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Formative assessment: the role of participatory action research in blending policy and practice in Uganda

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ABSTRACT
This paper documents teachers' assessment practices and pupils' learning to read and write in large classes. To gain insights into the assessment practices and pupils' learning, the principles of Vygotsky's zone of proximal development and participatory action research (PAR) design were adopted. Collaboratively, teachers reflected on their assessment practices, developed, implemented and monitored the assessment practices. Through observation, in-depth interview and review of exercise books, data were obtained. We argue that teachers' involvement in PAR has contributed to changing assessment practices in large classes and in improving pupils' competencies in reading and writing. On the other hand to promote better assessment practices, we advocate for reduced number of pupils in a class and teachers' workload to enable them offer more support to the pupils during assessment of reading and writing.

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Formative assessment; policy; practice; large classes; feedback; participatory action research

1. Introduction

This paper reports part of a participatory action research (PAR) study conducted in Uganda from 2012 to 2014. The study focused on the use of local language as medium of instruction for teaching reading and writing. In order to understand why pupils who were being taught in the local language had difficulties in reading and writing, a preliminary investigation into the experiences of the teachers in using local language as medium of instruction was conducted in six primary schools. The preliminary finding was guided by Eileen's action research model (2000). This model has five phases of inquiry namely: problem identification, gathering data, interpreting data, acting on evidence and evaluating results. In order to identify the problems, data were gathered through in-depth interview, focus group discussion, lesson observation and review of pupils' exercise books. The findings exposed a number of challenges that were presented to the research team (teachers, Centre Coordinating Tutors, District Education Officers, members of the Acholi Language Board and the researcher) during a one-day feedback workshop. The purpose of the workshop was to help the participants reflect on the identified challenges, validate findings and through consensus select

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one challenge that they thought was affecting children's reading and writing and finally plan ways of addressing it. The general consensus was that the poor method of teaching that was teacher-centred was a major obstacle to pupils' learning to read and write. The research team therefore in collaboration agreed that in order to improve pupils' reading and writing there was need to re-emphasising the child-centred pedagogy (Akello and Timmerman 2017). The adoption of child-centred pedagogy (CCP) would allow interaction and participation among teachers, pupils and their peers during the learning process. An action plan for the CCP was designed, implemented and monitored from March to August 2013 and evaluated in November 2013 in the sampled schools. The outcome of implementing the CCP was reported in Akello, Timmerman, and Namusisi (2015).

During the evaluation of the CCP, it emerged that the difficulty of assessing children's competencies in large classes and the lack of instructional materials were drawbacks to the successful implementation of CCP. In order to cater for the lack of instructional materials, six teachers of local language out of twelve were to work with the researcher and the pupils to write stories. In order to improve the assessment practices, it emerged that the teachers were to assess the pupils daily and share their experiences of assessment practices with fellow teachers during feedback meetings. The sharing of experiences was made possible through their involvement in PAR since it was envisaged that participating in action research would create an environment for them to reflect on the assessment practices, identify the challenges of assessment in large classes and to redesign the assessment plan for the next phase of the study.

Being aware of the challenges within the context in which the pupils were learning as well as the importance assessment adds to pupils' learning, it was imperative to understand the teachers' practices and challenges of assessment and to devise ways of improving it. This paper therefore documents the teachers' assessment practices and children's learning in large classes.

2. Background: what is assessment?

Assessment in the education system is an important practice for tracking and supporting learning. Assessment has been defined in various ways. The word 'assessment' from the Latin verb 'assidere' means 'to sit beside' [*sic*]. The image of someone sitting beside a learner portrays assessment as support for learning rather than as a test of performance (Swaffield 2011). The 'sitting beside' [*sic*] form of assessment is a natural part of many teachers' practices. In supporting pupils learning, teachers take close interest in what pupils say, write and do, as these give indicators of how pupils think about and understand what they are learning. This awareness of pupils' learning state helps the teachers to judge the appropriate next step and plan how best to guide further learning (Swaffield 2011). According to Marshall and Jane Drummond (2006) assessment is a process of teachers looking at pupils learning, striving to understand it and using that knowledge in the interests of the pupils. Borrowing from Marshall and Jane Drummond, assessment in this study is a process of teachers looking at pupils' learning, striving to understand it and using that knowledge to support pupils' learning. Pupils' learning can be supported through diagnostic, formative and summative assessment. This paper focuses on formative assessment.

2.1. Types of assessment

Summative assessment centres on pupils level of achievement (Sadler 1998) which can be used to accredit their knowledge development to a particular programme of study (Biggs 2003). McTighe and O'Connor (2005, 10) argue that although through summative assessment learners are given feedback, the feedback is an insufficient tool for maximising learning since it comes at the end of a teaching period. Diagnostic assessment on the other hand is used by teachers to check learner's knowledge and level of skill, to identify learner's misconceptions, profile learner's interest and reveal learning-style preferences. Diagnostic assessments provide information that assist teachers' planning and guide differentiated instruction (McTighe and O'Connor 2005, 10). The results obtained from diagnostic assessment feed into formative assessment plans.

Formative assessment (FA) is an ongoing, dynamic and progressive process that elicits verbal and non-verbal information from pupils about the progress of their learning (Biggs 2003; Buck and Trauth-Nare 2009; Pryor and Crossouard 2008). Black and Wiliam (2004) argue that giving weekly tests and telling pupils their marks, does not constitute formative assessment. They emphasised that unless some learning action follows from the outcomes, that practice is merely frequent summative assessment.

2.2. Formative assessment and feedback

Formative assessment is assumed to facilitate appropriate feedback and corrective action on the part of teachers. For instance, it would enable teachers to identify individual pupil's problems and provide adequate help in rectifying the identified problems (NCDC 2008) so that the pupil would catch up with the rest of the class. Likewise, high achievers could be identified and given more challenging tasks to stimulate their learning (NCDC 2006). Ultimately, feedback for the pupils could provoke further questioning and learning; while for the teacher feedback could be used for planning lessons and improving instruction.

