

The Significance of Private Tutoring in Improving English Language Literacy: A Structural Equation Modelling Approach

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Abstract

Low quality of primary education demonstrated by low academic achievement has persisted as a challenge to Uganda's education sector. Although the country has progressed in improving other education indicators, this hasn't translated into better schooling outcomes. Therefore, this study sought to determine the significance of private tutoring on English literacy levels. The study utilized secondary data from the Uwezo Uganda National Learning Assessment 2014 survey and generalized structural equation modelling to determine significant predictors. The variables that had a direct effect included private tutoring, child's age and gender, pre-school attendance, school type, household size, household head gender and education level. The variables that had an indirect effect through private tutoring were region of residence, school type and household head education level. The study observed a need for the government through the Ministry of Education to come up with a regulatory framework to manage and control the practice of conducting private.

Keywords

Private tutoring, Uganda, Literacy, English, SEM

1. Introduction

Ensuring inclusive and equitable quality education and promotion of life-long learning opportunities for all is the fourth goal of the United Nations Sustainable Development Goals (SDGs) with the first target concerning the ensuring of all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes (Osborn, Cutter & Ullah, 2015). Towards the implementation of the SDGs, the Uganda Vision 2040 identifies human capital development as one of the key fundamentals that need to be strengthened to accelerate the country's transformation and harnessing of the demographic dividend. The availability of appropriate and adequate human capital facilitates increase in production, productivity and technological growth thus making it one of the key endogenous drivers of economic growth. Education as a human right is the heart of sustainable development and it is important to the development of individuals and economies, as it helps to pave the way to a successful and productive future and therefore is a key element of human capital development because it is viewed as the primary means of developing knowledge and skill (NPA, 2015).

In Uganda, from 1986, the education sector has witnessed comprehensive policy reforms including the adoption of Universal Primary Education (UPE) in 1997 which made an immediate impact on primary school enrollment level from 2.8 million in 1996 to 8,485,005 (NPA, 2015). Nevertheless, low quality of primary education remains the main challenge demonstrated by low learning achievement (school outcomes) evidenced by only slightly above average performance in literacy for primary six and primary three pupils, standing at 52.6% and 60.2% respectively (UNEB, 2015). The variations in literacy are mostly evident across school locations with rural schools (49.5%) performing below average with regards to literacy compared to urban schools (67.7%) at primary three level.

In order to address the poor learning outcomes in pupils, a number of parents have resorted to private tutoring. Private tutoring consists of a series of activities, supplementary to

mainstream schooling, whose aim is to enhance a student's academic performance in exchange for monetary payment (Bray, 2005) and can be provided on a one-to-one basis or through engaging pupils in small groups. In sub-Saharan Africa, tutoring has become more prominent, largely as a means to generate extra income for teachers with SACMEQ II data showing that 82% of grade 6 pupils in Uganda received extra tutoring and that over half of these paid for their tuition (UNESCO, 2014). Tutoring has not only been used as a strategy to improve academic performance but also to address issues of student retention, progression and completion (Braine & Parnell, 2011; Guerra-Martín, 2015).

Several approaches for tutoring have been theorized including the classification by Jones and Brown (2011) who distinguished three models to tutoring, that is, the traditional model, the reciprocal model and the emergent model. The traditional model is based on a hierarchical relationship between a tutor and a pupil in which the first transmits knowledge, information, or support to the latter. This kind of relationship could have several benefits for the protégé such as psychosocial or career-outcome (Crisp & Cruz, 2009; Jones & Brown, 2011; Guerra-Martín, Lima-Serrano & Lima-Rodríguez, 2017). The reciprocal model emphasizes the collaborative nature of the tutoring relationship. In this case both tutor and protégé could benefit, and an emotional connection could be created (Guerra-Martín et al., 2017). Finally, although traditional and reciprocal models are the most commonly mentioned in literature, new conceptualizations have emerged such as reverse model, peer tutoring, or the complex adaptive systems that include the role of the university institution or the socio-cultural environment (Jones & Brown, 2011).

