Early School Enrollment And Children's Academic Performance: Evidence On Nigeria

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Abstract

Parents are now eager to see their children enroll into formal schooling before 4 years and graduate out of the university within the teenage age in Nigeria. It is a complete reversal from the preindependence policy in education which required that a child should be up to 6 years before enrolling into infant school. In the presence of falling standard of education in the country, an attempt is made to determine the effect of early school enrollment on academic performance of children in school. The study uses primary data from test organized for primary six children in public schools in Nsukka for the research. Contrary to expectation, early school enrollment gives a child a good advantage in academic performance. The finding is a serious challenge to education curriculum designers in the country.

Keywords: Early, School, Enrollment, Academic, Performance

Introduction

Under aged school enrollment is now common among many parents in developing countries either as a matter of necessity or as a conscious effort for the early mental development of the children. Eventhough kindergarten age is recognized to be 5 in America (Lin et al, 2009), at less than 1 in many developing countries, a baby is already enrolled into the baby care school from where he or she transits into formal education system at the age of 2 or latest 3. Whether that is healthy for a child's health and mental development is not often considered but what is most in the minds of those concerned is to set the ball rolling. While argument can go either way, what remains is the simple truth that there is a cost as well as benefit in early school enrollment of children. One of the benefits is that it gives working mothers who may not be rich enough to contract a Nanny ample time to attend to the requirements of the office. Secondly, many argue that it helps the child to start early to familiarize itself with school environment, making it easy for him or her to pick up when proper schooling gets started. On the side of cost, the child is so tender to be exposed to rowdy environment and such exposure endangers the health of that child.

As studies go on to find out what comes out of early school enrollment, Lin et al hint that the initial design of kindergarten school was to expose children to socialization and playing together, but today the curriculum has changed to include basic academic exercises (Cosden et al, 1993). Despite literature documenting the importance of maturity

at the time of school enrollment on performance, Dobkin and Ferreira (2007) argue that there can be at least one positive effect of early school enrollment. One of them is that children who enroll in school early have slight higher average education attainment; and another is its effect on early language development. Other proponents of early school enrollment support it because it reduces the chance of a child involving himself in criminal activities; and early school enrollment is an opportunity to acquire higher employment status (Schweinhart, 2007; Sparling et al 2007). Heckman (2000) maintains that learning is more effective at a younger age and parents should not wait for their children to reach school age before they get started.

The pre-independence Nigerian child began formal education with enrollment into the infant school at the age of 6 where he spends 2 years learning how to identify letters and count numbers. Before the child finishes his primary 6 education at the age of 14, he has developed reading and writing skills to the extent that he is being hired by kinsmen to write letters for them. Soon after the civil war in the country in January 1970, the trend changed and children enroll direct into primary 1 between the ages of 6-7 without the infant school. While the jump may be allowed for the children who were already above the infant school age because of the prolonged civil war, it became grossly abused beginning from mid 1980s when parents started enrolling their children into Nursery education at the age of 2 years, meaning that at 11 years, the child is already entering into secondary school. Sooner than this started, by late 1980s, reading and writing skill among school children in the country started declining. In the secondary schools, fewer than 30 percent of the students can write good letters for their parents and kinsmen. In 1970s and 80s, Nigerian graduates competed very well with their peers from America and Europe in international jobs in every profession; and those who want to pursue their graduate studies in Europe or America are admitted into postgraduate studies direct. All the trends have changed today and Nigerian graduates are required to do remedial courses in Europe and America before being admitted into postgraduate studies. Is it not right for education policy makers to look around and find out if early school enrolment has impact on the quality of education in the country? As many parents are now interested in seeing that their children graduate out of the university at the early age of 20 years, is it not important that one should be concerned on whether such children can compete with their peers from other countries of the world? On the bases of answering those questions, the importance of this paper is to contribute to the solutions of declining standard of education in the country and aid education policy makers in finding lasting solutions to it.

Related Literature

The centre point of the Cognitive Child Development Theory is that learning is a stage by stage process. Jean Piaget who developed the theory says that every stage in a child's developmental process is important and should not be skipped because skipping it will affect the child's success in the later stage of life. He called the first stage of development 'sensorimotor', which begins at birth up to the age of 2 during which the child's knowledge is limited to physical interactions. The second stage called 'preoperational' stage falls between the age of 2 and 7, during which the child is ready for language use, memory and imagination. Therefore, a child is better enrolled into formal from the age of

7 years when he or she can form language, memorize things and create an imagination. Several arguments and research have followed the theory either supporting or opposing it, and each side always tries to put up a strong argument to.