According to Swaffield (2011) the feedback provided to the pupils should highlight quality in their work, point out where the work could be improved and crucially, give clear and explicit guidance on how to make the improvement. This is because feedback encourages pupils to develop understanding of what and how they are learning, to recognise and value achievement, and to take responsibility for directing and regulating their own learning. Walker (2009) and Rust (2002), however, argue that though feedback is meant to improve learning, often some pupils seem not to use comments on assessed work as resources for learning. They suggest that useful feedback for pupils needs to be prompt and timely.

Weaver (2006, 2) stressed that feedback comments and the language used for conveying feedback are important in determining whether or not pupils use feedback. The content of usable feedback should highlight what has been done and/or not done (Light and Cox 2001; Walker 2009), and how well things have been done. It should offer motivating suggestions that would lead to improvement (Walker 2009), and recommend resources that would stimulate learning. The feedback appropriate for pupils in lower classes would, in addition to written feedback, include verbal comments, clapping hands and choral chants. To understand the assessment practices in Uganda, let us look at the language policy and the thematic curriculum.

2.3. Language policy in Uganda

The 1992 Education Review report stipulated that, schools, save for some in urban areas, should teach all subjects, except English, through mother tongues from grade one to three. Every school is to adopt the dominant language of the community it is situated in as a medium of instruction or may retain English only if the dominant community language is unclear. English becomes the medium of instruction from grade four onwards (Government of Uganda 1992). This language policy was implemented between 2000 and 2002, but the implementers did not pay sufficient attention to listening, speaking, reading and writing in the first three years of primary school (Penny et al. 2008). This badly implemented literacy programmes resulted into a decline in reading and writing skills (Draku 2011; Penny et al. 2008), therefore necessitating a curriculum review in 2004. The reviewed curriculum recommended the implementation of the thematic curriculum in 2007 (Acana et al. 2010; NCDC 2006).

2.4. The thematic curriculum

The thematic curriculum is taught in local languages from grade one to three mainly to help pupils improve their level of proficiency in reading and writing. The thematic curriculum emphasises the development of concepts and mastery of skills in teaching and learning (NCDC 2012) and a shift from summative to formative assessment. This shift in assessment practice was proposed with the hope that improvements in classroom assessment would contribute to the improvement of pupils' learning (Black et al. 2004; NCDC 2006).

2.5. Assessment policy in Uganda

The policy on assessment stipulated that assessment should be done during lessons as pupils perform daily tasks, at the end-of-theme and end-of-term. Teachers were to keep records of each child's assessment for purposes of identifying areas of strengths and weaknesses and assessment was to be cumulative for purposes of tracking progress or regression in the child's learning (NCDC 2006, 12).

Pupils' competencies were to be assessed through reviewing their exercise books, marking their handwriting, observing and listening to them in class (Akyeampong, Pryor, and Ampiah 2006; NCDC 2006, 12). The focus of assessment was to help pupils engage in interaction and generate knowledge rather than test what they know (Pryor and Crossouard 2008). Teachers were therefore urged to incorporate formative assessment into their classroom practices much more explicitly and consciously (NCDC 2006) than they did before the introduction of the thematic curriculum.

The policy on assessment elaborated above, however, met with resistance from teachers generally. The teachers claimed they were overloaded with work due to high pupil enrolment of between 98 and 145 per class and other school duties that demand their attention. The high pupils' enrolment made it impractical to carry our daily assess in large classes. Aware of the importance of assessment in promoting learning, it was therefore important to undertake this study. The study set out to answer two questions: (1) how has assessment been implemented in large classes during reading and writing lessons? (2) How has participation

in action research changed assessment practices in the large classes and contributed to pupils' learning to read and write?

2.6. Vygotsky's zone of proximal development

The study adopted Vygotsky's concept of the zone of proximal development (ZPD). The ZPD describes the actual level of development of the learner and the next level of potential development that a learner can attain through the help of the teacher or other capable peers (Vygotsky 1978). The principle is that individuals can learn and internalise concepts and skills when working in collaboration with peers and more skilled persons. According to Nordlof (2014), learning through collaboration enables pupils to gradually attain a state of competence in which they could complete a similar task independently and pick on another task that is slightly difficult.

Adopting the ZPD for this study was appropriate since formative assessment is a dynamic process in which supportive adults or peers help pupils to move from what they already know to what they are able to do next (Shepard 2005, 66). This means that after completing the task jointly, the learner would likely be able to complete the same task independently the next time (Vygotsky 1978), and through that process, the learner's ZPD for that particular task would have been raised. This process is repeated at the higher level of task difficulty that the learner's new ZPD requires. The learner's ZPD is assessed through observation and interaction between teachers and learners during the learning process.

During assessment, a range of activities that pupils could accomplish in collaboration with the teacher or other peers, but could not accomplish independently, were provided. For example, assessment was done at group and individual levels and that provided occasions for more capable peers to give hints to their less capable peers to learn. Through questioning, interaction and participating in group and individual tasks, the pupils were helped to learn and solve problems with their peers and on their own. Teachers facilitated pupils' learning by beginning teaching with concepts they already knew and moving to presenting new concepts; through remedial exercises and by giving verbal and written feedback.

3. Methodology

3.1. Participatory action research

The study adopted a PAR design. PAR is a highly collaborative process between expert researchers and the members of the organisation under study (Greenwood, Whyte, and Harkavy 1993). PAR focuses on bringing change, actively engaging all people within a community to work towards this change (Chatterton, Fuller, and Routledge 2007). The goal of PAR is to enhance teaching practices, increase teachers' awareness of decision-making regarding their own practice, and improve the conditions in which they work (Whitehead 2000). When teachers are engaged in professional development, they learn best from other teachers, and their problem-solving and creativity are enhanced by diverse groupings (Mitchell, Reilly, and Logue 2009). PAR emphasises teamwork and active collaboration, where researchers and participants work together to analyse a problem situation and generate actions to solve the problem (Chatterton, Fuller, and Routledge 2007). The collaborative

nature of PAR was important in this study as it provided physical space for the research team to work collaboratively with each other in the learning environment not only in identifying and reflecting on the challenges of implementing assessment daily in large classes, but also in developing assessment plans, implementing and monitoring them.