Although the majority of quantitative studies regarding tutoring have previously been based on non-experimental methods, quantitative researchers have begun to move beyond descriptive investigations and towards an understanding of the causal relationship between tutoring and student success (Crisp & Cruz, 2009; Guerra-Martín et al., 2017). The current study comes to fill the gap especially on the effectiveness of private tutoring on primary pupils in Uganda with a special focus on their English Language literacy levels. This will supplement on current studies which have mostly been done in

developed countries (Guerra-Martín et al., 2017) but mostly focusing on numeracy or mathematics (Guill & Bos, 2014; Unal, Ozkan, Milton, Das & Das, 2013) and a few in developing countries (Cole, 2016). Furthermore, most studies on student or pupil learning outcomes have assumed direct associations between the predictors of student learning outcomes. This study took into consideration the possibility of having some predictors influencing student learning outcomes indirectly through other predictors: a case in point being private tutoring which has been found to have an effect on student academic performance but has also been found to be affected by some factors which influence academic performance as well. There is need to study these interrelationships so that policy decisions regarding education quality improvement address all possible links and avenues through which the plausible predictors affect student academic performance with specific focus on private tutoring.

1.1 Objective of the Study

The purpose of the study was to identify the significance of private tutoring on English Language literacy levels of primary school pupils in Uganda. Furthermore, the study sought to determine whether these effects are both direct and indirect and if so to what extent they do influence English Language literacy levels.

2. Material and methods

2.1 Data Source

The study was based on the Uwezo Uganda National Learning Assessment 2014 survey. Children aged 6-16 were assessed in the household setting and other data were obtained through related surveys of the households, their local communities and selected local schools where majority of the children in the community were enrolled (Uwezo, 2016). Household characteristics were recorded by interviewing the heads or representatives of the households where assessments were conducted. Basic indicators on the local communities

or Enumeration Areas (EAs) were obtained through interviews with local council leaders. School indicators were obtained from school heads and through direct observation. Overall, 3,347 EAs, 3,347 schools and 51,835 households were visited (Uwezo, 2016).

A two stage cluster sampling design was adopted in the assessment within the 112 districts, with households as the elements and EAs as the clusters. In the first stage, 30 EAs were selected per district using the probability proportional to size (PPS) methodology. Thus, EAs with larger numbers of households had a greater chance of being selected. The second and ultimate stage was the simple random selection of 20 households from each of the selected 30 EAs in each district. This provides a sample of households that is self-weighting up to the district level. Within the selected households, however, all available children in the age range 6-16 were assessed and relevant information both on the children and on their households were obtained. The study focused on pupils attending grade one to grade four.

2.2 Dependent variable

The outcome variable measuring English Language literacy level of a pupil was categorized as follows. The criteria used for testing and categorizing children's reading levels in the survey was as follows; if the child couldn't recognize even 4 out of 5 common letters from the letters list mark, he/she was considered to be Very weak; if she/he could correctly recognize at least 4 out of 5 letters with ease and read 4 out of 5 letters but couldn't read words, the child was considered to be Weak; if the child could correctly read at least 4 out of the 5 words with ease but struggled to read an easy paragraph, he/she was marked as Average; if the child could read any paragraph like he/she is reading a sentence rather than a string of words, they would be categorized as Good; if the child could read a story fluently, with ease and speed, they were marked as Very good (Uwezo, 2016). A pupil's private tutoring status was considered an endogenous variable influencing their English literacy performance whereas it was also influenced by the plausible exogenous variables in the study.

2.3 Exogenous variables

The proposed plausible independent variables for this study include; region of residence, age of the child, gender of the child, disability status of a child, years a child attended pre-school, school type, gender of household head, education level of household head, household size and whether a child receives extra lessons.

2.4 Data analysis

The data was analyzed using Stata 14.2 in three stages. Firstly, we carried out a descriptive summary of the variables in the study. Secondly, a bivariate analysis was conducted using Pearson's chi-square test to check for association between a child's literacy level, private tutoring status and the plausible exogenous variables. Thirdly, generalized structural equation modelling (SEM) was used at multivariate level with binomial logit and ordinal logit link functions for the two endogenous variables, that is, private tutoring and English Language literacy level respectively. Variables that were significantly associated ($p \leq 0.05$) with the two endogenous variables at bivariate level were considered for further analysis.

3. Results

3.1 Description of respondents

Table 1 provides a description of the pupils with regards to their individual, school and household characteristics. Based on Table 1 which follows, majority of the pupils' literacy levels were weak (32.55%) followed by the very weak (28.39%), average (20.10%), very good (12.66%) and lastly good (6.29%). Majority of the pupils never received private tutoring (86.00%), were male (50.38%) and were not disabled (92.29%). The highest proportion of pupils never attended pre-school (32.57%), were aged 8-9 years (28.05%) and resided in the Eastern region (29.18%) of Uganda.

