Development of the Assessment of Children's Writing Skills in Uganda

October 2023

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Abbreviations

ANW	Assessment of Narrative Writing (Gardner 2012)
APP	Assessing Pupils' Progress (Qualifications and Curriculum Authority, England and Wales)
CEM	Centre for Educational Measurement (UK)
CLPE	Centre for Literacy in Primary Education (UK)
CSO	Civil society organisation
EA	Enumeration Area (Uganda)
JIACOFE	Jinja Area Communities Federation
LARA	Literacy Achievement and Retention Activity (Uganda)
LOI	Language of instruction
MOS	Measure of size
MoES	Ministry of Education and Sports (Uganda)
NAPE	National Assessment of Progress in Education (Uganda)
NCDC	National Curriculum Development Centre (Uganda)
PAL	People's Action for Learning
PIPS	Performance Indicators in Primary Schools (CEM, UK)
PPS	Probabilities proportional to size
RTI	Research Triangle Institute (USA)
SACMEQ	Southern and Eastern African Consortium for the Measurement of Educational Quality
SEA-PLM	South-East Asia Primary Learning Metrics
SHRP	School Health and Reading Program (Uganda)
USA	United States of America
WAM	Writing Assessment Measure (Dunsmuir et al. 2015)

Executive Summary

Assessments of children's literacy by organisations in the People's Action for Learning (PAL) Network have previously mainly targeted reading but have seldom included writing. Uwezo's Beyond Basics Assessment of 2016 in Uganda did assess writing, but not extensively. This innovation seeks to contribute to meeting the challenges of assessing writing by piloting a procedure with a small sample and with differentiated assessor roles. As a starting point, we focus on writing in English by children aged 8-12 and use assessment tasks benchmarked against primary 3 Ugandan curriculum, but the assessment design could be adapted to other languages and age groups. The selected age group is concentrated in primary education and is one which will illustrate children's gradual progression from writing words to writing text (especially narrative text) in English.

Internationally, writing skills have been seen as a key to employment, productivity and active, critical citizenship. Writing, however, is the most complex of the language functions and the most vulnerable to disorders and delays in the learning process, which may be related to limited opportunities for development. Such problems are evident in Uganda, where it was estimated that only three out of ten children in Primary 5 and 6 could write in English (Uwezo 2016).

Research of international relevance shows that writing and the other language functions have different language systems (Wengelin and Arfé 2018). Therefore, for assessment purposes, one function may not be treated as a proxy for another. However, research on the developmental relationship between reading and writing suggests that they reinforce each other, the effects of reading on writing being generally stronger.

In assessment for children who have reached the text level of writing (as opposed to the word or sentence level), the relative weight to be given to creativity and to technical proficiency is an important issue, especially in narrative, descriptive or persuasive texts. Recognition for creativity, although more challenging in summative assessment, is given through a narrative task in this innovation. We have considered a range of assessment models, including an approach used in South-East Asia (SEA-PLM 2019). We have also noted various scales for describing levels of writing development.

This innovation seeks to develop culturally appropriate procedures, to recognise creative qualities as well as technical proficiency in writing, and to provide evidence about the validity, reliability and feasibility of the procedures. The data provide some initial evidence about the levels and quality of children's writing, how writing levels relate to reading levels, how far curriculum objectives for writing are being met, and what individual attributes and social factors are likely to influence writing achievement.

The assessment was conducted with a sample of 200 children aged 8-12, representative of a district selected from the Eastern region of Uganda, which consists of a city and a rural district. It is a three-stage probability sample that uses 10 enumeration areas (EAs), 20 households per EA and one child per household. A complete sample of 200 children was obtained, in which the Primary grades 1 to 6 are well represented. The visits to households were completed in July, the scoring of scripts in September, and the analysis and reporting in October-December 2022.

We assessed and placed children at one of four writing levels, according to their competencies i.e. non-writers or writers of letters only, writers of words, writers of [isolated] sentences and writers of

text. The findings indicate that out of the 200 children that were assessed, 70 were classified as non-writers or writers of letters only, 45 as writers of words, 51 as writers of sentences and 34 as writers of text. These levels are useful for comparison with reading levels and reference to curriculum objectives.

A qualitative review of the attempts at the text section showed that some children were able to express emotion effectively, deploy relevant vocabulary and use past tenses correctly. Only a few children, however, achieved continuity and structure in their narratives.

The joint frequencies of reading and writing levels show that ability to read a story with comprehension predicts the ability to write at the sentence level or above.

The distribution of writing levels by grade in primary school shows a challenging situation in the lower grades. Not only did they have a large number of non-writers, but below one-third of children in each of the grades P1-P3 could write at the sentence level or above, whereas more than 70% of those in P4-P6 could do so. The contrast probably reflects the greater impact of the school closures on the lower grades. Even in P5-P6, however, only a minority of children were placed at the text level. By implication, the objectives for English writing as stated in the primary curriculum documents are not being achieved by most children.

In the final part of the report, we examine the relationships of the realised writing level, first with some individual attributes of children and then with some educational and social variables that are potential influences. The findings indicate that children who are reported to have a memory difficulty are likely to have a lower writing level than other children. Another finding is that grade in school has a much stronger influence than age on writing achievement, emphasising that children largely depend on schools for their writing skills.

With reference to educational and social factors, findings are provided for five variables, representing the child's preschool experience, the type of primary school (private or government), the gender and educational level of the household head and whether the area is rural or urban. The findings indicate that the sets of factors influencing reading and writing achievement are likely to be similar.

The main conclusion is that the strategy used in this pilot assessment of writing, which combines performance of the assessment tasks by children in the household setting with scoring by another independent team of researchers, has been effective in measuring writing skills. Some minor improvements can be made to the procedures and future applications could distinguish between the 'letter' and non-writer levels of writing, but the procedures in general are suitable for wider use by Uwezo and similar organisations in the PAL Network and beyond.

1. Background

For the past decade Uwezo assessments in East Africa have assessed children's reading skills as a proxy for their literacy and have given relatively little attention to other language skills. Uwezo's assessment tasks in Uganda have required some incidental listening and speaking but have not measured writing skills except in the case of the *Beyond Basics* assessment of 2016 (Uwezo 2018). Many of the other large-scale assessments of foundational skills in Africa, including those of organisations in the PAL Network, the SACMEQ tests and the Early Grade Reading Assessments in Uganda, have also targeted reading but not writing. Uganda's National Assessment of Progress in Education (NAPE) does test writing in P3 and P6, but with brief reporting. Consequently, there's limited evidence on how children's writing skills are developing. The imbalance is also present in Western contexts, where research on writing is perceived to have 'lagged behind research on reading and other language development' (Dockrell et al. 2015, 576).

The assessment of writing skills requires considerable time and expertise, presenting challenges for educators everywhere. But it presents special challenges for the PAL Network assessments that are large-scale, citizen-led and use simple tools. This proposal seeks to meet the challenges by adopting a small-scale approach and by differentiating the assessor roles of data collectors and scorers.

Issues of language learning in Uganda are complicated by the competing claims of English (as the national lingua franca) and of local languages, many of which are designated as languages of instruction for Primary Grades 1-3. This research initiative focuses on the writing of English as a starting point and on children aged 8-12, but with the idea that equivalent instruments could be developed later for local languages and other age groups.

