) who did a meta-analysis of 123 comparative studies on the benefits and costs of preschool programs. The results showed that there was a positive impact on social skills and school progress for children who attended preschool before enrolling in Grade 1 at primary school.

Barnett (1995) reviewed 36 studies on long-term effects of early childhood programs on cognitive and school outcomes. The review focused on the effects of ECD program participation on children's cognitive development. The results showed that early childhood programs produce large short-term benefits for children on intelligence quotient (IQ) and sizable long-term effects on school achievement, grade retention, and social adjustment. These revelations meant that ECD programs impact on many aspects of the child's development, hence the need for increased financial support from governments to increase access. Early, et al. (2007) reported that while it is important to provide high-quality preschool education, increasing the qualification of preschool teachers was not adequate for improving classroom quality or maximizing children's academic gains. Early, et al. (2007) recommended that raising the effectiveness of ECD education requires a wide range of professional development activities and supports targeted toward teachers' interactions with children.

Gardinal-Pizato, Marturano, & Fontaine (2012) carried out a study on access to early childhood education and academic achievement in elementary school with a view to verifying the impact of exposure to ECD education on the academic performance of children and evaluate their academic progress from the 3rd to the 5th grade when there is exposure to early childhood education. The results showed that ECD education was consistently associated with greater achievement. Gilliam & Zigler (2001) did a critical meta-analytic review of the evaluations of the impact of state-funded preschool programs on child outcomes. The findings provided support for positive impacts of preschool programs in improving children's school attendance and performance, as well as reducing grade repetition (retention) several years beyond preschool (Rhee & Lee, 1990). These findings were corroborated by Ruhm & Waldfogel (2011) in their study of long-term effects of early childhood care and education.

Methodology

Research design

The study used a quantitative approach. Statistics were computed to determine the promotion rate, repetition rate and dropout rate of ECD Centre graduates and non- ECD Centre graduates. The study was carried out in Blantyre district in Malawi.

Selection of primary schools

Four primary schools were purposively sampled in Blantyre district. These were the first four schools which enrolled more ECD Centre graduates in Grade 1. The four schools had a total of eight feeder ECD Centres. The feeder ECD Centres are centres which fed primary schools with ECD graduates.

Data collection

The study used ECD Centre data for 2008 and primary school enrolment data for 2009. As the study commenced, names of children who graduated from ECD Centre in 2008 were collected from the eight feeder ECD centres including the names of respective schools where they enrolled. Then names of all children (ECD Centre graduates and non-ECD Centre graduates) who enrolled in Grade 1 in 2009 academic year were compiled for each of the four primary schools. Class attendance registers were used to get enrolment figures by sex as well as number of dropouts and to verify which of the ECD Centre graduates actually enrolled in Grade 1. Then the performance of ECD Centre graduates in Grade 1 was tracked by focussing on promotion, repetition and dropout. Children who were enrolled but either died or transferred to other primary schools where their performance could not be tracked were excluded from the study. End of 2009 school year assessment results were used to get numbers of children who were promoted to Grade 2, repeated in Grade 1 and dropped out of Grade 1. Two check lists were used as data collection tools. One check list consisted of names of ECD Centre graduates who enrolled in Grade 1 in 2009 and the other consisted of names of non-ECD Centre graduates who enrolled for Grade 1 in 2009. Then, using end of 2009 school year assessment results, the researcher indicated against each name whether the child was promoted to Grade 2, repeated in Grade 1 or dropped out of Grade 1.

Data analysis

Data analysis was done using descriptive statistics. It involved the calculation of promotion rate, repetition rate and dropout rate of ECD Centre graduates which were then compared with those of non-ECD Centre graduates. Similar analysis was also done based on sex of the students.

Results

Comparison of performance of ECD centre graduates and non-ECD centre graduates

During the study, end of year Grade 1 assessment results were used to determine the numbers of the children who were promoted to grade 2 and those who repeated grade 1. The Grade 1 assessment results were compared with the enrolment record to determine the number of children who dropped out of school. Performance of 943 Grade 1 children was tracked, of which 159 were ECD Centre graduates while 784 were non-ECD Centre graduates.

The study results presented in Tables 1 and 2 give the distribution in terms of promotion, repetition and dropout of ECD Centre graduates and non-ECD Centre graduates. Of the 159 ECD Centre graduates who enrolled in Grade 1 in 2009 in the four primary schools, 83 were boys and 76 were girls. End of year assessment results revealed that 110 children were promoted to Grade 2 while 35 repeated in Grade 1 and 14 dropped out of Grade 1.

Table 1: Number of ECD centre graduates by sex

	Promoted to grade 2	Repeated in grade 1	Dropped out of grade 1	Total
Boys	59	15	9	**83**
Girls	51	20	5	**76**
Total	**110**	**35**	**14**	**159**

Table 2 indicates that of the 784 non-ECD Centre graduates, who enrolled in Grade 1 in 2009 in the sampled primary schools, 397 were boys and 387 were girls. End of year assessment results revealed that 383 children were promoted to Grade 2 while 266 repeated in Grade 1 and 135 dropped out of Grade 1.