Table 1. Description of respondents

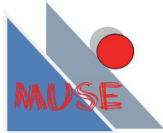
Variable	Frequency	Percent
English Language literacy		
Very weak	4663	28.39
Weak	5346	32.55
Average	3301	20.10
Good	1033	6.29
Very good	2079	12.66
Private tutoring		
No	14496	86.00
Yes	2359	14.00
Region		
Eastern	4919	29.18
Northern	4805	28.51
Central	4523	26.83
Western	2608	15.47
Child's age		
6-7 years	4195	24.89
8-9 years	4728	28.05
10-11 years	3884	23.04
12-13 years	2658	15.77
14-16 years	1390	8.25
Child's gender		
Male	8491	50.38
Female	8364	49.62
Disability		
No	15361	92.29
Yes	1284	7.71
Pre-school		
Never attended	4112	32.57
One year	2279	18.05
Two years	2674	21.18
Three years	3559	28.19
School type		
Public	11543	69.59
Private	5045	30.41
Household head gender		
Male	6464	41.03
Female	9290	58.97
Household head education		
None	3125	19.64
Primary	9390	59.03
Secondary	2729	17.15
Higher	664	4.17
Household size		
1-5 members	4603	27.31
6-7 members	5370	31.86
8-9 members	3753	22.27
10 plus members	3129	18.56

Private tutoring and plausible independent variables

From Table 2, child's gender, disability and household head gender were the only independent variables that had no significant association ($p \geq 0.05$) with private tutoring. The highest proportion of pupils who received private tutoring; resided in the Central region of Uganda (20.21%), were aged 6-7 years (14.64%), females (14.41%), went to private schools (27.69%) and resided in households with 1-5 members (15.51%) and with heads having at least higher education (22.29%).

Table 2: Association between private tutoring and plausible independent variable

Variables		Private tutoring	
		No	Yes
Region	Central	79.79	20.21
	Eastern	88.72	11.28
	Northern	91.53	8.47
	Western	81.48	18.52
		$\chi^2= 341.3019$	$p = 0.000$
Child's age	6-7 years	85.36	14.64
	8-9 years	85.41	14.59
	10-11 years	85.99	14.01
	12-13 years	86.79	13.21
	14-16 years	88.49	11.51
		$\chi^2= 11.3465$	$p = 0.023$
Child's gender	Male	86.41	13.59
	Female	85.59	14.41
		$\chi^2= 2.3315$	$p = 0.127$
Disability	No	86.15	13.85
	Yes	84.27	15.73
		$\chi^2= 3.4999$	$p = 0.061$
School type	Public	91.91	8.09
	Private	72.31	27.69
		$\chi^2= 1.1e+03$	$p = 0.000$
Household head gender	Male	86.15	13.85
	Female	85.67	14.33
		$\chi^2= 0.7278$	$p = 0.394$
Household head education	None	89.70	10.30
	Primary	87.40	12.60
	Secondary	78.56	21.44
	Higher	77.71	22.29
		$\chi^2= 213.0798$	$p = 0.000$
Household size	1-5 members	84.49	15.51
	6-7 members	86.61	13.39
	8-9 members	86.94	13.06
	10 plus members	86.07	13.93
		$\chi^2= 13.1905$	$p = 0.004$



English Language literacy and plausible independent variables

From Table 3, apart from disability status, the rest of the plausible independent variables had a significant association ($p \leq 0.05$) with a pupil's English Language literacy performance. The highest proportion of pupils that had very good literacy levels were; privately tutored (22.35%), residents of the Central region (21.23%), aged 14-16 years (40.42%), females (13.73%), attended four years of pre-school (40.15%), attended a private school (20.07%), from female headed households (13.58%), from households with 1-5 members (14.27%) and headed by adults with at least higher education (23.05%).