2. Literature review

2.1. The case for a focus on writing

Writing skills are increasingly in demand for contemporary occupations, diverse forms of communication and responsible government. At the beginning of this century an American campaign to improve writing identified a deficit in writing skills as a threat to national productivity, but also drew attention to the role of writing in political change (National Commission on Writing, 2003). A few years later it was argued that the digital revolution and the rise of the internet were ushering in a new 'era of mass writing', with the profusion of phone texts, social media messaging and blogs (Brandt 2011; Wengelin and Arfé 2018, 35-36). The linguistic standard of such products may not be high, but they do represent a new range of opportunities for expression. As Martin-Jones (2011) observes, 'reading, writing, and use of print and screen texts are now crucial means of getting things done in the world of work and education, as well as in local life worlds' (p. 249). In very basic ways, too, mass reading skills extend the reach of the state, while mass writing skills (even more than reading) empower citizens. Even if adults can read a little, they are open to manipulation and exploitation if they can hardly write at all. The open society and accountable government depend on the 'power of the pen' that citizens hold and their capacity for critical thinking (see Williams 2012).

Partly because writing is a more complex activity than the other language functions and the 'most vulnerable to language disorders and developmental delays' (Wengelin and Arfé 2018, 40), writing difficulties are more prevalent than reading difficulties, both in richer and in poorer countries. A

study of the incidence of relatively serious writing disorders in the USA (Katusic et al. 2009) found that these were at least as prevalent as reading disabilities and that one-quarter of those affected did not have any reading disability. In Uganda the Uwezo Beyond Basics Assessment (Uwezo 2016) found writing to have the lowest competence rate among seven literacy skills measured[1] in P5-P6 and the report states that 'only 3 out of 10 children enrolled in Primary 5 and 6 could write' (p. 8). As part of the same pattern, Uganda's National Assessment of Progress in Education report of 2018 found that, both for P6 learners and for their teachers, 'writing an informal letter with the correct format' and 'creatively developing adequate content in a topic' were areas of difficulty in English (p. 39). The difficulties that most children have in low-income countries, however, are to a large extent ones of opportunity rather than individual potential. The next two sections focus on issues of the learning environment that affect writing outcomes in Uganda.

2.2. The obstacles to literacy in Uganda's primary schools

The acquisition of literacy, along with most other formal learning in Uganda's primary education, is guided by an idealistic curriculum, but impeded by severe scarcities of key resources: teachers and teaching assistants, books and visual aids, classrooms and resources for hygiene and sanitation. Uwezo Uganda's recent school survey estimates that, in early 2020, government-aided primary schools had an average pupil-teacher ratio of 65:1, while average pupil-classroom ratios in the Eastern and Northern Regions were 112:1 and 146:1 (Uwezo Uganda 2021, 26-27).

Several recent studies of language learning in these schools illustrate the important gaps between 'curriculum and reality' (to borrow from Hugh Hawes' book title (1982). Three important features of the official curriculum, which is inspired by constructivist ideas, are (a) child-centred pedagogy, with opportunities for expression encouraged by work in small groups, visual stimuli and continuous assessment, (b) a thematic, rather than subject-based, organisation of work in P1-P3 and (c) the use of the mother tongue, as far as possible, as the language of instruction (LOI) in P1-P3, with transition to English as the LOI in P4. The name Thematic Curriculum is used with reference to the framework for P1-P3. The findings of an action research project on teaching mother-tongue literacy (Akello, Tammerman and Namusisi 2016 reveal the difficulty of teaching reading with insufficient copies of books and the almost impossible task of one teacher carrying out continuous assessment in a class of about 100 pupils. The teachers made improvisations to handle these challenges, with limited success, but the motivation for them might be lacking where action research was not taking place.

From 2012 the mother-tongue and pedagogic aspects of the Thematic Curriculum were reinforced by the School Health and Reading Programme (SHRP) and the Literacy Achievement and Retention Activity (LARA), both funded by USAID and supervised (through the Ministry of Education and Sorts - MoES) by the Research Triangle Institute (RTI). These initiatives made possible the use of a larger number of local languages for teaching and improved the supply of pupils' language books in some parts of Uganda. But research by Wenske and Ssetanda (2021) shows that the changes were only partially accepted by teachers, partly because there was insufficient preparatory training. Some teachers also tended to attribute their problems to the fact that these were donor-led initiatives and were unsure how durable the changes would be. Changes to other fundamentals, such as the shortages of teachers and classrooms, were not within the scope of these initiatives.

Another study of teachers' views about curriculum implementation (Ssentanda and Wenske 2021) shows the limited implementation both of the recommended teaching methods and of the mother-tongue policy. Experienced teachers in both districts selected for study, who found the new

[1] The seven skills were defined as fluent reading, application comprehension, inferential comprehension, recall comprehension, vocabulary, spelling and writing.

methods difficult to use in the prevailing conditions, had developed a survival strategy of having two schemes of work: one for everyday use and another for the days when an inspector was present. In contrast with the theory that literacy can be acquired more efficiently through the initial use of the mother tongue as LOI, the teachers experienced considerable difficulty in teaching the local language and English concurrently, especially where the orthographies were dissimilar. There were also two factors that tended to undermine confidence in the role of the mother tongue. One was the outsourcing of examination production to commercial providers, who offered a choice between papers in English and in the local language. Another was the tendency of private and urban schools to use English as the LOI from P1, often in multilingual environments where there was no obvious choice of 'mother tongue'.

2.3. Specific difficulties in the acquisition of English literacy in Uganda

Part of the argument for Uganda's mother-tongue policy was that literacy initially gained in the mother tongue (in P1-P3) would be beneficial for the acquisition of literacy in English as the second language. But, as noted in the preceding section, there are several factors likely to result in slow learning, whatever the language used. It was intended, also, that the introduction to English in P1-P3 would provide an adequate foundation for the transition in P4 and subsequent use of English as the LOI. However, an analysis by Ssentanda, Southward and Huddlestone (2019), based on case studies of rural primary schools, both government-aided and private, helps to explain why this goal is not being achieved in government-aided schools generally and why private schools appear to be more effective in teaching English.

The authors begin by focusing on an example of an official curriculum target: an 800-word English vocabulary by the end of P3. They show that this target is far below that which language specialists recommend as a basis for using English as the LOI, but still difficult for rural children to achieve in government-aided schools. They also mention the unnecessary hindrance of teachers not being allowed (officially) to use the local language to explain unfamiliar aspects of English – an injunction that negates the idea of one language supporting another in the thematic work. More importantly, the government-aided schools are not structured to provide the time or the small learning groups that are needed for learners who have little exposure to the language outside the classroom.

The rural private schools observed paid lower salaries to teachers than the government did, but they had many organisational advantages. Prior attendance at nursery schools (in which English was said to be used) was a requirement. Lessons were longer and from P3 onwards the school day was longer. Learning materials were of better quality and teachers were more punctual. These schools were able to use English as the LOI throughout, while teaching a local language as a subject. Although the data are from 2012, most of the observed differences between private and government-aided schools remain relevant. Not surprisingly, Uwezo *Beyond Basics* assessment of 2016 found private school pupils to have a higher rate of competence in writing (Uwezo 2018).

Findings about language use from the recent Uwezo national learning assessment (Uwezo Uganda 2021), however, suggest that, in response to the above challenges, many government-aided schools have moved away from a strict application of the mother tongue policy. When children were asked to say which language or languages were used by the school to teach them, a large proportion, even of those in P1-P3, reported that both English and a local language were used, as opposed to one or the other. Among these lower primary pupils in the national sample, the mixture of languages was reported by 78% of those attending government-aided schools and 69% of those attending private schools. These perceptions of children suggest that differences of linguistic practice between the two types of school are not always as large as their policies would suggest.

In the next three sections, we move from the Ugandan context to considerations of writing as a component of literacy and of the criteria for assessing it.

