

Accountability Relationships in 3Rs Curriculum Reform Implementation: Implication for Pupils' Acquisition of Literacy and Numeracy Skills in Tanzania's Primary Schools

Aneth Komba and Richard Shukia

Abstract

This study responded to one key research question: What are the accountability relationships between the actors in implementing the 3Rs curriculum reform? A qualitative research approach informed the study, using key informant interviews, focus group discussion and document review. The data were analysed using thematic and content analysis. The study established that the key actors in implementing the 3Rs curriculum are the government institutions and the development partners. These actors provide teaching, learning materials and support in the provision of in-service teacher training. Yet, the pupils' and teachers' materials prepared by the donor programmes were never authorised by the Commissioner for Education. The study also found that the implementation of the 3Rs was very uneven across the country, with some regions receiving support from both the government and donors, and others receiving support from the government only. Consequently, schools in areas that were exposed to more than one type of support benefited from various teaching and learning materials, which led to confusion regarding when to use them. Moreover, the initiatives by several donors exclusively focus on public schools, which use Kiswahili as the medium of instruction and hence, there existed inequality across the various types of schools. Furthermore, the funds for implementing the reform were provided by both the development partners and the government. The Global Partnership for Education (GPE)—Literacy and Numeracy Education Support (LANES) Program—provided a large proportion of the funds. However, the funds remained insufficient to meet the training needs. As a result, the training was provided for only few days and to a few teachers. Consequently, the sustainability of the reform, in the absence of donor funding, remains largely questionable.

Keywords: Accountability relationships, literacy and numeracy curriculum reform, Tanzania



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1. Introduction

This paper examines accountability relationships in 3Rs curriculum reform implementation in Tanzania's primary schools. Accountability is cited as featuring among the factors associated with improved school learning outcomes (Levitt, Janta, & Wegrich, 2008, Komba, 2017). However, the literature further points out that, for this improvement to materialize, there must be a well-established accountability relationship. Thus, establishing strong, clear accountability relationships is crucial when implementing education reforms. The government executed the 3Rs reform between 2010 and 2016, to strengthen the teaching and learning of the basic skills of reading, writing and arithmetic (3Rs). The overall purpose was to improve competence in the 3Rs at the level of primary education, and during the early grades (Standard I and II) in particular. The 3Rs reform of 2014 constituted a major reorganisation of the subjects taught at each stage of primary school and a sharp narrowing of the focus of instruction in standards I and II regarding the teaching of the 3Rs. Additional changes were also made to the subject offerings in standards III-VII. The old primary school curriculum delivered instruction in nine subjects: History, Geography, Mathematics, Science, Civics, Sports and Personality, English, Kiswahili and Vocational skills. The new curriculum requires pupils in standard III and IV to take six major subjects and those from Standard V-VII to take seven subjects. The subjects in standards III and IV are Social Studies, Science and Technology, Mathematics, English, Kiswahili, Civics and Moral Education. A key feature of this reorganisation of the subjects taught and content is the requirement that the teaching of English begins in Standard III as opposed to pre- primary, as was the case under the old curriculum for public education. From Standard V to VII, there is the addition of Vocational Education to the Standard III and IV subject list. These changes in the curriculum match well the structure of the Primary School Leaving Examination whereby pupils are required to sit five examinations, in Science, Social Studies, English, Mathematics and Kiswahili.

In implementing the 3Rs reform, the Tanzanian government collaborated with several non-governmental institutions. This study, therefore, focuses on examining the accountability relationship among the various actors in implementing the 3R reforms. The available literature identifies several positive outcomes that may be achieved as a result of these reform interventions. These include the provision of in-service training for teachers, which helps to sharpen their skills and ability to deliver the 3R curriculum reform effectively in the classroom. Similarly, the literature highlights several factors that hinder the achievement of short-run gains in terms of the pupils' competences. These factors include the considerable expansion of school access, with deleterious effects on class sizes, ineffective teacher training initiatives following the curriculum reforms, limited teachers' beliefs, attitudes and self-efficacy to implement the reforms, a weak accountability relationships between the actors implementing the reform and inadequate curricular materials.