3.2. Participants

The six teachers and 720 pupils from three primary schools were purposively selected. Through their participation and input, the effectiveness or ineffectiveness of the designed assessment plans in promoting learning was established. The six teachers and the researcher collaborated in implementing the assessment plans and in identifying pupils' challenges in reading and writing in large classes. The teachers' documentation of the assessment practices, the participant observations and review of pupils' exercise books provided data for this study.

3.3. Assessment plans

In order to improve pupils' competencies in reading and writing in large classes, the teachers and the researcher during an evaluation feedback workshop agreed to design an assessment plan that was implemented and monitored for three months from the beginning of February to April 2014 (see Table 1). In those classes, pupils with different abilities were mixed up in order to create opportunities for the more competent pupils to offer support and guidance to the less competent ones. That was in line with the principles of the ZPD in which the adult or more competent peers offer support to the less competent peers to help them attain their next level of potential development (Vygotsky 1978).

As the teachers and researcher implemented assessment plan one (1), they monitored and reflected on the assessment of reading and writing for three months. During these phases, data on the process of formative assessment and pupils' learning were gathered through observation and document review and was presented to the research team during a one-day feedback workshop. The teachers, for instance, reported that it was difficult to assess individual pupil's progress when assessing them at group level since the competencies gained was based on group performances. They also reported that assessing pupils at group level denied the less competent pupils chances of participating and learning in the process. In order to establish individual competencies and help the less competent pupils to participate and learn, the research team in collaboration agreed to revise the assessment plan (see Table 2). In the revised plan, the number of pupils per group reduced while the number of groups increased. This was anticipated to provide more chances for pupils to participate in the learning process and receive more support from teachers and their peers compared to when they were many in a group.

In the revised assessment plan two (2), the teachers assessed pupils individually within a group and only moved to the next group when all the pupils in one group had been assessed. The duration of assessment varied from one class to another and it depended on the teacher's competencies in assessment and the pupils' ability to learn. The teachers continued with marking books, giving feedback, giving remedial lessons and keeping records of competencies gained. These practices were in line with the guidelines stipulated in the assessment policy (NCDC 2006, 12). Due to the cyclical nature of action research (McTaggart

Table 1. Formative assessment plans one in schools A and B.

School	Grade	Total per class	No. per group	No. of groups	Activities	Actors	Duration of assessment	Tool/method of assessment	Duration of implementation & monitoring	Time for evaluation
A	1	145	23	06	Reading writing	Teachers, researcher	30 minutes	Lesson observation, review of exercise books, marking	Three months	After three months
	3	116	20	06	Reading writing	Teachers, researcher	30 minutes	Lesson observation, review of exercise books, marking	Three months	After three months
	4	121	28	05	Reading writing	Teachers, researcher	40 minutes	Lesson observation, review of exercise books, marking	Three months	After three months
B	1	120	28	05	Reading writing	Teachers, researcher	30 minutes	Lesson observation, review of exercise books, marking	Three months	After three months
	2	098	27	04	Reading writing	Teachers, researcher	30 minutes	Lesson observation, review of exercise books, marking	Three months	After three months
	4	120	30	04	Reading writing	Teachers, researcher	40 minutes	Lesson observation, review of exercise books, marking	Three months	After three months

Table 2. Revised formative assessment plans two in schools A and B.

School	Grade	Total per class	No. per group	No. of groups	Activities	Actors	Duration of assessment	Assessing the whole class	Tool/method of assessment	Duration of implementation & monitoring
A	1	145	10	12	Reading writing	Teachers, researcher	30 minutes	15 days	Lesson observation, review of exercise books, marking	Three months
	3	116	10 and 11	11	Reading writing	Teachers, researcher	30 minutes	23 days	Lesson observation, review of exercise books, marking	Three months
	4	121	10 and 11	14	Reading writing	Teachers, researcher	40 minutes	20 days	Lesson observation, review of exercise books, marking	Three months
B	1	120	10	12	Reading writing	Teachers, researcher	30 minutes	14 days	Lesson observation, review of exercise books, marking	Three months
	2	098	05	19	Reading writing	Teachers, researcher	30 minutes	03 days	Lesson observation, review of exercise books, marking	Three months
	4	120	38	03	Reading writing	Teachers, researcher	40 minutes	21 days	Lesson observation, review of exercise books, marking	Three months

1991), it was not possible in practice to anticipate everything that needed to be done and so it was left to the discretion of each teacher to decide how many pupils he/she would have in a group and when he/she would conduct remedial lessons. The choice of the group size depended on the different classroom contexts and the teacher's ability to manage group activities. The assessment at the end-of-theme and end-of-term of study was to continue, though the focus in this paper was on daily assessment during class time. The teachers and the other participants monitored and documented the daily assessment practices.

3.4. Methods

Data on daily assessment practices in large classes was collected through interview, participant observation and review of pupils' sampled exercise books for the last two terms (June–August 2013 and September–November 2013). Through interview, the teachers were able to share their experiences in assessing pupils daily in large classes and also to propose possible ways of improving it; while through participant observation the researcher was able to observe the teachers and pupils directly during the assessment process (Flick 2014; Kothari and Garg 2015; Silverman 2013; Yin 2013) instead of relying solely on their explanations of assessment practices and the challenges they go through (Paterson, Bottorff, and Hewat 2003) and obtain data that supplemented the interview and review of exercise book. The review of sampled exercise books helped the teachers and researcher not only to access pupils' original work in order to identify their strengths and weaknesses in writing, but also to access the kind of written feedback that pupils received from the teachers. The review of books focussed on shaping letters, writing lower and upper case letters, spacing letters, and word, using punctuations, sentence construction and written feedback. The data obtained helped the research team to plan for phase one of assessment in large classes which was implemented from February to April 2014.