2.4. The relationship between reading and writing in children's literacy development

The relationship between the language functions is a major area of research in cognitive psychology and pedagogy. Findings tend to support the view that reading and writing are processes with distinct requirements, but nevertheless closely interrelated. Wengelin and Arfé (2018), in reviewing some of the literature, draw attention to studies that have explored the relations between different language skills and functions through factor analysis (Mehta et al. 2005; Berninger and Abbott 2010). The findings from these studies support the following view:

> We have separate language systems for the four functions of speaking, listening, reading and writing. Furthermore, to the extent that they are interrelated, these relationships seem to be modality dependent and stronger for the spoken modality than for the written (Wengelin and Arfé 2018, 40).

Clearly, all of the four language functions require specific support from teachers and attention from systems of assessment as much as possible.

A topic of great pedagogic interest is the ways in which reading and writing influence each other as children acquire literacy. In this area, research by Yusra, Wagner and Lopez (2014) broke new ground with a longitudinal study, conducted in Florida, USA, of children in Grades 1-4, using latent variables and path analysis. They were able to draw some conclusions specifically for the word, sentence and text levels of literacy. For example, at the word level, progress in decoding predicted subsequent progress in spelling. At the sentence level, successful reading predicted subsequent ability to combine sentences. There was also a small but significant effect of writing achievement on subsequent reading at the sentence level: but effects of reading on writing were generally stronger. Such findings support the view that a balanced and coordinated approach to the teaching of reading and writing is beneficial.

At the text level, the assessment of writing becomes more complex and challenging. Some approaches to the issues are discussed in the next section.

2.5. Creativity versus technical proficiency in the assessment of children's narrative writing

Both in theory and in practice there is a tension between the view that children's narrative writing is a vehicle for developing text of a good technical standard and the view that it is a creative art. The conflict of views is well illustrated by the educational system in England, which is a battle ground between a national curriculum and national assessment criteria that emphasise technical standards in writing and a community of academics and teachers of English who see the national criteria as utilitarian and commercially driven and call for more recognition and weight to be given to creative qualities and techniques. Paul Gardner (2012) sees the conflict as being one between 'skills-based' and 'process-based' paradigms. Both he and Ruth Bearne (2017) give examples of children's narrative writing, which, when assessed by rubrics that consider creativity in some detail, would be placed on different levels from those awarded through official national criteria. The issue is important internationally and not least in countries where pupils using a second language as the LOI experience additional challenges in the more technical aspects of writing.

An extreme example of the technical efficiency approach is the application by Dockrell and others (2015) of a 'curriculum based' procedure for the assessment of the writing quality of children aged 7-11. The criteria used were entirely ones of productivity (number of words produced, number of sentences, etc.) and accuracy (proportion of words spelled correctly, correct word sequences, etc.) No consideration was given to ideas, use of imagery or other aspects of creativity. Yet the authors concluded that their instrument would be a 'useful tool among a repertoire of methods of assessing pupils' writing' (p. 591)

Two issues contribute to the relative neglect of creativity criteria in summative assessment rubrics for writing. One is that the assessment of technical proficiency is easier (Bearne 2017) and does not require much pedagogic knowledge. Another is that a sensitive assessment of creativity is easier to achieve through course work assessment by teachers (with a formative component), as opposed to summative assessment by an external body.

The South-East Asia Primary Learning Metrics (SEA-PLM) Assessment Framework (2019) for 'writing literacy' uses a classification of five text types: narrative, descriptive, persuasive, instructional, transactional and 'label' with different sets of scoring criteria (p. 39). One advantage of this is that the instructional and transactional types are applicable to sentence tasks as well as text tasks, while the 'label' type is applicable to word tasks. The SEA-PLM Framework is also an example of a balanced approach to writing quality, in which some weight was given to ideas, organisation and coherence as well as technical aspects. It was used successfully to assess Grade 5 pupils in six developing countries (UNICEF and SEAMEO 2020).

2.6. Some examples of sets of criteria for assessing children's texts

Table 1 shows the contrast between two examples of criteria used to assess narrative writing where it is treated as a creative art, and two examples where it is treated mainly as a vehicle to demonstrate technical proficiency. Significantly, Gardner's ANW scheme has only two out of eight criteria that are mainly technical, whereas the APP scheme (officially recommended in England and Wales at the time) has only two out of eight criteria that are mainly creative (the first two items), while vocabulary is only partially a creative item.

A useful feature of the WAM scheme is that it includes handwriting specifically. Handwriting, as well as spelling, is an essential processing skill. However, the technical bias of the WAM scheme is evident, with 'ideas' as the last criterion listed.

The PIPS scheme is designed for the use of teachers and for assessment of substantial pieces of narrative. It is therefore too elaborate for use in a summative context where it is difficult to allow time for children to plan the work and have to base the scoring on relatively short pieces of narrative. But it draws attention to many important considerations that may be relevant to the examples of writing to be obtained.

The challenge is to develop tasks and a rubric that consider creative qualities as well as structural qualities and processing skills. A relatively balanced set of 'writing process categories' used by SEA-PLM, with prospective scoring weights, is shown in Table 2. Cases where the process is expected to vary by language or by text type are noted.

TABLE 1: COMPARISON OF MAJOR CRITERIA USED TO ASSESS CHILDREN'S NARRATIVE WRITING

<table>
<tr><th colspan="2">Schemes emphasising creativity:</th></tr>
<tr><td>Gardner's Assessment of Narrative Writing (ANW) (2012):
Plot
Narration
Characterisation
Setting
Words and grammar
Textual organisation
Experience and meaning
Affective reader response
(These criteria are applied at five levels.)</td><td>Performance Indicators in Primary Schools (PIPS, England) criteria (Merrell, ca. 2005):
(1) Content
Planning
Composition
Plot development
Character development
Ideas
(2) Vocabulary – use of:
Common nouns and verbs
Adjectives
Conjunctions
Sophisticated terms
Descriptions based on senses
Emotive expression
Similes and metaphors
(3) Prose
Fluency
Variety and devices
Dialogue
Tense
(The three major components are weighted equally.)</td></tr>
<tr><th colspan="2">Schemes emphasising technical proficiency:</th></tr>
<tr><td>Assessing Pupils' Progress (APP, UK), used for all types of writing (quoted by Gardner 2012):
Write imaginative, interesting and thoughtful texts.
Produce texts that are appropriate to task, reader and purpose.
Organise and present whole texts effectively …
Construct paragraphs and use cohesion within and between paragraphs.
Vary sentences for clarity, purpose and effect.
Write with technical accuracy of syntax and punctuation in phrases, clauses and sentences.
Select appropriate and effective vocabulary.
Use correct spelling.</td><td>Writing Assessment Measure (WAM), developed by Dunsmuir et al. (2015):
Handwriting
Spelling
Punctuation
Sentence structure and grammar
Vocabulary
Organisation and overall structure
Ideas
(The seven criteria are weighted equally.)</td></tr>
</table>

TABLE 2: PROCESS CATEGORIES USED BY SEA-PLM (2017)

Process	Target percentage for scoring	Remarks
Generating ideas	20-30	Expected to vary by text type
Controlling text structure & organisation	10-20	Expected to vary by text type
Managing coherence	10-20	
Using vocabulary	10-20	
Controlling syntax and grammar	15-25	Expected to vary by language
Other language-specific features (e.g. handwriting, spelling and punctuation)	5-15	Expected to vary by language

2.7. Descriptions of stages and levels of writing development

In this section, reference is made to various examples of scales used to place children in broad categories of achievement in writing. One of the most thorough is the 'Writing Scale' prepared and published by the Centre for Literacy in Primary Education (CLPE), an independent body in the UK (CLPE 2016). This places learners in eight stages from 'beginning writer' to 'mature independent writer' and provides detailed descriptors for each stage, giving attention both to the quality of content and to correct usage. Although the context is one where English is both the mother tongue and the LOI for most children, this source is useful for reference in other contexts. A comparable scale of eight 'bands', with associated descriptors and scores, was used by SEA-PLM in its recent assessment across six countries (SEA-PLM 2019, 48-49).