Evidence, however, is largely lacking regarding how the system is organised, co-ordinated and works to facilitate the pupils' acquisition of literacy, numeracy and arithmetic skills in Tanzania's primary schools. This study, therefore, was designed to narrow this knowledge gap. Specifically, we examine the role of the actors in implementing the 3Rs primary curriculum reform and how they contributed to the children's acquisition of 3Rs skills through their participation. We also document the degree to which the teachers were supported in delivering the new curriculum and, finally, examine the availability of sufficient, sustainable sources of funding to support the implementation of these reforms.

2. Accountability Relationships and Reform implementations: Perspectives from the Literature

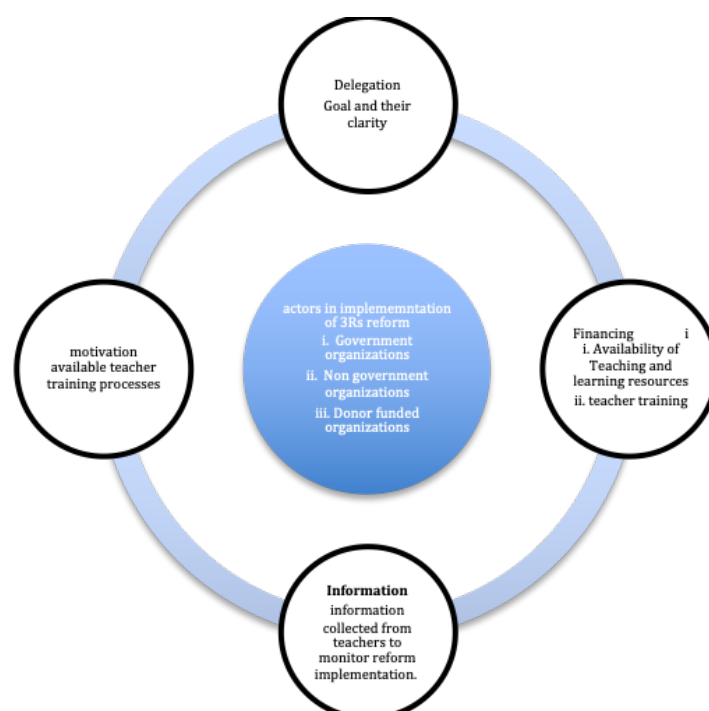
The literature review was systematically conducted, guided by four literature review search questions. The first question was: What theories best explain the link between accountability relationships and pupils' learning outcomes? This question ensures that the study is in tune with other researchers' endeavours to understand the problem (Robson 1993; 2002). Further literature searches were guided by the following questions:

- What is the meaning of accountability in the educational context?
- What is the role of accountability relationships in facilitating effective reform implementation?
- How does a lack of well-established accountability relationships affect the implementation of education reforms?

2.1 Theoretical framework

The study is informed by Lant Pritchett (2015) and the system theory. Pritchett (2015) identified four elements of accountability: Delegation, financing, information and motivation. Notably, the measurement of effectiveness in learning is based on the extent to which these four elements are coherent within the system. Informed by Pritchett (2015), this study examines the goals and their clarity among the key implementers, the available teacher training processes to ensure that the 3Rs reform may be implemented successfully and the availability of teaching and learning resources. The study further explores financing and information collected from the teachers to monitor the reform implementation. Using Pritchett's framework, the study establishes that a clear accountability relationship between the four design elements is among the key factors that could contribute towards achieving the objectives of the 3Rs reform (see figure 1 below).

Figure 1 Perceived Accountability Relationship in the Implementation of the 3Rs Reform



From Figure 1, it is anticipated that each actor who is engaged in implementing the 3Rs reform will be conversant with the 3Rs goals. The figure further suggests that, for successful reform implementation, there must exist sufficient financial resources for the provision of teaching, learning materials and teacher training. Teachers should be well-equipped with the required skills and knowledge to implement the 3Rs reform. Furthermore, the successful implementation of the reform requires mechanisms to be in place in order to monitor and evaluate the process.

