

POLICY BRIEF

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Promoting Equitable Quality Education in Uganda



INEQUALITIES IN CHILDREN'S BASIC LITERACY AND NUMERACY SKILLS IN UGANDA AND THEIR IMPLICATIONS FOR POLICY

INTRODUCTION

Over the past ten years Uwezo's household-based assessments in Uganda have shown, not only that children's learning of foundational skills tends to be delayed, but also that there are great disparities (inequalities) in their learning of these skills. For example, our 2018 learning assessment estimated that 25% of children aged 11 could read and understand a short Grade 2 story in English, but 40% had not gone beyond the letter reading stage (Uwezo 2019, 23).

Although the Government has supported several initiatives to tackle the problem of delayed and incomplete literacy and numeracy in primary education, the problem of disparities merits more attention. In the recent assessments and surveys, Uwezo Uganda has enlarged measurements of possible influences on learning outcomes, covering a wide range of individual, household, educational and locational factors. Although the assessments cannot measure teacher and classroom influences directly through household surveys, we have obtained some relevant findings

through surveys of primary school resources at the time of the assessments. We now wish to bring some of our findings to the attention of those who are involved in educational policy processes.

Further analysis of the 2018 data has been completed with a representative sub-sample that is designed for inferential statistics and is limited to children aged 6-14. From this analysis, the evidence that we present about influences on learning outcomes is more complex than that which was presented in the assessment report (Uwezo 2019), but it is important for policy.

This brief focuses on two sets of factors that are found to account for inequalities of learning outcomes. Firstly, some individual characteristics of children are considered: absenteeism and reported difficulties in hearing and memory. Secondly, we focus on some aspects of the educational structure: the child's grade in school, how much preschool experience the child has and whether the child is enrolled in a private or other primary school.

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Some differences in learning outcomes: a preliminary view

Figures 1 and 2 provide a simple introduction, showing differences in the proportions of children who could read words in English (Reading Level 3 in the Uwezo assessments) and do simple subtraction (Numeracy Level 5). In each case just under half the sample could perform the task. Both the charts and the tables that follow report on children who were aged 6-14 and enrolled in Primary Grades 1-7 (P1-7).

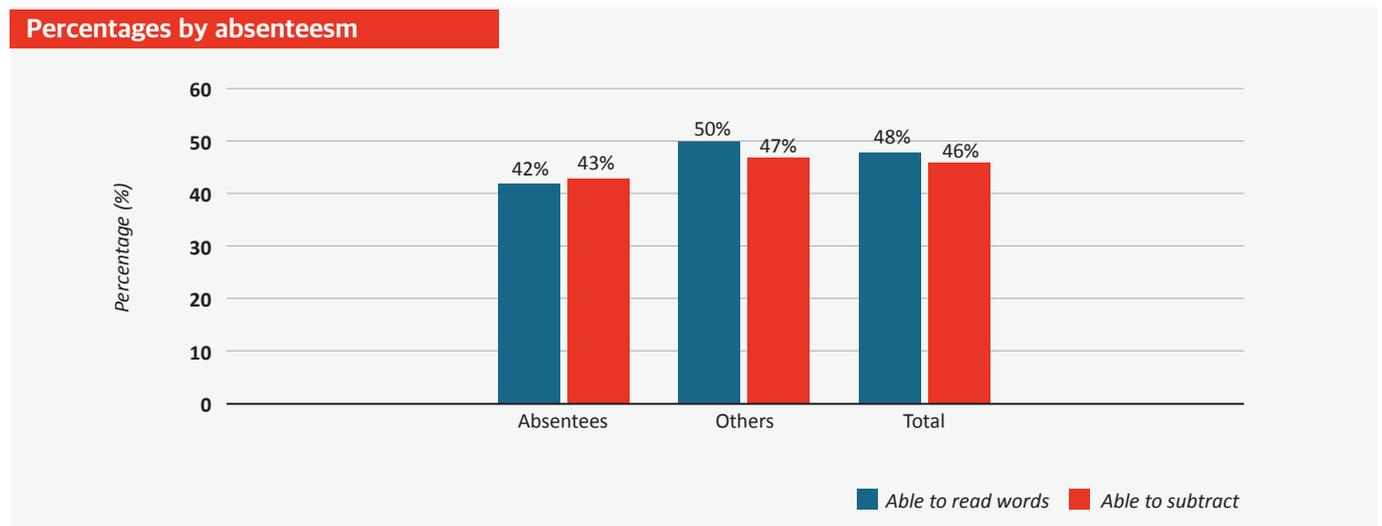
During the 2018 assessment, Uwezo took a ‘snapshot’ of pupil attendance by asking the child whether he/she had attended school on the Friday of the week of the assessment. Those reported not to have attended school were 25% of the sub-