The use of levels within Uganda has varied. The NAPE has used four bands of 'proficiency' for literacy in English in general at P3 and P6, with Band 3 representing 'the desired minimum level of proficiency' (Uganda National Examinations Board 2018). Uwezo applied four levels to writing in its Beyond Basics Assessment ('incompetent', 'beginner', 'emergent' and 'competent') and these were based mainly on technical proficiency, although some attention was given to the content of text at the 'competent' level (Uwezo 2016, 24). In the present work, we give a broad-brush classification of achievement at 'non-writer or letter', 'word', 'sentence' and 'text' levels so that findings can be related, to some extent, to the Uwezo reading levels. We also provide a more precise score for each of those levels and a general score for the combination. The Uwezo assessment of reading sub-divides the text level into 'paragraph', 'story only' and 'story with comprehension'. The CLPE treats paragraphing as an accomplishment of 'experienced writers' (the sixth stage).

3. Purpose and Research Questions

The general purpose of this initiative is to develop and pilot performance tasks and a rubric for assessing children's writing in English that are appropriate for children aged 8-12 in Uganda.

The assessment procedure developed is intended to be:

a. Culturally appropriate
b. Responsive to creative qualities as well as technical proficiency

c. Feasible for administration by citizen volunteers and for scoring by qualified and trained volunteers

The piloting of the procedure, limited to two local government areas (one rural and one urban), is intended to provide:

a. Evidence for the validity and reliability of the assessment
b. Initial evidence about children's achievement in writing and how this relates to their achievement in reading
c. Initial evidence about how children's achievement in writing relates to selected aspects of their education and background

The following research questions guided the data collection and analysis:

1. How suitable is assessment procedure for a wider application and what improvements or changes should be made?

2. What proportions of children aged 8-12, in the selected areas, have reached the word, sentence and text levels of writing in English? (Practical, working definitions of these levels will be stated.)

3. Among children who have reached the text level, what are the main strengths and weaknesses of their narrative writing.

4. How does the children's writing achievement relate to their reading achievement as assessed by Uwezo Uganda?

5. How does the children's writing achievement relate to (a) P2-P6 curriculum objectives and (b) differences in individual, educational, household and locational factors?

4. Methodology

The general design is that of a pilot summative assessment accompanied by a small survey. The assessment, completed in the household setting, covered both reading and writing skills and some background data was obtained on children and their households. Because the writing assessment is quite new, substantial time was given to development of the procedure before it was applied. Five stages were followed, as shown below.

4.1. Development of the writing assessment procedure and other instrumentation

Uwezo researchers, assisted by two language education specialists, developed performance tasks and a scoring rubric for the assessment of writing in English based on writing expectations at primary 3 in Uganda. The tasks were developed at three levels: for ability to write (1) individual words, (2) sentences of one clause and (3) a short narrative text with some scope for creativity. The word tasks (a total of five) used picture prompts. Of the six sentence tasks, three use a combination of picture and verbal questions and three use verbal questions only. At each level, alternative items were prepared and then, after initial trials, preferred items were selected.

The initial trials were held on 17th May 2022 in the Kira area of Wakiso District, with a total of 26 children aged 8-12: 10 in a government primary school, 10 in a private primary school and 6 in households, selected from two local communities. For refinement of the text-level task, further trials

were held, with 20 children in two schools (one private and one government-aided), in the last week of May. Most of the trials were done in schools to save time, but the household-based trials confirmed that it was feasible to conduct the writing assessment in households. Reference can be made to the writing assessment tasks (Annex 1) and the scoring rubric (Annex 2) in the separate collection of annexes.

The team also selected materials for the reading assessment that was to be done concurrently and designed a record sheet for use in the field. The reading assessment followed the standard Uwezo procedures used in national assessments of basic skills, but the background survey items were limited to a few variables. The sequence to be followed for each selected child was to obtain the survey information first, followed by the reading assessment and then the writing assessment. The reading tasks and the survey tool are Annexes 3 and 4.

4.2. Training of scorers and of citizen volunteers

A team of 20 citizen volunteers, of the kind generally engaged for Uwezo national assessments, was recruited and trained in collaboration with the Jinja Area Communities Federation (JIACOFE), a child-focused CSO that had previous experience of working with Uwezo Uganda. These volunteers had at least an O level qualification and were effective speakers of Lusoga (the main local language in the selected area) and of English. Their role was to seek the cooperation of parents and children, to record both the background data and the levels at which children could read, and then to administer the writing tasks. The volunteer manual is Annex 5. They recorded identification numbers on the writing scripts, which were transferred to the scoring team.

A team of 10 scorers was selected – mainly from among those who have previously worked as Uwezo trainers – and was trained to use the rubric. These scorers are holders of a bachelor's degree or professional diploma who are themselves fluent and competent writers of English. The scripts obtained through the trials were used for practice.

4.3. Sampling of children for the pilot assessment

The sample of children for the pilot assessment of writing is representative of the Greater Jinja Area, which includes both Jinja City and Jinja District (a rural area). It is a single, three-stage sample, with rural and urban components. The first stage in the sampling was to select 10 enumeration areas (EAs) from the whole Greater Jinja Area, the second stage was to select 20 households per EA and the third stage was to select one child in each household.

To obtain a sample in which the children had equal probabilities of selection (approximately), we selected EAs with probabilities proportional to size (PPS) and then, at the second stage, selected households with PPS as well, before selecting one child per household. We obtained from the Uganda Bureau of Statistics (UBOS) a list of the EAs, with the larger units to which they belong, and the number of households per EA as in the 2014 Census (the most recent available census data in Uganda). To select the EAs, we arranged them in order of size, in the city first and then the district, and used an interval with a random start. This procedure helped to ensure socio-economic diversity in the sample. However, we had to exclude from the list of EAs two 'special areas' within Jinja City for which UBOS had no data and four forest reserve areas in Jinja District, each having six households or less recorded in the census.

Before the households were selected, the field coordinators organised household listings in the selected EAs. Twenty households per EA, and a reserve list of 5 households, were then selected by PPS, with the number of eligible children as the measure of size (MOS). In the last stage, where a

household had more than one eligible child, one was randomly selected. In cases of household 'non-response', a replacement could be drawn from the reserve list. By these procedures, we were able to obtain a complete sample of 200 children.

The sampling procedures enabled use of just one design effect for statistical analysis, allowing for the clustering at the level of the EA. The findings are representative of the Greater Jinja Area. The sample obtained has larger proportions of children in an urban area and attending private schools than would be found in the national context, but it does enable comparisons to be made by location and type of school. There is adequate representation of the age range 8-12 and of the grade levels P1 to P6.

4.4. Data collection

One Uwezo researcher had general oversight of the fieldwork, while JIACOFE, the collaborating CSO, provided one Field Coordinator and two EA Coordinators. These monitored the work of the 20 volunteers, who worked in pairs, one pair per EA. The coordinators also carried out the PPS sampling of households, following the guidelines provided.

When visiting each selected household, the volunteers explained the purpose of the assessment and sought the consent of the parent or guardian, as well as the selected child, to participate. They signed consent and assent forms to indicate their agreement. The volunteers also observed the necessary precautions relating to Covid-19, in line with official guidance.

The volunteers began in each household by obtaining the background data, mostly provided by parents, then assessed the reading of the selected child and after that gave the writing tasks to him or her. They explained that the written work would be assessed by others. An effort was made to give the child adequate space and a firm surface for the writing tasks and to prevent disturbance. Every child assessed was given the opportunity to attempt all the writing tasks, but those who were unable to write any of the required words or the required sentences were released from subsequent tasks. At the end of the visit the volunteers gave feedback on the reading, but their feedback on the writing was limited to acknowledging the child's efforts. A log was kept of the daily progress in each EA and of any cases of non-response.