Using system theory, the various actors who are engaged in implementing the 3Rs reform are perceived as subsystems within a system that contains interacting and interdependent parts, which together constitute a whole. Thus, the 3Rs curriculum reform, on the other hand, is perceived to be a collection of actors (individuals and organisations), each with its own activities, but who, together, all work effectively towards the achievement of the common goal i.e., improving pupils' acquisition of the 3Rs skills. This study examines the alignment between the activities of these various actors, based on the assumption that proper alignment is key to successful 3R reform implementation.

2.2 Defining accountability

The study adapts a definition of education accountability proposed by UNESCO in 2017; hence, it is defined as a process that aims to help actors to fulfil their responsibilities and achieve the system's goals of improving children's acquisition of 3Rs skills. The literature argues that accountability starts with the government. Notably, a credible education reform is one that allocates sufficient resources through a transparent budget, with clear targets and lines of responsibility (UNESCO, 2017).

The researchers recognize the fact that reform initiatives require collective action by the actors and that these actors must clearly understand their roles to allow them to work effectively to support the implementation of reforms (Bruns, Filmer & Patrinos, 2011). Hence, in this line, the researchers examine the profile of the actors, their roles and sources of financing to facilitate teacher training and the provision of teaching and learning materials. Furthermore, we examine goal clarity among the key implementers and the learning outcomes resulting from the efforts of the various actors.

2.3 Role of accountability relationships in facilitating effective reform implementation

A well-established accountability relationship is among the key factors for effective reform implementation. It should be noted that the successful implementation of education reform is largely explained by the availability of accountability relationships. The literature argues that a lack of well-established accountability relationships is among the reasons why education systems fail to produce satisfactory levels of learning outcomes (Bruns et al, 2011, Komba 2017). The study seeks to explore the existing accountability relationships in the 3Rs curriculum reform implementation and its implications regarding pupils' acquisition of literacy and numeracy skills in Tanzania's primary schools.

3. Detailed Research Questions

The study attempts to respond to one key research question: What is the accountability relationship between the actors in implementing the 3Rs curriculum reform? More specifically, the study had four research questions:

(1) Who are the key actors implementing the 3Rs curriculum reform? (2) What are the roles of each actor and how do these contribute towards promoting pupil's 3Rs skills? (3) What are the sources of financing for 3Rs reform? and (4) What are the mechanisms for monitoring and evaluating 3Rs curriculum reform implementation? These questions seek to identify the key actors involved and how they work together to realize the curriculum goals. Further, the questions aim to examine the sources of finance that support curriculum implementation. Having established the general purpose of the study and the research questions, the next step is to state the sub-questions and re-examine each one in an attempt to understand the theme that facilitated the data collection process (see table 1).

Table 1 Research Questions, sub-research questions and themes

Research questions	Sub-research questions	Themes
1. Who are the key actors in implementing the 3Rs curriculum reform?	i. Who are the key actors in implementing the 3Rs curriculum reform?	Actors who implement the 3Rs curriculum
2. What are the roles of each actor and how do these contribute towards promoting pupils' 3Rs skills?	i. What are the roles of the government and other actors in implementing the 3Rs reform?	Roles of the actors
	ii. What are the available procedures for producing and distributing materials to the teachers and schools?	-Time between the development and distribution of 3Rs materials -Approval processes for the teaching and learning materials
	iii. What is the scope of government and donor-funded actors?	-Scope for support
	iv. What are the major reasons for implementing the 3Rs reforms?	Delegation i.e., goals and their clarity
	v. What is the mode of operation of the various actors and what are the implications of this for the pupils' acquisition of 3Rs?	-Actors' mode of operation -Actors' kind of support -Distribution of support to improve 3Rs across the country -Performance in the Standard Four National Examination
3. What are the sources of financing for 3R reform?	i. Did the teachers receive any training on 3Rs curriculum implementation?	-Motivation and capacity to implement the reform
	ii. Which government institutions participated in providing training?	-Sustainability of the training programmes
	iii. Who financed the training and for how long?	-Financing
4. What are the mechanisms for monitoring and evaluating the 3Rs curriculum reform implementation?	i. Who monitors the implementation of the 3rs curriculum?	-Information
	ii. What mechanisms are available to monitor and evaluate the implementation of the 3Rs curriculum reform?	