Scholars who support maturity before school enrollment base their argument on two important stands. First is that a child can only be part of school exercises when he or she is developed enough to understand why he or she is in school. Too, there is emotional feeling of separation from parents and the younger the child is, the more the emotional feeling, and inherently, the more the distraction from class activities. Ribble (1943) argues that early tender care by parents (fondling, caressing and singing) is important to help the child grow mentally and physically at the first stage. Moreover, Social and Emotional school argues that it is important that children should be matured enough for them to be ready for school activity. According the school, a child at 4 is not socially and emotionally matured to pay attention to the teacher, follow instruction, obey rules, and more importantly understand the difference between work and play. In sum therefore, the more matured a child is before getting started in school, the more the concentration and the less the distractions from class activities. On the other hand, apostles of early school enrollment hinge their argument that it is the school that should be looked upon if it is ready for the child and not the child to be looked upon as when he will be ready for school (Hamori, 2008).

Whereas there are arrays of literature on the impact of early school enrolment on academic performance in America and some countries of Europe, such studies have been scanty in Sub-Saharan Africans and Nigeria in particular. Emerging facts from research so far show conflicting results linking early school enrolment and academic achievement. Starting from the positive side, studies in America and Italy show that older children in school perform better in class test than their younger peers (Datar, 2006; Bedard and Dhuey, 2006). These research findings are in conformity with a later study by Lin et al (2009) which discovers that older children always perform better in class work than the younger ones. The outcomes of these researches are that allowing children to mature before getting started in school hold advantage for their performance. Dobkin and Ferreira (2007) in their argument state that eventhough there is research evidence showing that older children perform better than the younger ones in school; there can still be one advantage of early school enrollment. According to Sparling et al (2007) and Schweinhart (2007), the advantages of enrolling children into school at very tender age are many; and include reducing the chances of being involved in criminal activities and the opportunities to acquire higher employment status.

While many studies in America and Italy are consistent in revealing that maturity at the point of starting school enhances children's academic performance, Elliott (2006) holds the view that early school enrollment is very important. Elliott argues that children are at their formative stage between the ages of 5 and 6, and creating a gap in their learning process at that age will be very difficult to fill. Elliott's argument is in line with the view of Heckman (2000) who contends that learning is most effective at a younger age and parents should not wait for their children to reach school age before they are enrolled in schools. Lincove and Painter (2006) used longitudinal data from America to discover that there is no long run advantage in delaying the age at which a child enrolls into school,

and conforms to the finding by Elder and Lubotsky (2008) that there is no evidence that older school children learn faster than the younger ones; while the research in Italy by Pellizzari and Billari (2011) reveals that younger students perform better than the older ones in almost all the subjects in school. These later findings in America and Italy are in contrast with the earlier work in those countries by Datar (2006) and Bedard and Dhuey (2006).

Moreoever, study by Malone et al (2006) shows that children who start school at younger age perform better in school than those who enroll in school at older age. A later study by Hamori (2008) confirms that there is a negative relationship between starting age of children and school performance in Hungary. In essence, the older a child is before starting school, the less he or she performs academically. Similarly, Busari (2012) in his study in Nigeria found that age and academic performance of adolescents are correlated. This is in contrast with the study by Ebenuwa-Okoh (2010) who finds that age is not a significant variable in students' GPA in Nigeria. Unfortunately, both Busari and Ebenuwa-Okoh used the wrong methodology in their studies. While Busari used simple response approach based on individual's response and perception, Ebenuwa-Okoh used Analysis of Variance in studying the GPA of final year Psychology students in Delta State University. Analysis of variance is best suited for such study based on two independent data sets, and self perception method is not only weak, it brings in bias in answer and cannot be used for policy advice.

Methodology

Econometric method was adopted in the study because of its usefulness in the study of relationship between variables. Ordinary least squares (OLS) regression was used to run the analysis because of its unique property of unbiasedness. This is very appropriate since school starting age of the child in Nigeria is determined by the parent. At least, this has overcome the methodological weakness of the past studies in Nigeria as mentioned earlier. More than 120 primary six school pupils from a randomly selected 4 primary schools in Nsukka were administered test in English language, mathematics and general knowledge. At the end, 94 of them were used for the analysis because of missing data.

The Model

$Scoi) = f(\phi i)$ …….1

where

Scoi= school test score of pupil i

ϕi= vector of variables affecting pupil i's academic performance

Equation 1 was decomposed to make it estimable, therefore,

$Scoi = \beta + \lambda_1 mei + \lambda_2 pvi + \lambda_3 tqi + \lambda_4 agi + Ui$……2

where

mei= education level of pupil i's mother

pvi= economic status of pupil i that measures household poverty

tqi= qualification of pupil i's teacher

agi= age of pupil i

Ui= error term
β= intercept
$\lambda_1, \lambda_2, \lambda_3, \lambda_4$= slopes of the model
Other variables remain as defined before.

Result

The result of the regression is presented in table 1 of the appendix.