sample. The first chart in Figure 1 (below) shows that these ‘absentees’ were slightly less likely than other children to be able to perform the tasks, the difference being larger for reading.

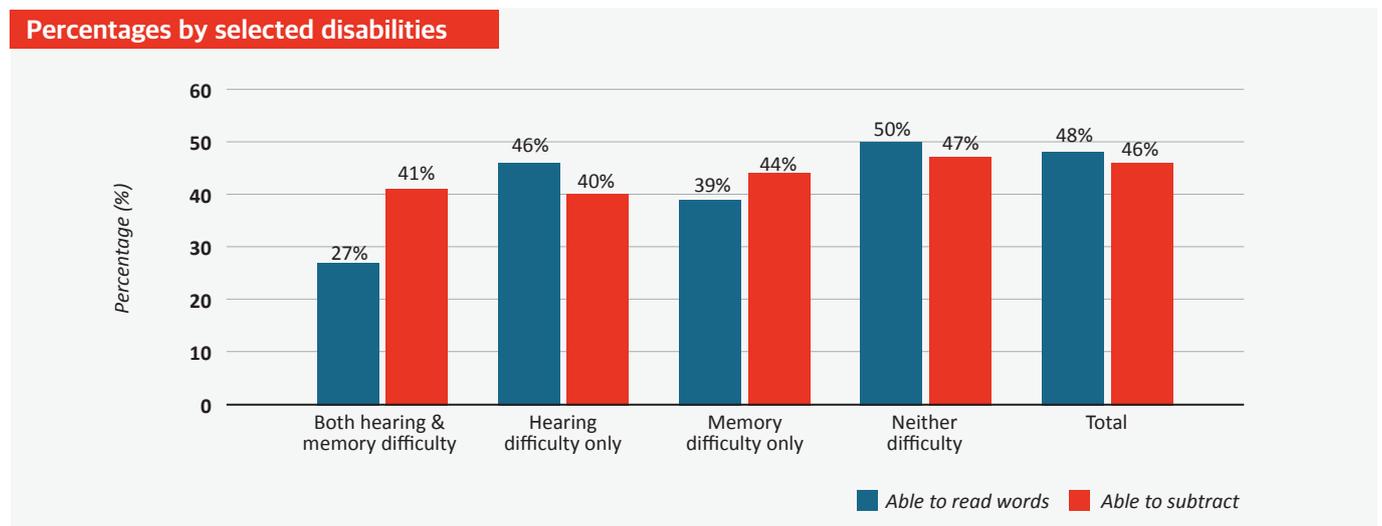
Uwezo also made use of some of the Washington Questions relating to disability (Washington Group on Disability Statistics 2016), recording whether a child was reported to have a difficulty in certain basic functions. The second chart shows a considerably lower success rate in reading words (39% versus 50%) for those with a memory difficulty and a much lower rate (27% versus 50%) for those with both a hearing and a memory difficulty. The differences for subtraction are in the expected direction but not so large. (Visual and walking difficulties were also recorded but had little or no effect on the learning outcomes.)