The visits of volunteers to households were duly completed from 8th to 10th July 2022. The training of scorers, scoring of the scripts and cross-scoring were completed between 10th and 15th September 2022. In the following weeks, data sets for (1) the survey and reading assessment, (2) the writing assessment and (3) the cross-scoring of 20 scripts were prepared in MS Excel and then imported to SPSS. The data review and analysis were completed in October-November 2022.

4.5. Approach to analysis of the data

The sequence of the analysis corresponds to that of the research questions. In response to Research Question 1 (about suitability for a wider application), we assess the validity and reliability of the writing assessment procedures, mainly by using measures of internal consistency of the items and inter-rater reliability in scoring. The scoring quality and the relationship with the reading assessment are also discussed.

In response to Research Questions 2 and 3, we provide an overview of the levels of writing achievement and then an in-depth discussion of the text writing. The system of scoring and the rules for assigning writing levels are explained. In response to Research Question 4, we provide an overview of the intersection of reading levels and writing levels and discuss its implications. Then, in

response to Research Question 5, we firstly consider how children's writing achievement corresponds to the official curriculum objectives and, secondly, provide a brief statistical analysis of the relationship between writing achievement and selected characteristics of children and their households. The quantitative findings are necessarily tentative, as the sample for this pilot study is relatively small.

5. Findings

5.1. Validity and reliability of the writing assessment procedures

To ensure validity with respect to content, care was taken at the development stage to minimise misinterpretations of the tasks by children. Particular care was taken with the instructions for the narrative-writing task, which were supported by a picture. In the word-task with a picture of a nurse, the scoring rubric allowed 'doctor' as a response because of possible similarity in appearance. We do not think any major response errors were attributable to task design.

To measure the internal consistency of the word items (Section 1 of the assessment) and of the sentence items (Section 2), we compute Cronbach's Alpha for each section. As Table 3 shows, very acceptable values of Alpha are obtained, and the item-to-total correlations are generally high.

TABLE 3: MEASURES OF INTERNAL CONSISTENCY

Section of assessment	Word items (n = 5)		Sentence items (n = 6)	
Cronbach's Alpha	0.879		0.968	
	Item-to-total correlations (corrected):		Item-to-total correlations (corrected):	
	W1:total	0.737	S1:total	0.890
	W2:total	0.730	S2:total	0.896
	W3:total	0.559	S3:total	0.910
	W4:total	0.715	S4:total	0.899
	W5:total	0.818	S5:total	0.899
			S6:total	0.883

An implication of these findings is that these or similar items could be used on a larger scale in future.

Another important dimension of reliability is the inter-rater reliability of the scoring. In order to measure this, we selected a systematic sample of 20 scripts after the main scoring had been completed and obtained a second scoring by different members of the scoring team, selected at random. Therefore, each scorer cross-scored two scripts. Using the scaled scores (described below), we then computed correlation coefficients for the first and second scorings, for each section and for the whole assessment. These coefficients are shown in Table 4 and are high enough in all cases to indicate an acceptable level of consistency.

TABLE 4: MEASURES OF INTER-RATER RELIABILITY

Section of assessment	Correlation coefficient for first and second scaled score totals (Pearson's r, n = 20)
Section 1: words	0.994
Section 2: sentences	0.970
Section 3: text	0.985
Whole assessment*	0.944

*As explained below, the weighting of the sections is: Section 1, 20%; Section 2, 40%; Section 3, 40%.

In addition to the above measures, comparison of the reading and writing levels achieved by each child, aided the detection of errors in both assessments. For example, case 114 in the sample was a child with a vision problem, as indicated by the survey. It is possible that the volunteers did not allow for this problem and incorrectly classified him as a word-level reader, whereas he was able to write at the text level. Cases 28 and 39 also have incorrect reading assessments, as non-readers/letter-level readers, whereas these children were able to write at the sentence level. These three cases are treated as missing data in the record of reading levels.

A review of the scripts suggests that the scoring of the word and sentence sections of the writing assessment was generally well done, but a wider range of points may be needed for grammar. For example, where a child responded to a question with a phrase instead of a complete clause, it was hard to judge whether the grammar should be treated as wholly or partially incorrect: clearer guidance was needed on this. The scoring quality was not quite so good in the text section, but the problems were mainly in the lower range of marks, where the attempts at a narrative were marginal. They do not much affect the general contours of achievement that this study provides. The implication of these points is that the scoring rubric and guidance would need to be improved when the procedures are used more widely.

5.2. The final writing scores and writing levels

The basis for the scoring of the various sections of the writing assessment is explained in the scoring rubric (Annex 2). The criteria used and their weights are summarised in Table 5 below.

TABLE 5: CRITERIA FOR SCORING AND THEIR WEIGHTS

Criteria	Marks available
For scoring each word:	
Vocabulary	2
Letter formation	1
Total	*3*
For scoring each sentence:	
Relevance to the question	4
Structure/grammar	4
Spelling and punctuation	2
Legibility	2
Total	*12*

Criteria	Marks available
For scoring the narrative text:	
Ideas, meaning and relevance	4
Structure and coherence	3
Vocabulary	3
Syntax (sentence structure)/grammar	3
Spelling	2
Punctuation	1
Handwriting	1
Total	17

The scoring of the writing, on the basis described, initially gave scores from possible totals of 15 for Section 1 (3 marks per word for 5 words), 72 for Section 2 (12 marks per sentence for 6 sentences) and 17 for Section 3 (the text).

From these initial scores, we wished to derive, firstly scaled scores for the whole assessment and, secondly, placements of the children at four writing levels:

(1) Non-writer or writer of letters only
(2) Writer of words
(3) Writer of sentences
(4) Writer of texts

To compute the scaled scores, we made a pragmatic decision to give a weight of 20 to Section 1, 40 to Section 2 and 40 to Section 3. The scores are thus expressed as percentages. A consideration is that Sections 2 and 3 called for similar quantities of writing. The scaled score variable, computed in this way, has a mean of 34.8 and a standard deviation of 29.94. However, a disadvantage of the measure is that 40 children (20%) received a score of zero. This stark reality means that the measure is far from having a normal distribution. A refinement recommended for future assessments is to include a 'letter' section at the beginning of the assessment, so that writers of letters are distinguished from complete non-writers. The letter section could be given a pragmatic weight of 5, leaving 15 for the word section.

In the present context, it is deemed useful to group the children into the four writing levels mentioned above. Because there are some inconsistencies of performance across the sections of the assessment, we use the following decision rule:

(a) To be placed at the text level, a child must obtain at least half the marks for that level.

(b) To be placed at the sentence level, a child must either obtain at least half the marks for that level, or at least a quarter of the marks for the sentence level and a quarter of the marks for the text level.

(c) To be placed at the word level, a child must either obtain at least half the marks for that level or at least a quarter of the marks for the word level and a quarter of the marks for the sentence level.

To obtain the correct placements according to the decision rule, we award points for ranges of scores in the different sections, as shown in Table 6, and then sum them. The ranges of scaled scores are used to illustrate this. To prevent ambiguity, Sections 2 and 3 each have twice as many points as Section 1.

TABLE 6: POINTS ASSIGNED FOR RANGES OF SCORES

Section of assessment	Range of scaled scores	Points awarded
1. Words	0-4	0
	5-9	1
	10-20	2
2. Sentences	0-9	0
	10-19	2
	20-39	4
3. Text	0-9	0
	10-19	2
	20-39	4

The sums of points from all sections can then be interpreted as ranked writing levels, as shown in Table 7. (Sums of 5, 7 and 9 are unlikely to occur because they would imply a low score on words where sentences or text were accomplished with some success.)