Table 2: Number of non-ECD centre graduates by sex

	Promoted to grade 2	Repeated in grade 1	Dropped out of grade 1	Total
Boys	177	165	55	**397**
Girls	206	101	80	**387**
Total	**383**	**266**	**135**	**784**

Descriptive analysis of the performance of Grade 1 children revealed that 69.2% of the ECD centre graduates were promoted to Grade 2 as compared to only 48.9% of the non-ECD Centre graduates (Figure 1). A larger proportion of non-ECD Centre graduates repeated in Grade 1 (33.9%) and dropped out of Grade one (17.2%) as compared to 22.0% and 8.8% respectively for ECD Centre graduates.

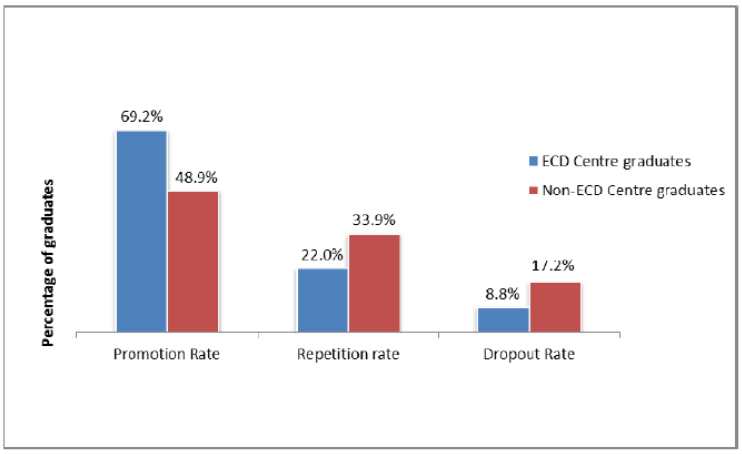

Figure 1: Comparison of Grade 1 Performance of ECD Centre graduates and Non-ECD Centre graduates in Blantyre District

Grade 1 performance by sex

Performance of the ECD Centre graduates and non-ECD Centre graduates in Grade 1 was also analysed by sex. The results as shown in figure 2 revealed that for ECD Centre graduates, more boys (71.1%) were promoted to Grade 2 than girls (67.1%). More girls repeated in Grade 1 than boys while more boys dropped out than girls. The opposite was observed for non-ECD Centre graduates where more girls (53.2%) were promoted to Grade 2 than boys (44.6%) while more boys repeated in Grade1 than girls. In addition, there were more girl dropouts than boys.

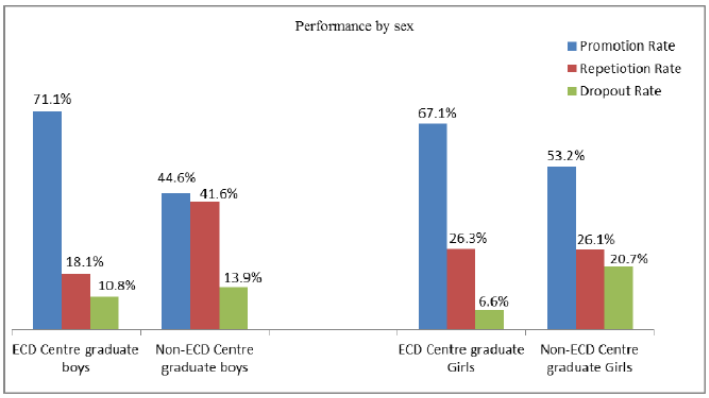

Figure 2: Grade 1 Performance of ECD Centre Graduates and Non-ECD Centre Graduates in Blantyre by sex

Discussion

The purpose of the study was to assess the impact of ECD Centre attendance on children's performance in Grade 1 at early primary school by tracking the performance of ECD centre graduates in Grade 1 and comparing it with performance of non-ECD centre graduates. This was done by calculating the rates of promotion, repetition and dropout for ECD Centre graduates and non-ECD Centre graduates. The results of the study confirmed the claim that graduates from ECD centres performed better in early primary school than non-ECD centre graduates. This was demonstrated by a higher percentage of ECD centre graduates who were promoted to grade 2 and lower percentage of ECD centre graduates who repeated Grade 1and dropped out of school. These results agree with the findings of other studies such as Rao et al. (2014) and Gardinal-Pizato, Marturano, & Fontaine (2012). In addition, Sylva & Wiltshire (1993) highlighted that most studies have shown that ECD education has immediate, significant gains on the social and cognitive development of children, and that ECD education boosts educational performance. Similar results were also reported by Barnett (1995) whose findings revealed that participation in early childhood education programs promotes cognitive development and school success. The findings of this study call for enhanced policy review to promote ECD education through strategic establishment of ECD centres so that many children may have access to ECD education services.

Conclusion

Overall, the Grade 1 performance of ECD Centre graduates in the sampled schools was better than the performance of non-ECD Centre graduates. The results of the study showed that ECD Centre graduates performed better in Grade 1 in all the three areas (promotion, repetition and dropout). It was therefore concluded that ECD Centres play a significant role in contributing towards children's academic success in early primary school. In other words, this study has demonstrated that ECD education increases children's success in school and the children are less likely to either repeat a grade or drop out of school. In view of this conclusion, it is recommended that more support from government and non-governmental organizations should be provided for establishment of more ECD Centres to allow more children to access to early childhood development education. Besides, the community leaders should make deliberate efforts to encourage parents to enrol their children for early childhood development education.

Further research

This study focussed on assessing the impact of ECD education on the academic performance of children in early primary school. However, there is need for future studies to focus on the quality of ECD programs being offered in ECD Centres with a view to mobilising the necessary support to overcome any challenges.

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