FIGURE 1: PROPORTIONS OF CHILDREN ABLE TO READ WORDS IN ENGLISH AND TO DO SIMPLE SUBTRACTION, BY SELECTED INDIVIDUAL CHARACTERISTICS

Population: Children ages 6-14 and enrolled in primary education



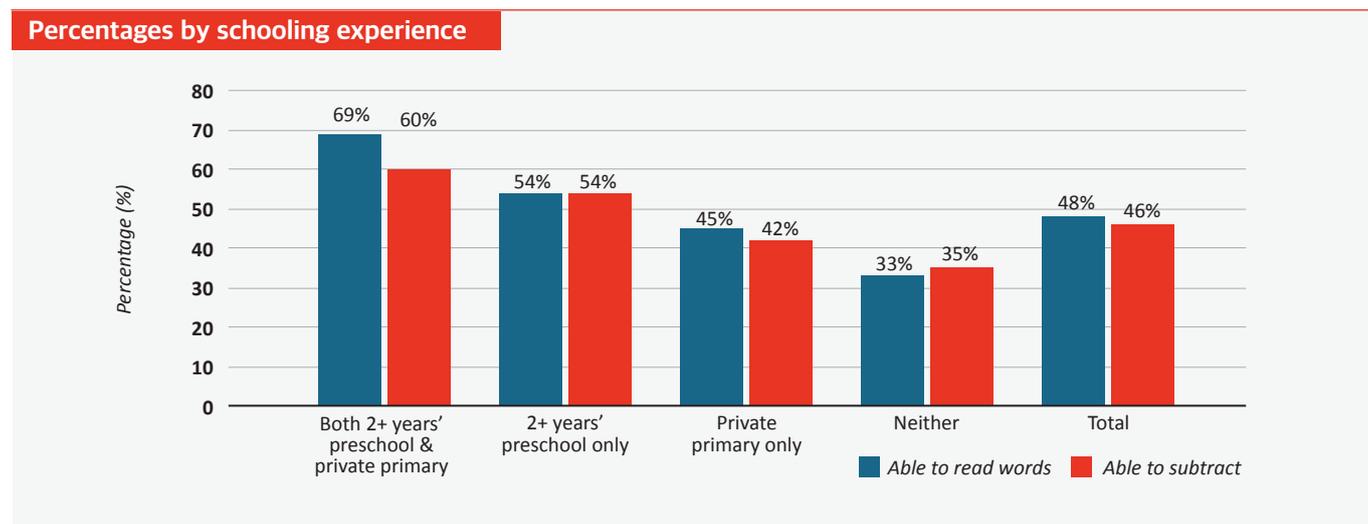
Sample size: 2,082



Sample size: 2,133

FIGURE 2: PROPORTIONS OF CHILDREN ABLE TO READ WORDS IN ENGLISH AND TO DO SIMPLE SUBTRACTION, BY SCHOOLING EXPERIENCE

Population: Children ages 6-14 and enrolled in primary education



Sample size: 2,049

Figure 2 compares outcome by some aspects of schooling experience. The evidence from Uwezo's Assessment Reports (2016, 2019) suggests that two years or more of preschool, as opposed to one year or less, makes a considerable difference to literacy and numeracy outcomes. Among types of primary school currently attended, private schools are here contrasted with government and community schools in combination.¹ Within the sub-sample, 49% of children had at least two years' preschool experience, while 29% were attending private schools.

The chart in Figure 2 shows success rates for reading words and for subtraction according to whether children had attended preschool for two years or more and whether they were currently attending a private primary school. The most successful group, both in reading and in numeracy, is children who have 2+ years of preschool experience and are also attending a private school. This is followed, in both outcomes, by the group that had the preschool experience but was not in private schools.

Which factors make the most difference? Findings from multiple regression

Multiple regression analysis provides evidence about how various factors combine to predict or explain outcomes and about the independent predictive values of different factors. Tables 3 and 4 show findings from logistic regression, a type of regression that analyses outcomes with just two values (i.e. success or failure). In this case the outcome we consider in Table 3 is whether the child can read a short story in English (Grade 2 level) and the one in Table 4 is whether the child can do a simple division exercise.

These outcomes represent Grade 2 levels of competence.