4. Research Methods

4.1 Data collection techniques

The study was informed by the qualitative research approach and uses three data collection tools. The first is in-depth interviews with key informants, that were conducted mainly in Kiswahili. English, on the other hand, was used for non-native speakers and participants who felt comfortable with the language. The use of in-depth interviews provided more detailed information regarding the implementation processes regarding the 3Rs curriculum. Secondly, six focus group discussions (FGDs) were conducted with 40 teachers. The FGDs were conducted mainly in Kiswahili, the national language, *lingua franca* and medium of instruction in most public primary schools in Tanzania. The FGDs complemented the data obtained from the interviews and documents. The interviews and FGDs lasted from 45 minutes to an hour. The interview and FGDs proceedings were audio-recorded, since prior consent to do so had been obtained from the participants. The audio-recordings allowed the preservation of the participants' words and retrieval of information during the data processing and report writing. Lastly, a desk-based review was carried out, whereby relevant documents, such as the 3Rs curriculum, textbooks, teacher's guide, professional development materials and teacher education training materials were reviewed. Furthermore, various impact evaluation reports were reviewed and subjected to content analysis. These reports included, but were not limited to, impact evaluation reports for EQUIP-T, TUSOME PAMOJA, ADEM and LANES. The documents reviewed facilitated the data triangulation. Hence, data collected from the interviews and FGD were triangulated with those gathered from the documents. Similarly, the documents were used to uncover meaning, develop understanding and discover insights relevant to this study (Merriam, 1998).

4.2 Participants

The researchers recruited a total of 40 key informants from both governmental and non-governmental organizations as follows: Three curriculum developers from TIE, ten district quality assurers, ten Trainers of Trainers (ToTs), three college principals, five tutors, two facilitators from ADEM, three training coordinators from the Ministry of Education Science and Technology (MOEST) and one member from each of the following organizations: EQUIP-T, LANES and TUSOME PAMOJA. These were purposefully selected because they were involved in the design and delivery of the 3Rs curriculum.

TIE was involved because this institute is responsible for developing the national curriculum and monitoring its implementation. The institute is also legally required to develop INSET programmes. Their involvement, therefore, was key to understanding the curriculum development process, including the drivers of the reform, materials developed to support the curriculum implementation and the monitoring process.

The training coordinators and TOTs from ADEM and college tutors were involved in exploring their understanding and perceptions of the 3Rs reforms as well as the training and challenges they encountered during the training process. EQUIP-T, GPE-LANES and TUSOME PAMOJA were purposively involved, based on the fact that these organizations provide on-going INSET programmes in their respective programme regions. In addition, the organizations, in collaboration with TIE, were involved in the development and supply

of materials, including textbooks, at the national level. GPE – LANES, for example, supported TIE in supplying textbooks and other teaching and learning materials.

4.2 Data management and analysis plan

The study made use of both deductive and inductive strategies for the data analysis. We approached the data with neither a rigid set of pre-conceptions or full induction but rather a combination of the two. The assumption was that both research objectives/questions and emerging insights from the data provide a better, broader understanding of the phenomenon under investigation. In this regard, three main steps guided the analysis of the data. The first was the preparation and organisation of the data for analysis. This process started in the field and involved listening to each audio-taped interview/focus group discussion. This practice not only familiarised the research team with the data but also enabled them to obtain a general sense of the data. This was followed by a verbatim transcription of the interviews and FGD proceedings. The second step was the creation of the themes. In the first step, themes were deductively derived from the research questions. Thereafter, the data were approached inductively. The inductive approach not only allowed unanticipated themes to emerge from the data set but also helped to determine whether the deductively derived themes were well supported by the data obtained from the field. The inductive phase involved reading the transcripts repeatedly. The third step was the coding, presentation and interpretation. Under this step, the transcribed data were re-read for coding. Coding involved associating data with the themes created using NVIVO. This was done by identifying text elements—words, sentence (s), and or paragraph (s) – from each transcript and dragging-and- dropping them into the respective themes.