Table 3. Association between English Language literacy and plausible independent variables

Variables		English Language literacy				
		Very weak	Weak	Average	Good	Very good
Private tutoring	No	30.24	33.22	19.45	6.01	11.08
	Yes	17.10	28.47	24.09	7.99	22.35
$\chi^2= 366.4367$ p = 0.000						
Region	Central	17.78	27.29	25.18	8.51	21.23
	Eastern	33.66	36.5	17.35	4.37	8.11
	Northern	37.13	35.86	15.71	4.67	6.62
	Western	20.93	28.21	24.47	8.99	17.39
$\chi^2= 1.3e+03$ p = 0.000						
Child's age	6-7 years	46.94	32.88	13.37	2.65	4.15
	8-9 years	31.47	35.22	19.40	5.13	8.78
	10-11 years	20.39	34.33	23.34	7.77	14.17
	12-13 years	15.35	30.83	27.04	10.34	16.44
	14-16 years	9.21	20.66	20.36	9.36	40.42
$\chi^2= 2.5e+03$ p = 0.000						
Child's gender	Male	28.98	33.23	20.08	6.11	11.61
	Female	27.81	31.87	20.12	6.48	13.73
$\chi^2= 19.7880$ p = 0.001						
Disability	No	28.17	32.61	20.19	6.36	12.68
	Yes	30.5	32.74	18.70	5.70	12.36
$\chi^2= 4.3736$ p = 0.358						
Pre-school	Never attended	36.89	34.38	16.48	5.15	7.09
	One year	27.79	34.01	21.53	5.09	11.58
	Two years	20.74	33.13	22.7	7.48	15.95
	Three years	11.53	29.35	27.34	9.28	22.50
	Four years	13.87	18.25	22.63	5.11	40.15
$\chi^2= 1.1e+03$ p = 0.000						
School type	Public	32.78	34.01	18.10	5.61	9.49
	Private	17.5	29.45	25.03	7.96	20.07
$\chi^2= 717.8426$ p = 0.000						
Household head gender	Male	30.4	32.47	19.64	6.00	11.48
	Female	26.83	32.51	20.60	6.48	13.58
$\chi^2= 32.6208$ p = 0.000						
Household head education	None	32.54	33.65	19.11	5.85	8.85
	Primary	31.02	33.39	19.09	5.90	10.60
	Secondary	18.11	29.05	24.16	7.69	20.99
	Higher	17.13	28.66	23.36	7.79	23.05
$\chi^2= 498.7572$ p = 0.000						
Household size	1-5 members	25.69	32.01	21.16	6.87	14.27
	6-7 members	29.84	31.80	19.54	5.72	13.10
	8-9 members	28.54	34.14	19.55	5.98	11.79
	10 plus members	29.73	32.76	20.16	6.80	10.56
$\chi^2= 55.0461$ p = 0.000						

Direct and indirect determinants of English Language literacy

Results on the interrelationship between English Language literacy performance, private tutoring and the exogenous variables are presented in Table 4. The direct determinants of a pupil's English Language literacy level were region of residence, disability status, school type and household head education. The direct determinants of a pupil's English Language literacy level were private tutoring, child's age, child's gender, pre-school attendance, school type, household head gender, household head education and household size.

Table 4. Relationship between English Language literacy, private tutoring and exogenous variables

Variables	English Language literacy OR (95% CI)	Private tutoring OR (95% CI)
Region		
Central	1.00	1.00
Eastern	0.52 (0.47-0.57)**	0.67 (0.59-0.75)**
Northern	0.51 (0.45-0.56)**	0.68 (0.59-0.79)**
Western	0.98 (0.88-1.08)	1.25 (1.09-1.42)**
Private tutoring		
No	1.00	-
Yes	1.30 (1.17-1.43)**	-
Child's age		
6-7 years	1.00	1.00
8-9 years	2.31 (2.10-2.54)**	1.08 (0.95-1.22)
10-11 years	4.41 (3.97-4.89)**	1.16 (1.01-1.32)**
12-13 years	7.09 (6.29-7.99)**	1.27 (1.09-1.48)**
14-16 years	22.24 (18.97-26.09)**	0.97 (0.79-1.19)
Gender		
Male	1.00	-
Female	1.17 (1.09-1.26)**	-
Pre-school		
Never attended	1.00	-
One year	1.30 (1.17-1.46)**	-
Two years	1.58 (1.43-1.76)**	-
3 plus years	2.46 (2.22-2.73)**	-
School type		
Public	1.00	1.00
Private	1.72 (1.58-1.86)**	3.78 (3.41-4.18)**
Household head gender		
Male	1.00	-
Female	1.16 (1.08-1.25)**	-
Household head education		
None	1.00	1.00
Primary	1.13 (1.03-1.24)**	1.21 (1.05-1.38)**
Secondary	2.33 (2.08-2.62)**	1.93 (1.65-2.25)**
Higher	2.62 (2.17-3.17)**	2.07 (1.65-2.60)**
Household size		
1-5 members	1.00	1.00
6-7 members	0.89 (0.81-0.97)**	0.90 (0.80-1.02)
8-9 members	0.87 (0.78-0.96)**	0.93 (0.81-1.06)
10 plus members	0.82 (0.74-0.92)**	1.02 (0.88-1.117)