Between February and April 2014, the books of pupils in grade one to three were marked and reviewed by teachers alone, while in grade four, both the teachers and pupils marked books guided by a marking scheme. Marking exposed the strengths and weaknesses of the pupils in writing. There were, however, gap in information from the exercise books reviewed since some of the books sampled had incomplete exercises, while some of the pupils had not done the exercises and some others had had unmarked exercises. Nevertheless, the gap in information on pupils' writing was filled in by sampling more exercise books for review.

Through participant observation we gained insight into the pupils' interaction with their teachers and peers. The focus of observation was on classroom organisation, teacher and pupils activities, the level of interaction, teacher and peer verbal feedback, and classroom management. The choice of participant observation helped the researcher to observe the classroom practices as it was instead of relying solely on the teachers' explanation. The teachers and researcher also observed and listened to the pupils as they participated in class activities. The focus of listening was on articulation of sounds, syllables, words, sentences and feedback. The pupils gave varied feedback – clapping hands, praising, singing and choral chanting – immediately either to affirm or disapprove the tasks performed. Sometimes, the pupils murmured in disapproval but frequently whispered the correct responses to the pupil who was reading.

The teachers participated in in-depth interviews. Through the interview, we gained insight into the teachers' experiences of formative assessment and pupils' learning in large classes.

Through in-depth interview, observation, listening, marking and reviewing exercise books, the teachers got feedback that did not only help them to know the actual level of pupils' attainment, but also to adjust assessment activities that supported pupils' learning to the next level of potential development. The qualitative data obtained were analysed through Atlas.ti software and two main themes emerged, namely: teachers' assessment practices in large classes and how teachers' participation in action research has changed assessment practices in large classes and promoted pupils' learning to read and write.

4. Findings

This section presents the findings on the teachers' assessment practices in large classes and on how teachers' participation in action research has changed assessment practices and promoted pupils' learning to read and write.

4.1. Practice of assessment in large classes

This section reports the assessment practices of six teachers before they revised the assessment plan. In line with the assessment policy in lower primary (NCDC 2006), teachers are to assess pupils' competencies daily, at the end-of-theme and at the end-of-term; to mark pupils' books and give feedback on competencies gained daily. In order to understand how assessment was carried out, lessons were observed and teachers were asked to explain how they assessed the pupils. Pupils' books were also checked to establish whether or not they were marked and if meaningful written feedback was given. To establish pupils' strengths and weaknesses in reading and writing and also to check the frequency of assessment, daily records of pupils' competencies were request for. The outcome of the inquiry illustrated that the teachers carried out assessment at three different levels as presented below.

4.1.1. Assessing on daily basis

This is the assessment in which teachers are to assess all the children together as a class during reading and writing. The assessment is conducted through a number of activities like reading at individual and group levels, matching words to pictures, filling in the missing gap with a word and drawing pictures to illustrate a concept. Through observation, it was apparent that some learning took place, although the teachers noted that it was not easy to identify the specific challenges of each child in reading and writing since some of them were overshadowed by the active and dominating peers. A teacher shared her experiences:

> Assessment of pupils in every lesson can work for a small class; it does not work well in large classes. It is not possible to assess 121 pupils in a lesson of 30 minutes objectively and identify their strengths and weaknesses. Assessment at the end of a theme and at the end of the term works quite well. (Sarah, Gulu August 21 2014)

Four of the teachers reported that they did daily assessment although they encountered some challenges. One of them shared her experience:

> We tried to assess the children but ended up looking at the general performance of the class since we could not assess a few of them and leave the majority unattended to. There are also other school duties that we have to accomplish and those increased our workload therefore making it hard to mark all the books and give feedback. (Caroline, Gulu 21 August 2014)

To verify teachers' claim about the impracticability of assessing pupils daily, lessons were observed and we confirmed that the teachers could only assess between 20 and 30 pupils in a class of between 90 and 120. In total, out of 720 pupils in six classes, only 156 of them were assessed in a day.

4.1.2. Assessment at end-of-theme

This is an assessment practice in which pupils are given test after completing one of the themes to be taught within a term. The end-of-theme test was rather easier to manage because the teachers had time for marking and planning for remedial lessons. In grade one, the test at the end-of-theme focussed on handwriting, reading and filling in gaps with a missing word. The teachers in grade four had mid-term examinations and the pupils did homework. While it was noted that the teachers enjoyed end-of-theme assessment, they had different experiences in implementing daily assessment. A teacher of grade three shared her practice:

> In my class though I enjoyed assessing 116 pupils at the end-of-theme and at the end-of-term; the daily assessment was not easy because of the high number of pupils in the class. When I tried to assess them on a daily basis, I realised I was deceiving myself and the pupils as well. It was not practical and it does not promote learning. If the number could be reduced to about half or ranging from 50 – 60, that would work. (Helen, Gulu 20 August 2014)

4.1.3. Feedback on assessment

In accordance with the assessment policy pupils books are to be marked and feedback given as a means of pointing out the strengths and weaknesses. Through review of pupils' exercise books, we noted that in four classes about 20–40 out of 116–120 books were marked but the rest were left unmarked and so the pupils were denied feedback on their work. Failure to mark and give specific comments did not only make it hard for the teachers to identify the areas in which pupils had attained competencies and in which areas they needed support but also made it hard to plan for improvement of teaching reading and writing. Yet some scholars argue that useful feedback to pupils should be prompt and timely in order to ensure that important elements were not forgotten (Clynes and Raftery 2008; Rust 2002; Walker 2009) and that learning takes place. Swaffield (2011) stressed that the feedback provided to the pupils should highlight quality in their work, point out where the work would be improved and give clear and explicit guidance on how to make the improvement.

On the contrary, the ratings of competencies attained in the end-of-theme and end-of-term assessment were in the form of general comments like, 'good', 'fair', 'poor', 'weak' and 'work hard'. Leahy et al. (2005) argued that in order for assessment to be effective, feedback needs to cause thinking. Grades, scores and comments like 'Good job' do not cause thinking. What *does* cause thinking is a comment that addresses what the student needs to do in order to improve. Timms, DeVelle, and Lay (2016) however, contend that much as feedback is provided in the form of text, some of which can be complex, a learner's reading and language skills can be very influential on his/her ability to decode the feedback. If the reading and language skills are insufficient to decode and extract the meaning from the feedback message, then putting the comments in action would be difficult.