The independent variables in each table are limited to those that were found to 'make the most difference' to the outcomes. Absenteeism, Two Years' Preschool and Private School are measured as 'dummy variables', i.e. with values of 1 where the condition applies and 0 where it does not. The other variables in Tables 1 and 2 are taken from a more comprehensive analysis (Urwick 2020) and can be outlined briefly. Sub-regional stratification (used in English competence only) is a measure controlling for a slight geographical bias in the sub-sample. The household head's level of education, household advanced technology, household basic technology and the household's water and sanitation index all measure different dimensions of socio-economic status. The two technology measures are derived from a factor analysis of household possessions data. Only the most relevant variables are included in each regression equation.²

Of the individual characteristics, Table 1 shows that absenteeism has a significant negative effect on reading competence when other relevant factors are controlled. The odds ratio of .547 shows that absenteeism reduces by about half the child's chances of achieving Grade 2 level competence in English reading. But absenteeism does not qualify for inclusion in the regression equation of Table 4, for numeracy competence. Hearing and memory difficulties do not emerge as important predictors in either of the equations and so are not included.

¹ Disadvantages attributable to community primary schools are not significant in this sub-sample but may deserve further research.

² In numeracy the effects of absenteeism and household basic technology are not significant, but other individual and household factors have even smaller effects on numeracy competence and so are not included.

The findings in Tables 1 and 2 are more consistent for the educational factors: both two years or more of preschool experience, and attendance at a private school, are significant as predictors of English reading and numeracy competence, when grade and other relevant factors are controlled. The odds ratios show that a child who attended preschool for two years or more is 1.8 times more likely to have reached the competence level in reading than one who did not. A child attending a private school is more than twice (2.2 times) as likely to have reached the competence level in numeracy than one who is attending a government or community school.

The regression findings show that preschool experience and private school attendance have distinct effects on learning that are not simply attributable to the wealth or education of parents. The robust evidence of preschool effects reflects the increased demand for education at this level, as well as continuing financial obstacles to attendance.

The evidence of private school effects is consistent with previous research findings for East Africa (e.g. Mugo et al. 2015; Alcott and Rose 2016). Recent evidence from Uwezo's school surveys may help to account for these effects. The

2018 school survey found private primary schools to have an average pupil-teacher ratio of 25.6 to 1: about half the figure for government schools. A snapshot of teacher presence in classrooms showed private schools to have, on average, 88% of classes with a teacher present, compared to 79% for government schools and 65% for community schools. Another difference that may be relevant is in the use of languages of instruction in P1-3. The 2018 data further shows that private schools were more likely than government or community schools to use a combination of English and a local language, or English only, and less likely to use a local language only. Uwezo does not yet have direct evidence of the possible effects of these school resources and processes and further research on them would be desirable.

The general implication of the preschool and private school effects, taken together, is that many of Uganda's children could make more rapid progress in literacy and numeracy if they had more sustained preschool education and a fairer allocation of teaching time and other resources in the primary school. They could 'do the job' better if they were given the tools.

Table 1. Logistic regression findings for English reading competence (Grade 2 level)

Independent variables	Dichotomy: Ability to read a story in English, with comprehension	
	Whole equation	
	Nagelkerke R²	.473
	Chi-square	574.623**, df = 8
	No. cases	2,144
	Constant	-.681

	B coefficients	Standard errors	Wald (adjusted)^a	Odds ratios of dummy variables
Absentee	-.604	.215	5.63*	.547
Two Yrs. Preschool	.613	.180	8.31**	1.847
Private School	.584	.187	6.96**	1.794
Head Level of Ed	.321	.099	7.50**	
H Advanced Tech	.263	.110	4.05*	
W & S Index	.331	.106	6.92**	
Grade (P1-7)	1.044	.064	191.76**	
Sub-reg. stratification	-1622.942	628.710	4.79*	

*Significant at the 5% level

**Significant at the 1% level

^aWald statistics are adjusted for the design effect of the sample.