Impact of age on academic performance

The impact of age on a child's academic performance is very clear from the result presented in table 1. Ordinary least squares analysis shows that age of a primary school child and academic performance of the child are inversely related. By interpretation, the older a child is before starting school, the less he or she performs in test score. With a coefficient of -1.417069 and't' value of 2.04, a year increase in the age of a primary school pupil reduces his or her score in school test by 1.42 basic point. Thus, age negatively affect academic performance. The effect of age in academic performance is significant at 5% level. Despite the fact that it contrasts with some of the findings in America and Italy (Datar, 2006; Bedard and Dhuey, 2006), the finding is in line with the study by Hamori (2008) which shows that there is a negative relationship between age and academic performance in Hungary. On the side of poverty, the result reveals that the relationship between poverty and school test score is inverse, though, poverty is not a significant factor.

Discussion of Finding

The purpose of the study is to compare research findings in other countries with that of Nigeria in order to help policy makers redesign education curriculum in the country. The comparison is crucial because of the long run gain Nigeria will derive from taking the right path in curriculum design in education. Obviously, early childhood education is important because every brain is at the formative stage at infancy. Evidence has shown that age has negative effect on academic performance of primary school children from the result of test in Mathematics, English language and General knowledge in randomly selected 4 primary schools in Nsukka urban. This is surprising and begs for good explanation of why younger school children should do better than the older ones in Nigeria.

A study in America by Elder and Lubotsky (2008) provides a clue on the inverse relationship between academic achievement and age. Evidence from their study reveals that the superiority older children have over the younger ones in academic achievement is only at the beginning of the formal school and the superiority disappears as the children progress in class. Elder and Lubotsky present that the pronounced advantage older children have over the younger ones at the beginning school life is because of skills they acquired at home prior to enrollment; which is due to heavy human capital investment their parents made on them before they enrolled in school. As the children move up in class, the younger ones overcome the advantage and through effort, put more hours in reading to narrow the gap and turn the table.

A decomposition of the above analysis means that while maturity may play a good role in a child's understanding and school performance at the initial enrollment, there are other

reasons why such advantage cannot continue all the school life. One, the older children will mature into adulthood earlier and social distractions will bear on their school work. Two, the younger ones will try to catch up and shame the older ones; and this will compel them to make extra effort so that they will achieve their ambition. These two major factors act in the opposite direction and the speed at which the academic gap between the two groups is narrowed increases as they move up the class. The argument above agrees with the view of Pellizzari and Billari that learning ability develops first and fades as one matures; and the younger school students spend more time reading and less time socializing than their older peers. Therefore, maturity does not give a child an infinite advantage over the younger peers in academic achievement.

Conclusion

The study has made effort to find evidence relating age and academic performance of primary school children in Nigeria. No research is encompassing and this one will not be seen as one. However, it has succeeded in making some important discovery in a developing country like Nigeria where age at entry into school is not truly determined exogenously. Whereas there is legislation binding on parents not to enroll their children into kindergarten school before the age of 5 in America, children are enrolled into kindergarten school even at 2 in Nigeria. Unfortunately, majority of the kindergarten schools in developing countries are serviced by untrained teachers (Yao and Xie, 2004). Poorly trained teachers in kindergarten school lay weak education foundation for children. Poorly trained teachers at the basic school in Nigeria may be one of the factors why the country is producing incompetent graduates today. Whereas education for everyone is important, qualitative education is what is needed to move a society forward.

Though, the finding here is that age negatively impacts on academic performance, it is pertinent to note that the sample from where the study was drawn is made up of children who are in public school and in the average age of 11years. Since majority of the under aged children are found in private schools, further study should extend to samples from such schools. The sample can come from homogenous environments, just like the present study. It will guarantee homogenous institution setting and characteristics absent in heterogeneous ones (Pellizzari and Billari, 2011).

Worthy of note is that age is negatively associated with academic performance does not infer qualitative education but highschool test score. Proper definition of qualitative education should be made to guide further research in this important area. This is because the standard of education is going down in many countries of the world, and effort should be made to salvage it. Further study should be directed to the correlate between teachers' ability and school children performance in a competitive exam. Lastly, minimum standard should be set for teachers in all categories of school whether private or public. Talented and experienced teachers are needed in infant school to guide children in their early formative stage. Once children miss the step at that stage, they have missed almost everything.

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Appendix

Table 1: Regression result of OLS analysis

sco |	Coef.	Std. Err.	t	P>|t|
me|	.6617896	.8185808	0.81	0.421
pv |	-2.986488	2.018088	-1.48	0.142
tq |	.0414121	1.768484	0.02	0.981
ag |	-1.417069	.6960643	-2.04	0.045
_cons |	36.11213	11.12427	3.25	0.002

R-squared = 0.1387
Adj R-squared = 0.1000