4.1.4. Record of competencies

On keeping records of competencies attained, it was observed that four teachers made records of end-of-theme and end-of-term assessment in percentages, although there were

no records on daily assessment. One teacher reported that keeping record for end-of-theme and end-of-term assessment was easy although she took a long time in identifying the problems of the pupils in a big class. As a follow-up on keeping records of competencies attained the teachers were asked why they did not have records on daily assessment. Generally, from their responses it could be deduced that not all the teachers were conducting assessment daily. A teacher stated her position:

> It is not practical to assess 120 pupils effectively on a daily basis, let alone taking records of pupils' competencies daily because of the big numbers in my class. If I tell you that I did it, I will be cheating you. The end-of-theme and end-of-term assessments are practical in large classes because we have time to mark their books and do correction in class with them before the end of another theme. (Paska, Gulu August 21 2014)

The lack of records on daily assessment is a practice contrary to that stipulated in the assessment policy (NCDC 2006).

Overall, the teachers assessed pupils daily, at the end of the theme and at the end of the term, although daily assessment was not taken seriously. The failure of the teachers to assess pupils daily is a challenge to the assessment policy. Nevertheless, in order to improve daily assessment practices and promote pupils' learning to read and write, the teachers during a feedback meeting agreed and redesign the assessment plan (see Table 2) which they implemented from June to August 2014.

4.2. Assessment within a PAR framework

This section reports assessment practice of six teachers within a PAR framework from June to August 2014.

4.2.1. Assessing a group as a whole

In the redesigned assessment plan, the teachers proposed that it was important to assess pupils at group levels and that each teacher was to decide on the number of pupils in each group. The group size depended on the number of pupils in a class and the teacher's ability to manage the groups. The number of pupils and the number of assessment groups varied from one class to another. The teachers spent different number of days doing one round of assessment for the whole class. During the assessment processes, the teachers engaged the pupils in reading aloud, writing, responding to questions, matching word to phrase and discussion. A teacher of grade three shared how she grouped the pupils and assessed them.

> I divided the pupils randomly into groups of 10, though six groups had eleven pupils. In a lesson of 30 minutes, I selected five pupils out of the ten and asked them one by one to read sentences written on the chalkboard. I also gave them written exercises in which they were required to fill in the missing word in each lesson. This assessment worked quite well because pupils were able to help each other in reading the written exercises and write correct answers. Where their peers could not help them I guided them accordingly. I could see them learning. I was even able to identify some of their individual strengths and weaknesses. (Hellen, Gulu 20 August 2014)

The second teacher took a month to assess 121 pupils. In that class the pupils participated in reading as a whole class, reading at group level and reading individually. During the reading session, they identified a word or a sentence, read it and matched it with a similar word, and also matched a sentence with another similar sentence. During the individual reading, whenever a pupil had difficulties, either the teacher or the other pupils gave hints to the one reading on how to articulate the particular word. The overall performance showed

that all the pupils could read a one-syllable word; 40% could read two-syllable word and 20% could read a three-syllable word.

In another class, the teacher engaged the pupils in class activities like matching words to pictures, filling in the missing letter and using flash cards with the aim of assessing their competencies in spelling words and constructing sentences. Through matching words to pictures, between 60 and 70% of the pupils were able to match pictures to words and read well, while between 30 and 40% had difficulties in matching pictures to words. While filling in missing word between 40 and 50% identified missing letters and read them well, while 50–60% had difficulties in identifying missing letter like 'p' with figure '9' and 'b' with 'd'. The findings indicated that pupils performed better during matching words with picture, but had difficulties in identifying missing letters. In these particular cases, they interchanged the letters and figure.

In assessing writing, the pupils of grade three participated in activities that required them to match a word to a phrase in order to form a sentence. Table 3 is an illustration of the matching exercise.

In the next activity, the pupils were expected to fill in gaps with the correct word form. This was aimed at checking their ability to spell words and to construct grammatically correct sentences. In the example below, the pupils were expected to use the correct word form of 'go' to fill in the gap:

> Okello ------- to town yesterday (go)

Other activities for checking their ability to spell words correctly and construct sentences correctly were the use of jumbled letters and sentences. An example of jumbled letters is 'enh'. This becomes 'hen' when written correctly.

In grade one class, lessons were observed three times in order to understand how a child's learning could be assessed through the various class activities. In the first lesson, the pupils participated in three activities: sorting letters, matching letters and joining dots. Through joining dots, the pupils learnt to shape letters. Through sorting and matching letters, the teacher wrote letters on the chalkboard and asked the pupils to pick a letter card, to look for a similar letter on the chalkboard and place the card next to it. This helped them to differentiate one letter from another. In the second lesson, the pupils participated in matching word to word, sorting pictures and matching picture to picture. In the third lesson, pupils participated in a drawing that required them to complete a missing part of a picture. Through these activities, pupils performed better in differentiating one letter from another, – a problem they had five months before – and in shaping letters. A teacher reported the progress made:

> Reading in the second term focussed on learning letter names. 50% of the pupils could read the letter names, while 50% still had difficulties. In writing 80% could differentiate one letter from another, while 20% confused the letters b and d, and 'p' and figure '9'. We also did letter shaping. 70% of the pupils could shape the letters well while 30% scribbled shapes that could hardly

Table 3. Exercise on matching word to phrase.