OR-Odds Ratio, ** $p \leq 0.05$, (-) variable not considered for particular outcome

Table 4 above provides a summary of the results from the structural equation model to identify both the direct and indirect (mediated through private tutoring) determinants of a pupil's English Language literacy performance. The variables that had a direct significant effect ($p \leq 0.05$) on the English Language literacy performance of a pupil included private tutoring, child's age and gender, pre-school attendance, school type, household size, household head gender and education level. Concerning private tutoring, for pupils who received private tutoring, the odds of being very good versus the combined good, average, weak and very weak literacy levels were 1.30 times higher than for pupils who never received private tutoring, other variables held constant. Regarding child's age, for pupils aged 8-9 years, the odds of being very good versus the combined good, average, weak and very weak literacy levels were 2.31 times higher than for pupils aged 6-7 years, other variables held constant. The odds increased further for pupils aged 10-11 years (OR=4.41), 12-13 years (OR=7.09) and 14-16 years (OR=22.24). As for gender of a child, for females, the odds of being very good versus the combined good, average, weak and very weak literacy levels were 1.17 times higher than for males, other variables held constant. Concerning pre-school attendance, for pupils who attended for one year, the odds of being very good versus the combined good, average, weak and very weak literacy levels were 1.30 times higher than for pupils who never attended other variables held constant. The odds increased even more for pupils who attended for; two years (OR=1.58) and three plus years (OR=2.46). Pertaining to school type, for pupils going to private schools, the odds of being very good versus the combined good, average, weak and very weak literacy levels were 1.72 times higher than for pupils going to public schools, other variables held constant. Relating to household head gender, for pupils from female headed households, the odds of being very good versus the combined good, average, weak and very weak literacy levels were 1.16 times higher than for pupils from male headed households, other variables held constant. As regards household head education level, for pupils residing in households with heads having at most primary education, the odds of being very good versus the combined good, average, weak and

very weak literacy levels were 1.13 times higher than for pupils residing in households with heads having no education, other variables held constant. The odds increased for secondary (OR=2.33) and Higher (OR=2.62) education levels as well. Finally, regarding household size, for pupils residing in households with 6-7 members, the odds of being very good versus the combined good, average, weak and very weak literacy levels were 0.89 times lower than for pupils residing in households with 1-5 members, other variables held constant. The odds reduced further for households with 8-9 members (OR=0.87) and 10 plus members (OR=0.82)

The variables that had an indirect effect (mediated through private tutoring) on English Language literacy levels of primary pupils through private tutoring were region of residence, school type and household head education level. For pupils residing the Eastern region, the odds of receiving private tutoring were 0.67 times lower compared to pupils residing in the Central region, other factors constant; subsequently resulting into higher odds of English Language literacy levels for pupils from the Central region. This wasn't any different for the Northern region (OR=0.68). On the contrary, for the Western region, the odds of receiving private tutoring were 1.25 times higher compared to pupils residing in the Central region, other factors constant. As for school type, for pupils who went to private schools, the odds of receiving private tutoring were 3.78 times higher compared to pupils who went to public schools, other factors constant subsequently resulting into higher English Language literacy level for private students. Concerning the education level of the household head, for pupils residing in households where the head has primary level education, the odds of receiving private tutoring were 1.13 times higher compared to pupils residing in households where the head had no education, other factors constant. The trend was similar for secondary (OR=1.93) and higher (2.07) education levels.