Table 2. Logistic regression findings for numeracy competence (Grade 2 level)

Independent variables	Dichotomy: Ability to perform division	
	Whole equation	
	Nagelkerke R ²	.358
	Chi-square	551.361**, df = 5
	No. cases	2,144
	Constant	-5.090

	B coefficients	Standard errors	Wald (adjusted) ^a	Odds ratios of dummy variables
Absentee	-.308	.150	3.03	.735
Two Yrs. Preschool	.466	.128	9.50**	1.594
Private School	.807	.139	24.17**	2.242
H Basic Tech	.173	.101	2.07	
Grade (P1-7)	.792	.043	247.58**	

*Significant at the 5% level

**Significant at the 1% level

^aWald statistics are adjusted for the design effect of the sample.

POLICY IMPLICATIONS

1. Support for children with individual difficulties

The findings about the effects of absenteeism, memory and hearing difficulties underline the need for a system of recognition and referral of children with disabilities and other special needs. These individual problems have multiple causes, some relating to poverty, health and migration as well as disabilities. Uganda’s draft National Inclusive Education Policy (NIEP) includes an objective of providing additional support to learners who require it (Ministry of Education and Sports 2018, 15), but gives few details about how this is to be achieved. Even in high-income countries, which rely mainly on health professionals for initial recognition of disabilities, teachers ‘are often the first line of defence’ for identifying children with learning difficulties in general (Braun 2020, 14). This applies even more in a developing country such as Uganda, where fewer health professionals are available.

We may distinguish between the *initial recognition of SEN*, which often occurs in a preschool or primary school, and the *identification of disabilities and psycho-social difficulties* after referral, which is necessarily a task for specialists. If selected teachers have some additional training in SEN, they can play a useful part in the initial recognition of SEN and appropriate referral: useful outcomes have been reported from short, in-service training programmes in India and Pakistan for example

(Shah and Kumar 2012; Hussain and Vostanis 2013). The draft NIEP includes a strategy of appointing SEN Coordinators in all schools: we recommend that initial recognition should be one of the functions of such coordinators and that they should receive the necessary training and facilitation. In some rural areas, coverage of a cluster of small schools by one coordinator will be needed.

Both appropriate referrals and meeting the needs of children with difficulty who remain out of school require coordination at local and district level between education, health and social work professionals. The draft NIEP gives the Ministry of Education and Sports (MoES) a mandate to co-opt the necessary support from other sectors (MoES 2018, 21).

2. Public subsidy and community responsibility for preschool education

The continued assignment of all the financing of pre-primary education to households (under the Education Act of 2008) defeats one of the main objectives of the draft NIEP, which is ‘equitable access to quality and relevant education’ (page 15): yet the Policy does not modify or challenge this aspect of provision. Our findings show that attending preschool for at least two years enables children to benefit from primary education more efficiently, acquiring foundational skills earlier and with less grade repetition. While the social demand for preschools is strong, poverty severely limits enrolment. Leaving this social service to

the market is counter-productive both for the Government and for the wider society. For the Government, it increases costs of primary education because of the high levels of grade repetition and learning failure at primary level.

These problems have forced Uganda to retain a long primary cycle of seven years, with many over-age pupils. Society also loses because the families that would benefit most from the early childhood care and education (ECCE) that preschools provide are the ones least able to afford it.³

The modalities for a system of public subsidy, linked to wider access and acceptable quality, are a complex problem. Some initial proposals for channelling public funds to non-government providers in poorer regions and communities are offered by Wilberforce Muhwana (2017), including the idea of an interim special fund to attract external financing. But a method is needed to ensure that the poorer households, as well as communities, gain access to preschools as a result of such subsidy. Bearing these points in mind, Uwezo Uganda advocates a strong role for local communities in the ownership and management of preschools, so that there is effective accountability both to parents and to the district authorities. We are carrying out research on some of the issues.

3. Raising the standard of public primary education and reversing commercialisation

The service provided in government primary schools needs to be improved to the point where parents have less motivation to incur the cost of private schools. It is obvious from Uwezo's school surveys that some government and community primary schools continue to have serious deficiencies of staffing, teacher attendance, learning materials, water supply and provision for sanitation and hygiene. Part of the background is that Uganda's expenditure on education as a proportion of gross domestic product remains low, at about 2.5% in relation to a global average of 4.4% (UNESCO statistics for 2018).