Word	Phrase
Farmer	makes furniture
Teacher	grows crop
Carpenter	teaches pupils

> be identified with any letter. The last area of assessment was on following lines while writing. In that activity 60% of them could write the letters on the lines, while 40% wrote a mixture of letters across and above the lines. (Stella, Gulu 20 August 2014)

In a class of 145, pupils participated in a number of activities such as singing letter names and using letter cards. Letter cards are cards with a letter written on it. In a previous lesson, they had learnt the letters 'a', 'b', 'c' and 'd'. On that particular day, they were learning the letter 'e'. The teacher made letter cards of 'a', 'b', 'c', 'd' and 'e' and gave them to five pupils. She asked the pupils: who has letter 'e'? The child with letter 'e' put up her hand and moved forward. Next, she asked: who has letter 'd'? The child who had it was hesitant but eventually put up his hand and came forward. The third child, who had letter 'b', could not identify the letter he was holding and so remained standing confused. The teacher asked the rest of the pupils to identify the child who had letter 'b'. They responded in chorus: 'Ocaya has letter b'. The teacher picked the letter card, showed it to Ocaya, and asked him to name it and he did. That was a lively activity for the pupils and each of them was eager to participate.

The second activity was singing a song that had a letter name. Engaging the pupils in singing a letter name was meant to motivate and tune them to learn and write the different letters of the alphabet. In one observed lesson, pupils were to learn writing letter 'c'. The teacher intoned the song and the pupils jumped up in excitement singing and demonstrating how to write letter 'c'. The song was repeated four times.

> 'C, c nen c caa
> An ka acoyo c
> Nen kit ma kicoyo kwede
> Yomo cwinya mada.'

This is literally translated as:

> C, c, look at c
> When I write c
> Look at how it is written
> It makes me very happy.

Having assessed all the 145 pupils, the teacher came up with the overall assessment of the competencies gained. She had this to share:

> In writing skill, I assessed them on six competencies and discovered that 40% of them could follow lines as they wrote, while the 60% wrote across the line, and others wrote across the pages. In shaping letters, 30% could shape the letters well, while 70% had difficulties with letter 'p'. They wrote it as figure '9'. Others wrote letter 'd' as 'b'. In spacing letter and words, 20% could space letters well and 10% can space one word from another well. The rest of the pupils merged everything. I also assessed them in writing lower and upper case letters. 40% wrote lower case letters well while 60% mix up lower and upper case letters; and 40% wrote upper case letters well, while 60% mixed up upper case and lower case letters. (Paska, Gulu 20 August 2014)

In a class of 98 pupils, the teacher had five pupils per group and assessed 38 of them in a lesson of 30 minutes on competencies in writing. This involved copying written words and letter patterns from the chalkboard. The teacher reported:

> In the next exercise on handwriting, I gave a simple pattern on letter B and five words composed from that letter [bin, bed, bila, bito, bolo].

The sentences composed were:

> Betty bedo I Bobi (translated as 'Betty lives in Bobi').

> Baba bino tin aa ki Bobi (My father will return from Bobi today).

The two sentences above illustrate that the pupils were capable of generating more complex sentences when given more time to practice.

Another teacher assessed pupils in reading and sentence construction and kept records for three weeks (see Table 4). The records of competencies were analysed and the results showed gradual improvement in the competencies gained although three pupils maintained their scores at above average and by the third week only one pupil was below average. The detailed interpretation of the results for the score was as follows: pupils above average scored between 70 and 100%. These pupils were able to read one and two syllable words, read simple and complex sentences, construct simple sentences on their own and understand instruction and respond accordingly. Pupils whose scores were average obtained between 41 and 69%. These categories were able to read one syllable word, read simple sentences and short stories, could respond to instructions accordingly, but were not able to construct sentences on their own. The third category of pupils was below average with scores of between 0 and 40%. They had the following challenges: could not read a one syllable word, and were not able to read simple sentences and short stories. From the scores above, the teacher planned to continue assessing pupils at group levels and give feedback immediately.

On the whole, the teachers noted that though the pupils were progressing well in learning reading and writing, the whole exercise was very demanding and time-consuming. They generally perceived daily assessment as additional responsibilities. One teacher explained her situation:

> It was demanding to plan for teaching and remedial lesson daily. More still, marking books, keeping records of competencies gained and reflecting on the assessment results for planning purposes, are additional responsibilities. In real practice, I first assessed the whole class and then prepared remedial lesson for the few who were below average on a Friday evening. But for general class problems, I used the time for lesson on a Friday to conduct remedial. (Sarah. Gulu 20 August 2014)

The delay in conducting remedial lessons until all the pupils have been assessed denied the pupils timely feedback that they would have used to improve their learning (Weaver 2006) and slowed down the learning process.

4.3. Impact of teachers' participation in PAR on the assessment practices

The policy on assessment highlights the following areas: intervals and frequency of assessment, record keeping and ways of assessing reading and writing. As we compared teachers'

Table 4. Record of competencies attained over three weeks.

		Week one		Week two		Week three		Overall performance	
	Pupils	Total mark	Percentage	Total mark	Percentage	Total mark	Percentage	Total	Percentage
1	Pupil 1	12/15	80	10/12	83	10/12	83	32/39	82.0
2	Pupil 2	8/15	53	7/12	58	6/12	50	21/39	53.7
3	Pupil 3	5/15	33	6/12	50	6/12	50	17/39	44.3
4	Pupil 4	5/15	33	4/12	33	7/12	58	16/39	41.3
5	Pupil 5	14/15	93	10/12	83	10/12	83	34/39	86.3
6	Pupil 6	5/15	33	5/12	41	6/12	50	16/39	41.3
7	Pupil 7	12/15	80	11/12	91	10/12	83	33/39	84.7
8	Pupil 8	5/15	33	4/12	33	6/12	50	15/39	38.7
9	Pupil 9	6/15	40	4/12	33	4/12	33	14/39	35.3
10	Pupil 10	5/15	33	5/12	41	8/12	66	18/39	46.7

Note: 0–40% = below average, 41–69% = average, 70–100% above average.

assessment practices before and after engaging in PAR, we recognised that the assessment practices have improved. For instance, the teachers became keen in observing, reflecting and sharing their assessment practices with their peers in small groups and during the feedback workshop. Through the sharing they collectively reached moments of concrete decision that influenced the next phases of assessment. This is exhibited by the revision of the assessment plans 1 and 2 (see Tables 1 and 2) in which the focus of assessment was changed from assessing pupils at group levels to assessing the individual child within the group. One of the teachers shared:

> It was difficult to assess individual pupil's progress within the group since the competencies gained are based on group performances. Assessing at group levels denied the less competent pupils the possibilities of participating and learning in the process. It is better to reduce the number and assess the individuals in the group. (Helen, Gulu 20 August 2014)

Although the teachers initially were reluctant in carrying out assessment daily, gradually as they reflected and discussed with their peers on better ways of assessing, they realised that it was possible. A teacher in grade two reported:

> I assessed pupils according to their seating arrangement and it worked quite well in my class. In this approach, I started with the pupils at the first desk and then moved on to the next child. At the end of the lesson, I took note of where I had stopped and picked up again from that child in the next lesson. In the course of assessing, I marked the books and gave feedback. (Helen, Gulu 20 August 2014)

The teachers' participation in PAR has had some influence on the quality of feedback given to children. They got to know that a one-word written feedback had little impact on pupils' learning and if at all it had, then it was for those who knew how to read and interpret the feedback. They therefore engaged the pupils in verbal interaction in addition to the written feedback in order to facilitate children in understanding their weaknesses and also to encourage reflecting and correcting their work. The teachers improved quality of feedback was confirmed during observation of lessons. This practice is in line with the recommendation from NCDC (2006) that feedback for pupils should provoke further questioning and learning; while for the teacher, feedback should be used for planning lessons and improving instruction.

The teachers reported at the beginning of the study that it was challenging for them to keep records of pupils' competencies attained. Keeping records of competencies however increasingly became a cherished practice (see Table 4) since it helped the teachers not only to track children's performances and to plan for improvement but also to give feedback to the children and parents.

5. Conclusion

The focus of this paper was on teachers' assessment practices in large classes and how teachers' participation in action research has changed assessment practices in large classes and promoted pupils' learning to read and write. In line with the assessment policy, the teachers worked in collaboration among themselves, shared the strengths and weakness in their assessment practices and gradually changed from end-of-theme and end-of-term assessment to daily assessment in small groups. Much as there was improvement in assessment practices and in pupils' learning, large classes and increased teachers' workload in terms of planning to teach, marking books, giving feedback and planning remedial classes,

are threats to the practice of daily assessment. In spite of that, assessment in small groups has made it possible for the teachers focus on individual pupil and to give both written and verbal feedback them immediate.

The change and improvement in assessment practices in large classes has been made possible due to the teachers' participation in PAR and adoption of Vygotsky's ZPD. Through PAR framework the teachers worked collaboration in identifying the challenges in their assessment practices and in pupils' learning to read and write; and devised better ways of assessing at group levels. This was further strengthened by adopting Vygotsky's ZPD that offered the teachers space to work in collaboration with each other to support children's learning. Working in collaborations, the teachers offered support to the pupils and the pupils who were more competent in reading and writing guided their peers who were weaker.

In a nutshell therefore, working within PAR framework and adopting Vygotsky's ZPD, the teachers collaborated with each other towards improving not only pupils learning to read and write but also in changing the assessment practices in large classes.

6. Implication for policy and practice

Assessment of learning is important for pupils to become aware of their strengths and weaknesses. This however is effective in small classes or when teachers work in collaboration with other teachers within the PAR framework. It is therefore important to engage teachers in action research in order to give them space to reflect on their practices and to work in collaboration with each other to plan for improvement of children's learning and their own practices.

Secondly, interaction and feedback are very important for learning to take place and more so when it is given immediately in a language that the learner understands. It is therefore important that in addition to the written feedback, the teacher gives verbal feedback to help pupils understand their strengths and weaknesses in reading and writing.

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References

Acana, S., D. Kyagaba, A. Opman, K. Omala, K. Jumanyol, and L.B. Sserunkuma. 2010. *The Achievement of Primary School Pupils in Uganda in Numeracy, Literacy in English and Local Languages: National Assessment of Progress in Education*. Kampala: Uganda National Examinations Board. http://www.uneb.ac.ug/Admin/images/MERGED_REPORT_2010_-_primary.pdf.

Akyeampong, K., J. Pryor, and J.G. Ampiah. 2006. "A Vision of Successful Schooling: Ghanaian Teachers' Understandings of Learning, Teaching and Assessment." *Comparative Education* 42 (2): 155–176. doi:10.1080/03050060600627936.

Akello, D.L., G. Timmerman, and S. Namusisi. 2015. "Teaching Reading and Writing in Local Language Using the Child-centred Pedagogy in Uganda." *Language and Education* 30 (3): 252–266. doi:10.1080/09500782.2015.1106553.

Akello, L.D., and M.G. and Timmerman. 2017. "Local Language a Medium of Instruction: Challenges and Way Forward." *Educational Action Research* 1–19: doi:10.1080/09650792.2017.1319287.

Biggs, J. 2003. "Aligning Teaching and Assessing to Course Objectives." *Teaching and Learning in Higher Education: New Trends and Innovations* 2: 13–17.

Black, P., C. Harrison, C. Lee, B. Marshall, and D. Wiliam. 2004. "Working Inside the Black Box: Assessment for Learning in the Classroom." *Phi Delta Kappan* 86 (1): 8–21. doi:10.1177/003172170408600105.

Black, P., and D. Wiliam. 2004. "The Formative Purpose: Assessment Must First Promote Learning." *Yearbook of the National Society for the Study of Education* 103 (2): 20–50. doi:10.1111/j.1744-7984.2004.tb00047.x.

Buck, G.A., and A.E. Trauth-Nare. 2009. "Preparing Teachers to Make the Formative Assessment Process Integral to Science Teaching and Learning." *Journal of Science Teacher Education* 20 (5): 475–494. doi:10.1007/s10972-009-9142-y.

Chatterton, P., D. Fuller, and P. Routledge. 2007. "Relating Action to Activism: Theoretical and Methodological Reflections." In *Participatory Action Research Approaches and Methods: Connecting People, Participation and Place*, edited by S. L. Kindon, R. Pain, and M. Kesby, 216–222. London: Routledge.