In Table 8 we present the distribution of the sample by ranked writing levels. In addition, the ranked levels are converted to standardised scores, the latter, having a distribution not too far from the normal, can be used to assess relationships with relevant variables. It will be seen that, in addition to the 40 cases of no marks at all, 30 children were unable to obtain a pass mark in Section 1 (words). Non-writers (including those who could only write letters) are the largest group, but the distribution is slightly bimodal, as a few more children are at the sentence level than at the word level. The large size of the non-writer group shows the scale of the challenges that Uganda faces in ensuring all children are learning. It should be borne in mind that all children in the sample were well above the minimum age for primary education. In the sections that follow we shall comment further on educational and other factors in the levels of achievement.

TABLE 7: PLACEMENT IN RANKED LEVELS OF WRITING

Sum of points awarded	Ranked level of writing
0	Rank 1: Non-writer/letters
1	Rank 1: Non-writer/letters
2	Rank 2: Words
3	Rank 2: Words
4	Rank 2: Words
5 (unlikely to occur)	Rank 3: Sentences
6	Rank 3: Sentences
7 (unlikely to occur)	Rank 3: Sentences
8	Rank 3: Sentences
9 (unlikely to occur)	Rank 4: Text
10	Rank 4: Text

TABLE 8: DISTRIBUTION AND Z-SCORES BY RANKED LEVEL OF WRITING

Writing level	Frequency	Percentage	Z-score
Rank 1: Non-writer/letters	70	35.0	-1.12
Rank 2: Words	45	22.5	-0.22
Rank 3: Sentences	51	25.5	0.68
Rank 4: Text	34	17.0	1.58
Total	200	100.0	

5.3. Strengths and weaknesses of the narrative texts

There were approximately 60 attempts at the text-writing task and, of these, just over half obtained a pass mark. In this sub-section we focus on the quality of the text-writing, with reference to the major assessment criteria used.

5.3.1. Meaning and relevance

Some of the children were able to express emotion in just a few words, usually saying that they were happy to return to school and to see their friends and teachers or that the things they did were fun. One has to sympathise, however, with the child who wrote, 'My first day at school was just bored … The fourth day I started enjoying school' (Script 47). A few managed to mention several interesting features of that first day, stimulating the curiosity of the reader (e.g. Scripts 74 and 93). In other cases, the narrative or sentences did not focus well on the topic (such as Script 107, which talks about the lockdown).

Some children showed imagination by mentioning the untidy state of the schools at the time when they were reopened. Script 182 mentions the long grass and the accumulated dirt in the classrooms. Several children mentioned that they had to sweep and mop on that first day.

5.3.2. Structure and organisation

Many of the children in the sample who attempted the text section of the assessment were still at an early stage in the transition from writing individual sentences to writing a series of connected and related sentences, as required for a narrative, descriptive or instructional task. A symptom of this situation is that even some of those who did write several relevant sentences in a suitable order still placed these on separate lines of the paper. There are also many cases in which the sentences were a jumble (usually a list of actions) without much connection to each other (Scripts 53 and 147 are typical).

One of the better, short attempts is Script 74, which shows good continuity but needs more punctuation. One of the best structured responses is Script 93, which provides a beginning (the early morning routine), a series of events at the school and then a concluding sentence. But such cases are far too few. A clear implication is that children need to read more, well-structured, stories and descriptive texts in English as models and to be guided in the organisation of their writing.

5.3.3. Vocabulary

Some children were able to deploy relevant vocabulary about the home and the school and a number of them referred to the Covid-19 situation by mentioning the wearing of face-masks (cued by the picture) and hand-washing. A few mentioned subjects that were taught and things that their teachers did. Many of those who wrote something in this section, however, had too little English vocabulary to provide a meaningful narrative.

5.3.4. Grammar, punctuation and spelling

The task required the use of past tenses. Some children showed an encouraging capacity to use both the continuous and the completive past tenses (e.g. Script 81) in appropriate ways. In some of the stronger cases, the children are learning to form complex sentences with a main and a dependent clause. This is well illustrated by Script 150, which uses clauses beginning with 'because' but does not quite achieve the correct chain of causality. Neither has the child mastered the punctuation that is required for such complex sentences. In general, children's use of full stops was fair, but relatively few used commas well.

In general, the standard of spelling was fair. In some cases, children used spelling that was based on audial learning of language rather than an awareness of the written language (e.g. 'tolled' for told, 'frends' for friends, 'bateing' for 'beating'). This is an area where reading provides the necessary scaffolding.

5.3.5. Handwriting

The main problems in the handwriting are of two kinds. Firstly, the pencil writing produced by some is too faint and not easily legible. We may have to reconsider the practice of allowing responses in pencil as well as pen. Secondly, there is the practice of writing one letter at a time – essentially the reproduction of printed letter forms. Even the best of the texts were produced with this kind of lettering as opposed to cursive writing. Schools are responsible for this practice, which slows down the process of writing for many children. It is an international problem, not limited to Uganda.

5.4. The relationship between reading levels and writing levels

Logically a degree of correspondence between children's reading and writing levels and would be expected, as suggested by the research of Yusra, Wagner and Lopez (2014), a tendency of reading levels to predict writing levels. Table 9 shows how the sample is distributed in a cross-tabulation of reading and writing levels. It shows the frequencies in each cell and the percentages for the row and column totals.[2]

The distribution has several implications. Firstly, the highest level of the reading assessment (ability to read a P2 level story with comprehension) predicts fairly well that the child will be placed at the text or sentence level of writing, the text level being more likely. Secondly, however, the lower levels of reading assessment are poor predictors of writing levels. Many of those classified as non-readers (or readers of letters only) were placed at the word level of writing and many classified as readers of words were placed at the sentence level of writing. Thus, the data do not support the assumption that children's reading skills tend to be more advanced than their writing skills; rather, there is a varied and inconsistent relationship.

[2] Ten cases are missing from the reading assessment, for which it was either incomplete or clearly incorrect.

TABLE 9: DISTRIBUTION BY READING AND WRITING LEVELS

Frequencies, percentages of totals in brackets.

Writing levels:	Reading levels:					
	Non-reader/ letter	Word	Paragraph	Story with-out compr.	Story with compr.	Total
Non-writer/letter	57	7	1	0	0	65 (34.2%)
Word	21	16	6	0	1	44 (23.2%)
Sentence	0	20	6	2	21	49 (25.8%)
Text	0	0	2	0	30	32 (16.8%)
Total	78 (41.1%)	43 (22.6%)	15 (7.9%)	2 (1.1%)	52 (27.4%)	190 (100%)

Spearman's rho = 0.846

A third and related point is that data seems to indicate that children were less successful at reading than writing, 41% of the sample being placed below the word level of reading, whereas 34% were placed below the word level of writing.

5.5. Writing achievement in relation to P2-P6 curriculum objectives

We now consider the official curriculum objectives for the writing of English and how far this sample of children has achieved them. We focus on P2 to P6, which are appropriate grade levels for this 8-12 age group, even though 38 children (19%) were still in P1. The distribution of the sample by grade level is shown in Table 10.

TABLE 10: DISTRIBUTION OF THE SAMPLE BY GRADE LEVEL

Frequencies, percentages in brackets.

Grade level	Frequency	Percentage of enrolled	Grade level	Frequency	Percentage of enrolled
P1	38	19.0	P6	14	7.0
P2	39	19.5	P7	2	1.0
P3	47	23.5	Total enrolled	197	100.0
P4	35	17.5	Not enrolled	3	
P5	22	11.0	Total sample	200	

One factor in the large proportion of non-writers is likely that, because of the school closures of 2020-21, more children than usual were over-age for their grade levels. P1 accounts for 16 children who received zero scores and another 12 who were placed below the word level. However, the fact that 16 children in P3 (34%) were at the non-writer or letter level shows that remedial teaching is required to assist them: the normal curriculum is not meeting their needs.