It is for legislators and fiscal specialists to determine how more revenue could be raised for education, but here we make an appeal for greater efficiency in the delivery of primary education (aided by the expansion of ECCE) and for less dependence on the private sector to achieve satisfactory learning. It is important too that primary schools should receive public recognition for their completion rates and not simply for Primary Leaving Examinations (PLE) results.

Private schools, especially those managed by faith-based and other non-profit organisations, have over the years contributed much to Uganda's educational development. Since the 1990s, however, the expansion of the private sector has produced many schools run for profit. Parasitic tendencies have also developed: not only do private schools benefit from the lack of confidence in the public sector, but they often provide unofficial second jobs to teachers who find the government's salary insufficient. Uwezo Uganda calls for three policy responses by MoES to this situation. The first is for the Ministry to encourage non-profit and social enterprise models of private school ownership and management, so that priority is given to the interests of learners. Secondly, private schools should be compelled to issue contracts to all their teachers, as indicated in the new National Teacher Policy (MoES 2019, 35) and there should be no loophole for part-time teachers. Thirdly, teachers should only be allowed to work in more than one school in exceptional cases, such as a subject specialist or SEN specialist who cannot receive a full timetable in one school.

CONCLUSION

We are aware 2020 was a difficult year for education. Some policy makers may feel that Uwezo is asking for too much at a time when, globally, many schools are closed and governments are struggling to maintain home-based learning. Uwezo hopes nevertheless that this interruption of 'normal' education provides an opportunity to reconsider policies. The equity issues that Uwezo has raised can only become more pressing as a result of this period of school closure.

³ We are aware that ECCE is in principle a service for children from birth to the age of six, but we find it realistic to call for a focus on the institutionalised preschool level, usually a three-year cycle from age three/four to five/six depending on whether the child was born in the first half or the second half of the year.

REFERENCES

- Alcott, B. and Rose, P. (2016) 'Does private schooling narrow wealth inequalities in learning outcomes? Evidence from East Africa', *Oxford Review of Education*, 42(5), 495-510.
- Braun, A.M.B. (2020) *Referral and Identification of Special Educational Needs. Background Paper Prepared for the 2020 Global Education Monitoring Report*, Paris: UNESCO.
- Brunette, T., Crouch, L., Cummiskey, C., Dick, A., Henny, C., Jordan, R., Mereseth, K., Nabacwa, R., Pressley, J. and Weatherholt, T. (2017) *Repetition of Primary 1 and Pre-primary Education in Uganda*, RTI International Development Working Paper 2017-02.
- Hussein, S.A. and Vostanis, P. (2013) 'Teacher training intervention for early identification of common child mental health problems in Pakistan', *Emotional and Behavioral Difficulties*, 18(3), 284-296.
- Ministry of Education and Sports (2019) *The National Teacher Policy, Kampala: MoES*.
- Ministry of Education and Sports (MoES) (2018) *The National Inclusive Education Policy (Draft)*, Kampala: MoES.
- Mugo, J.K., Ruto, S.J., Nakabugo, M.G. and Mgalla, Z. (2015) 'A call to learning focus in East Africa: Uwezo's measurement of learning in Kenya, Tanzania and Uganda', *Africa Education Review*, 12(1), 48-56.
- Muhwana, W. (2017) *Feasible Options for Financing Early Childhood Care and Education in Uganda*. Think Piece No. 8, Kampala: Cambridge Education.
- Shah, H. and Kumar, D. (2012) 'Sensitizing the teachers towards school mental health issues: an Indian experience', *Community Mental Health Journal*, 48, 522-526.
- Urwick, J. (2020) *Explaining Inequality in Children's Basic Literacy and Numeracy in Uganda: Further Analysis from Uwezo's 2018 Assessment, unpublished paper*.
- Uwezo (2016) Are Our Children Learning? *Uwezo Uganda Sixth Learning Assessment Report 2016*, Kampala: Twaweza East Africa.
- Uwezo (2019) Are Our Children Learning? *Uwezo Uganda Eighth Learning Assessment Report 2019*, Kampala: Twaweza East Africa.
- Washington Group on Disability Statistics (2016) *Short Set of Disability Questions*, Washington Group.



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