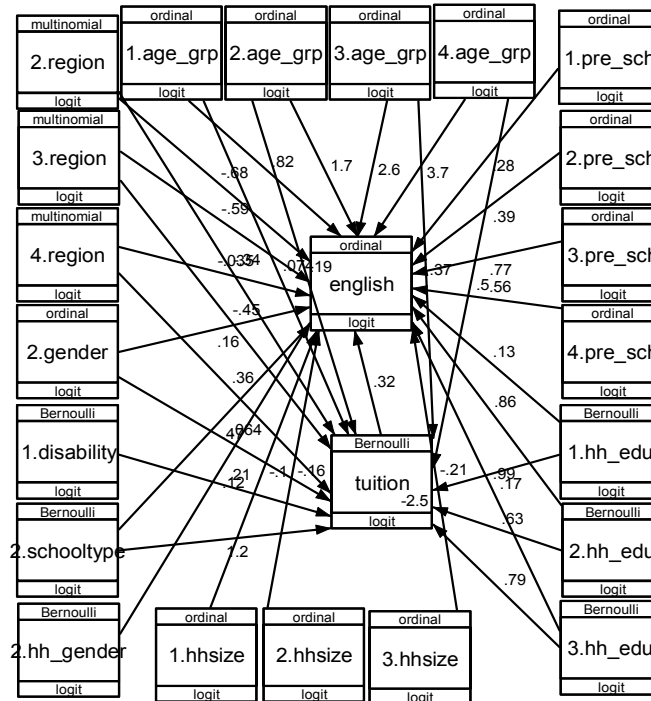


Figure 1. Results of the structural model adopted for the study

4. Discussion

The study sought to ascertain the effect of private tutoring on English Language literacy levels of primary pupils In Uganda. Focus was placed on both the direct and indirect (mediating through private tutoring) determinants of English Language level literacy. Findings from the study indicate the existence of a relationship between private tutoring and English Language literacy level, in agreement with Cooper (2010) and Allen (2015). This is can be attributed to the fact that privately tutored pupils are offered maximum attention hence the tutor has opportunity to identify areas of weakness in a pupils' learning, try out various teaching methods as well as provide clinical guidance which may help a pupil gain more understanding of subject matter, motivation and positive attitude towards the subject which subsequently translates to better grades. The indirect effect of school type and region of residence can be attributed to the imbalance in access to quality education across the regions of Uganda with the Central and Western regions

having best access with regards to facilities and skilled personnel. These are mostly private schools attended by pupils from families that can afford to educate pupils in them as well as pay for private tutoring classes for pupils who are not performing well. Furthermore, most public primary schools are under the universal primary education programme which specifically targeted children from relatively poor households and could not afford higher school fees and hence are not in position to afford private tutoring subsequently resulting into poor academic performance. This is further aggravated by the high levels of pupil-to-teacher ratio and teacher absenteeism, minimum content knowledge by teachers in public schools (The World Bank, 2013) and poor facilities that are uncondusive for learning. The education level of the household head had both a direct and indirect effect on English Language literacy of a pupil since the more educated a parent is, the more likely he or she is likely to invest in his or her child's education through identifying good schools as well as paying for private tutoring in case a child isn't performing well. This can be attributed to the appreciation of education as both a right a child is entitled to and also to enable a child earn a livelihood in the future through gainful employment. The indirect effect of disability status can be attributed to the fact children with disabilities tend to have learning challenges especially when taught collectively with fellow pupils during normal class hours hence the likelihood of them receiving private tutoring due to the need for special attention to enable them keep up with their normal counterparts although the subsequent effect on their literacy levels is not significant.

5. Conclusion

The purpose of this study was to determine the significance of private tutoring on the English Language literacy levels of primary pupils in Uganda. Directly, English Language literacy levels were highest among pupils who; received private tutoring, were aged 14-16 years, were females, had attended three years of pre-school, attended private schools, resided in households with 1-5 members, headed by females and with heads who

had attained higher education. Though private tutoring comes with cost implications to parents and increases study pressure on students, it can't be done away with especially in this era where; school enrollment has greatly increased highly compared to available teacher numbers reducing one to one classroom interaction between pupils and teachers, numerous distractions especially social media and other electronic media take up a lot of student's time, deteriorating reading culture among others. Once regulated and managed well, private tutoring can help increase student time invested in their studies, improve their interest in studies and understanding as well as discipline them through counselling and motivated them. Based on the study findings, there is need for the government through the Ministry of Education to come up with a regulatory framework to manage and control the practice of conducting private tutoring as opposed to the current crackdown and ban on private tutoring yet it would be beneficial especially for children with learning difficulties who through such initiatives can catch up with fellow pupils with regards to understanding taught content. This will eventually translate into better performance for pupils and enable them compete favorably with fellow pupils with regards to enrolling for higher education levels. This will furthermore reduce on student idle time which would have been wasted engaging in unproductive activities.

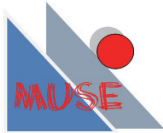
6. Acknowledgment

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