From as early as P2, the Ugandan curriculum includes writing, not only of words but also of sentences and simple text, among the activities recommended for the learning of English. Within each theme or topic, the curriculum seems to suggest an assimilation of new concepts and

vocabulary through reading and listening and then a progression from words to sentences and then to text in using them. Under the 'peace and security' theme, the P2 curriculum (MoEST 2006) mentions 'sequencing sentences to form a story' (p. 36). Under the 'recreation, festivals and holidays' topic in P2, one of the recommended tasks is to 'write a short paragraph with correct punctuation and spelling'. This would presumably apply to a narrative task, as other types of text have not been introduced yet.

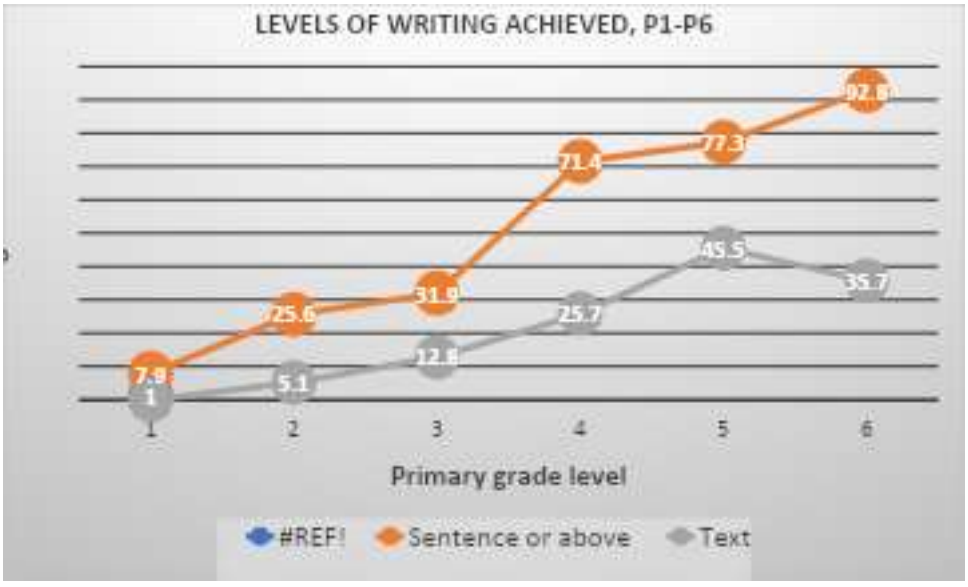
The curriculum documents for P3 to P6 seek to develop additional skills for written composition. The writing of dialogue and writing from dictation are introduced in P3 (MoES n.d.). In P4 there is guidance on the use of the past simple, past continuous and future tenses. Additional types of text – descriptive, instructional and persuasive – are also introduced in P4 (MoES 2010a). In P5 there is a formal introduction to personal letter writing and this can be linked with email communication (MoES 2010b). The P6 curriculum sets out to foster more mature writing skills such as the use of paragraphs and the 'logical presentation of ideas' (MoES 2010c, 6).

Against this background, Figure 1 presents the proportions of children in P1 to P6 who have reached the sentence level of writing or above, and those who have reached then text level. P7 is excluded because only two children in the sample were at that level.

Figure 1 illustrates two important findings. Firstly, For the sentence level, there is a contrast between P1-P3 and P4-P6. More than 70% of learners in each of the upper grades have reached at least the sentence level, but less than one-third of those in each lower grade have done so. It is likely that this gap is partly due to the school closures of 2020-21, which had more adverse effects on younger learners (see Uwezo 2021, 13-14).

Secondly, the text level of writing is only achieved by a minority of children, even in P5-P6. By implication, many learners are not performing the full range of writing tasks recommended by the curriculum, at any grade level.

FIGURE 1: ACHIEVEMENT AT THE SENTENCE AND TEXT LEVELS OF WRITING, BY GRADE LEVEL



In response to this situation, there is need to introduce and use children's literature as well as a sustained teaching of English writing at the text level in Uganda primary school curriculum implementation.

Within many of the themes and topics, there is scope for the teacher to synchronise reading and writing tasks so that the learners have models to guide and motivate their writing. Effective linkage, however, depends on the resources available. The P3 theme, 'culture and gender', includes listening to and reading traditional stories, but it is not clear how far these extend to English as well as the mother tongue.

The curriculum guidance for English has a practical emphasis and offers little, if any, vision for introducing children's literature. From English-speaking African countries, including Uganda, there is a great resource of short stories for children, both traditional and modern, and this literature should be an integral part of the learning of English. However, in the socio-economic conditions of Uganda, many children depend on the schools to provide access to it. In the upper primary grades 6-7 periods per week are required for English; allocation of at least one period to the teaching of literature would be desirable. To avoid the fate of neglect that teachers have accorded to storytelling in the mother tongue, the use of literature in teaching English should be supported through teacher education and through the examination system (see Ssentanda and Andema 2019).

The second issue is that of sustained guidance for writing at the text level and the scheduling of this. Although children have very diverse needs, there should be a clear goal, at least at the beginning of the P4 level (the transition year to the use of English as the language of instruction in Uganda), of achieving some coherence in a short English narrative. The writing of dialogue (introduced in P3) needs to be reinforced through narrative writing.

5.6. Writing competences in relation to individual attributes

With the small sample used for this pilot study, there is only a limited scope for looking into the relationships between writing achievement, as assessed, and the attributes of children, their educational experiences and social circumstances. However, data points to relationships that could be explored further in future assessments and surveys of larger size.

From the experience of Uwezo assessments of reading and numeracy in Uganda (e.g., Uwezo 2019), the individual attributes that are most likely to influence levels of learning are age, gender, absenteeism and disability or special need, especially reported memory difficulty. Age will be discussed below, but we begin with comparisons of means, in Table 11, for girls and boys, for children who had been absent and those who had been present in school on the day before the assessment, and for children who were reported to have a difficulty in memory, compared with those who were not. In the sample of 200, there were 108 girls, 55 children who had been absent and 28 reported to have a memory difficulty. (Other disabilities did not have effects that are worth reporting here.)

All the differences between groups are in the expected direction. A small difference in achievement between the sexes is to be expected because of the faster maturation of girls of this age. Absenteeism is often associated with health problems or poverty in the home. Apparent memory difficulties can be associated with behavioural or neurological disorders that impede learning. Because of the design effect, however, this sample only shows the third attribute as statistically significant.

TABLE 11: COMPARISONS OF MEANS FOR INDIVIDUAL CHILD ATTRIBUTES

Dependent variable: Z-score of writing level

Attribute	Group 1 name and mean	Group 2 name and mean	Difference	t,* adjusted for design effect	Level of significance (2-tailed)
Gender of child					
	Girls	Boys			
	0.1297	-0.1522	0.2819	1.086	N.s.
Absent from school or present, the day before the assessment					
	Absent	Present			
	-0.2536	0.1156	-0.3692	-1.27	N.s.
Whether reported to have a memory difficulty					
	Yes	No			
	-0.5427	0.0796	-0.6223	-1.69	10%

*It is assumed that the variances of the groups are approximately equal.

The child's age on its own explains 17% of the variance in the z-score for writing level, but grade level is a stronger determinant, accounting on its own for 34% of the variance. Within each grade, age tends to be a negative factor, as the older children are more likely to have repeated a grade or to have started school late. This is why, when the dependent variable is regressed on the combination of grade and age, the coefficient for age has a negative sign, as Table 12 shows.