Clynes, M.P., and S.E. Raftery. 2008. "Feedback: An Essential Element of Student Learning in Clinical Practice." *Nurse Education in Practice* 8 (6): 405–411. doi:10.1016/j.nepr.2008.02.003.

Draku, F. 2011. "Language Difficulties Thwart Implementation of Thematic Curriculum." *Uganda Radio Network*, Kampala, March 19. http://ugandaradionetwork.com/a/story.php?s=32300.

Eileen, F. 2000. *Action Research*. Providence, RI: Brown University. www.lab.brown.edu.

Flick, U. 2014. *An Introduction to Qualitative Research*. Singapore: Sage. ISBN 978-1-84787-324-8.

Government of Uganda. 1992. *The Government White Paper on the Education Policy Review Commission Report*. Kampala: UPPC.

Greenwood, D.J., W.F. Whyte, and I. Harkavy. 1993. "Participatory Action Research as a Process and as a Goal." *Human Relations* 46 (2): 175–192. doi:10.1177/001872679304600203.

Kothari, C.R, and G. Garg. 2015. *Research Methodology: Methods and Techniques*. 3rd ed. New Delhi: New Age International Publishers.

Leahy, S., C. Lyon, M. Thompson, and D. Wiliam. 2005. "Classroom Assessment: Minute-by-by and Day-by-by." *Educational Leadership* 63 (3): 18–24.

Light, G., and R. Cox. 2001. "Assessing: Student Assessment." In *Learning and Teaching in Higher Education: The Reflective Practitioner*, edited by S. Calkins, 200–235. London: Paul Chapman.

Marshall, B., and M. Jane Drummond. 2006. "How Teachers Engage with Assessment for Learning: Lessons from the Classroom." *Research Papers in Education* 21 (2): 133–149. doi:10.1080/02671520600615638.

McTaggart, R. 1991. "Principles for Participatory Action Research." *Adult Education Quarterly* 41 (3): 168–187. doi:10.1177/0001848191041003003.

McTighe, J., and K. O'Connor. 2005. "Seven Practices for Effective Learning." *Assessment to Promote Learning* 63 (3): 10–17.

Mitchell, S.N., R.C. Reilly, and M.E. Logue. 2009. "Benefits of Collaborative Action Research for the Beginning Teacher." *Teaching and Teacher Education* 25 (2): 344–349. doi:10.10.1016/j.tate.2008.06.008.

NCDC (National Curriculum Development Centre). 2006. *Primary School Curriculum, P.1-3*. Kampala: National Curriculum Development Centre.

NCDC (National Curriculum Development Centre). 2008. *Pedagogy Handbook for Teaching in Local Language*. Kampala: National Curriculum Development Centre. http://www.ncdc.go.ug.

NCDC (National Curriculum Development Centre). 2012. *Primary Curriculum Implementation Guidelines and Assessment Specifications*. Kampala: National Curriculum Development Centre. http://www.ncdc.go.ug.

Nordlof, J. 2014. "Vygotsky, Scaffolding, and the Role of Theory in Writing Center Work." *The Writing Center Journal* 13 (1): 45–64 http://www.jstor.org/stable/43444147.

Paterson, B.L., J.L. Bottorff, and R. Hewat. 2003. "Blending Observational Methods: Possibilities, Strategies, and Challenges." *International Journal of Qualitative Methods* 2 (1): 29–38 http://www.ualberta.ca/~iiqm/backissues/2_1/html/patersonetal.html.

Penny, A., M. Ward, T. Read, and H. Bines. 2008. "Education Sector Reform: The Ugandan Experience." *International Journal of Educational Development* 28 (3): 268–285. doi:10.1016/j.ijedudev.2007.04.004.

Pryor, J., and B. Crossouard. 2008. "A Socio-Cultural Theorisation of Formative Assessment." *Oxford Review of Education* 34 (1): 1–20. doi:10.1080/03054980701476386.

Rust, C. 2002. "The Impact of Assessment on Student Learning: How Can the Research Literature Practically Help to Inform the Development of Departmental Assessment Strategies and Learner-Centred Assessment Practices?" *Active Learning in Higher Education* 3 (2): 145–158. doi:10.1177/1469787402003002004.

Sadler, D.R. 1998. "Formative Assessment: Revisiting the Territory." *Assessment in Education: Principles, Policy & Practice* 5 (1): 77–84. doi:10.1080/0969595980050104.

Shepard, L.A. 2005. "Linking Formative Assessment to Scaffolding." *Educational Leadership* 63 (3): 66–70. http://www.ascd.org/publications/educational-leadership/nov05/vol63/num03/Linking-Formative-Assessment-to-Scaffolding.aspx.

Silverman, D. 2013. *Interpreting Qualitative Data: A Guide to the Principles of Qualitative Research*. 4th ed. London: SAGE.

Swaffield, S. 2011. "Getting to the Heart of Authentic Assessment for Learning." *Assessment in Education: Principles, Policy & Practice* 18 (4): 433–449. doi:10.1080/0969594X.2011.582838.

Timms, M., S. DeVelle, and D. Lay. 2016. "Towards a Model of How Learners Process Feedback: A Deeper Look at Learning." *Australian Journal of Education* 60 (2): 128–145. doi:10.1177/0004944116652912.

Vygotsky, L. 1978. "Interaction between Learning and Development." *Readings on the Development of Children* 23 (3): 34–41.

Walker, M. 2009. "An Investigation into Written Comments on Assignments: Do Students Find Them Usable?" *Assessment & Evaluation in Higher Education* 34 (1): 67–78. doi:10.1080/02602930801895752.

Weaver, M.R. 2006. "Do Students Value Feedback? Student Perceptions of Tutors' Written Responses." *Assessment & Evaluation in Higher Education* 31 (3): 379–394. doi:10.1080/02602930500353061.

Whitehead, J. 2000. "How Do I Improve My Practice? Creating and Legitimating an Epistemology of Practice." *Reflective Practice* 1 (1): 91–104. doi:10.1080/713693129.

Yin, R.K. 2013. *Case Study Research: Design and Methods*. London: Sage.