TABLE 12: REGRESSION OF Z WRITING LEVEL ON GRADE AND AGE OF CHILD

Dependent variable: Z-score for writing level

Independent variables

V. name	B	Std. error	Beta	t, adjusted*	Sig. level
Constant	-1.095	.133			
Grade level	0.453	.060	0.701	4.085	1%
Age	-0.096	.060	-0.148	-0.863	N.s.

Whole equation

R^2	SE estimate	F, adjusted*	Sig. level	Df
0.351	0.811	28.39	1%	196

*Adjusted for the design effect

Grade level and age in combination explain 35% of the variance and the F-value for the regression is large, as we would expect.

5.7. Writing scores in relation to educational, household and locational factors

Previous research on children's foundational skills, and especially the analysis of Uwezo assessment data in Uganda (Uwezo 2019; Urwick 2022), suggests that writing achievement may be influenced by the child's pre-primary education (if any), the type of school (public or private) currently attended, various characteristics of the child's household and the location of the community. Here we can only give a general indication of what is to be expected in a larger assessment and the analysis is limited to five selected variables.

It is convenient to use dummy (dichotomous) variables to represent possible factors, as follows:

- The child has one year or more of preschool experience (score of 1), versus less than one year (score of 0).[3]
- The child is currently attending a private school (score of 1), versus a government school (score of 0). (Non-enrolled children are excluded.)
- The household head is female (score of 1), versus male (score of 0).
- The household head has an 'O' level qualification or above (score of 1), versus a lower qualification or none (score of 0).
- The child lives in Jinja City, an urban area (score of 1), versus Jinja District, a rural area (score of 0).

Findings for the regression of the z-score for writing levels on these dummy variables in combination are shown in Table 13. The B coefficients are all positive as expected and show that each of the first four independent variables predicts the writing level by between 0.3 and 0.5 of a standard deviation. Because of the design effect the t-values are not significant here, but if the analysis were based on a simple random sample, those for private school, female household head and the household head's educational level would be significant at the 5% level.

TABLE 13: REGRESSION OF Z WRITING LEVEL ON EDUCATIONAL AND SOCIAL VARIABLES
Dependent variable: Z-score for writing level
Independent variables

V. name	B	Std. error	Beta	t, adjusted*	Sig. level
Constant	-.869	0.200			
1 yr. or more preschool	0.307	0.181	0.118	0.920	N.s.
Private school	0.314	0.145	0.154	1.176	N.s.
Female hh. head	0.377	0.138	0.185	1.480	N.s.
Hh. head with 'O' level or more	0.434	0.157	0.200	1.502	N.s.
Urban area (Jinja City)	0.168	0.138	0.084	0.658	N.s.

[3] In our national assessments of reading, two years or more of preschool has been an effective predictor, but for this analysis one year or more of preschool is more effective.

Whole equation

R^2	SE estimate	F, adjusted*	Sig. level	Df
0.156	0.936	3.778	1%	194

*Adjusted for the design effect

Location in the urban area has a weaker effect because the area has a higher proportion of children attending private schools (67% versus 52% in the rural area).

In combination, the five independent variables explain 15.6% of the variance and the F-value of 3.778 for regression is significant at the 1% level, for 5 and 189 degrees of freedom. In general, these findings support the view that children's reading and writing achievements at the primary level are influenced by similar sets of educational and social factors.

6. Conclusions and Recommendations

The conclusions and recommendations are presented in an integrated manner, following the same sequence as the presentation of findings.

6.1. Suitability of the piloted procedures for wider use

The levels of validity and reliability of the procedures are in general, suitable for use on a larger scale sample. Minor improvements may be needed in the scoring rubric, especially more detailed guidance for the scoring of the text section. Monitoring of the scoring needs to be systematic and to be carried out soon after the event. In addition, since the assessors and scorers are different, this cost needs to be factored in while planning for the assessment.

6.2. The placement of children at levels of writing

For the presentation and analysis of results of the assessment, the placement of children at general levels of writing is useful but does require a decision rule such as the one we have used. The placements in general writing levels are useful for comparison with the reading levels that are based on Uwezo's basic assessment. The standardised scores of the writing levels are useful for the analysis of factors that influence the writing achievement.

However, in a wider use of the procedures the 'letter' level of writing could be assessed and included in the placement, thereby having five levels instead of four: (1) non-writer, (2) writer of letters, (3) writer of words, (4) writer of sentences and (5) writer of text. A reading assessment that accompanies the writing assessment could also include the letter level. Although, in terms of children's potential, no child aged 8-12 should still be writing only letters, and none should be a non-writer, the actual situation is that many fall into these categories, especially in the aftermath of the school closures of 2020-21. As the Greater Jinja Area has quite a high level of urbanisation, in the national context, the proportion of complete non-writers, which was at least 20% in this sample, would probably be higher in a nationally representative sample.

6.3. The quality of children's writing of text

It is unsatisfactory that only 32 children (17% of the sample) were found to be competent at writing at text level. Of those, many wrote sentences that were rather loosely connected and only a few

achieved good cohesion. On the positive side, the scripts showed some ability to express emotion, use relevant vocabulary, use past tenses and use full stops to separate sentences. The overall impression is that children need more exposure to good models of English narrative and more guidance on how to structure a piece of narrative.

6.4. The relationship between reading and writing assessments

As expected, children who showed full reading competence (able to read a P2 story with comprehension) were likely to be able to write at the text or sentence level.

6.5. Writing achievement by grade level and implications for the curriculum

Most of the sample was enrolled in P1-P6, with a slight bias towards the lower grade levels. Most of those in P4-P6 (at least 71%) showed ability to write at the sentence level or above, whereas only a minority of those in P1-P3 could do so. Those who were placed at the text level were a minority throughout P1-P6, the largest proportion being in P5 at 46%. These levels of achievement are considerably below curriculum expectations, as children are supposed to have practice in writing simple narratives from P2 upwards and other types of text are introduced in P4.

To improve the curriculum as implemented for English, we recommend (a) a systematic use of children's literature in English to motivate learners and provide them with good models of narrative and other types of text and (b) a more sustained guidance for the writing of narrative text.

6.6. Writing achievement and children's backgrounds

We have explored the relationship between the standardised score for writing level and the individual attributes of gender, absenteeism and memory difficulty. The statistical effects of these factors are in the expected directions, girls' achievement being slightly above that of boys, but because of the small sample size and clustering, only the effect of memory difficulty is significant in a simple bivariate test.

Among educational factors, grade level in school explains 34% of the variance in the standardised score. Within each grade level, the effect of age is negative as older children are those who have made slower progress through the system. Having spent one year or more in preschool, currently attending a private school, and three socio-economic variables (household head's gender and education and the location), collectively explain 16% of the variance. In a more extensive assessment and survey, all these factors are likely to have significant marginal effects on writing achievement. In the context of the Greater Jinja Area, the effect of type of school (private versus government) is stronger than that of location (urban versus rural).

6.7. The way forward

Over the past decade the 'citizen-led' Uwezo assessments of children's literacy, also widely used by several other organisations in the PAL Network, have reached large numbers of children and have usually been limited to assessing reading. The procedures used in this pilot assessment of writing are intended to complement and broaden the existing evidence about children's literacy competences.

As the assessment of writing is generally a more complex task than assessment of reading, we complemented the 'volunteer model' in which we worked with trained citizen volunteers recruited from the assessment villages to conduct the assessment at household level, with another trained

team that scored the assessments independently a few weeks after the household-based assessment. Future assessments could use this approach, though costlier, and should ensure that the scoring takes place as soon as the household-based assessment has been completed. Another approach where the citizen-volunteers are also trained on how to score can also be tested.

With the modifications recommended, the procedures could be used in a larger sample. The procedures could also be used, with minor adaptations, for other languages that are widely taught in schools, in Uganda and elsewhere.

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