As with any qualitative study, we do not intend to generalise the findings from this study to other contexts. After all, the sample was recruited purposively, was not based on randomisation and only a few participants were involved. The findings are more likely to be relevant in the context of this study. This, however, does not suggest that the findings from this study are not transferrable to other similar contexts. The ‘thick’ description of the research process, findings and context of the study allow research consumers to transfer the research findings to other similar contexts through “user generalizability”.

4.3 Methodological Limitations

The study was informed by a qualitative research approach, employing interviews and focus group discussions with a small number of purposively selected participants. The purposive recruitment of the participants limits the generalizability of the findings to other contexts. This is in line with Lincoln and Guba (1985), who argue that the generalisation of findings obtained using a qualitative research approach is unwarranted, mainly because qualitative research relies on a small sample and deploys purposeful sampling. The authors of this paper, however, believe that the consumers of this research can transfer the findings of this study to other, similar contexts. This is warranted by the inclusion of key informants from various organizations that support curriculum implementation at various levels. In addition, the findings may apply to countries with educational and socio-economic contexts similar to those of Tanzania (Eisenhart, 2009).

Furthermore, we understood that there might be some potential risks which might threaten the reliability of the information generated. In qualitative research, however, this is not a big concern, particularly when the study

triangulates the data collection techniques and employs multiple sources of information, as was the case with the present study.

5. Findings

5.1 Key actors and their roles in 3Rs curriculum reform implementation

The study identified several actors who engaged in the implementation of the 3Rs curriculum. These range from government institutions to donor-funded organizations. These actors included the Tanzania Institute of Education (TIE), Ministry of Education Science and Technology (MoEST), the President's Office, Regional Administration and Local Government Tanzania (PO-RALG), Agency for the Development of Education Management (ADEM), the United Nations Children's Fund (UNICEF), Education Quality Improvement Programme (Equip- T), RTI-TUSOME Pamoja, GPE- Literacy and Numeracy Education Support (LANES) and Right to Play.

The findings indicate that the actors provide in-service training for teachers, produce key and supplementary textbooks and storybooks and provide electronic reading materials, teacher professional development modules and other learning materials. Similarly, some actors supported the development of 3R curriculum materials. Table 2 describes each actor in the execution of the 3R curriculum:

Table 2: Actors' Roles in 3Rs Curriculum Execution

Actor	Role/responsibility/objective
Ministry of Education Science and Technology (MoEST)	<ul style="list-style-type: none"> • Handle all education policy matters. The ministry approves the 3Rs curriculum and deals with the quality control (monitoring and evaluation) regarding the implementation of the 3R curriculum through a quality assurance section
PO-RALG	<ul style="list-style-type: none"> • Supervise implementation of the 3Rs curriculum at the school level • Co-ordinate the budget for teacher training (all of the funds from GPE LANES for facilitating teacher training were allocated to PO-RALG) • Handle all logistics regarding the selection of teachers to attend training and the venues for such training in addition to co-ordinating the preparation of ToTs and facilitators
Tanzania Institute of Education (TIE)	<ul style="list-style-type: none"> • Develop and supply of the 3Rs curriculum and related materials, including the syllabus, textbooks, teachers' guide and levelled readers • Provide in-service teacher curriculum orientation in collaboration with ADEM and GPE-LANES. TIE was fully engaged in the preparation of the Trainers of Trainers (ToTs) and also provided facilitation once in the training of standard I and II teachers

Actor	Role/responsibility/objective
GPE – Literacy and Numeracy Education Support (LANES)	<ul style="list-style-type: none"> • Support the development, printing and distribution of standards I, II, III and IV textbooks for the 3Rs curriculum • Support the training of teachers on the 3R curriculum, including 519 standard I & II special needs teachers on delivering 3R skills • Support the development of E-content for the 3Rs • Support the development of School-Based Continuous Profession Development (SB-CPD) modules for standards I and II teachers, aiming to provide teachers with self-learning materials to continue building their knowledge and skills around the teaching of the 3Rs
Agency for the Development of Education Management (ADEM)	<ul style="list-style-type: none"> • In collaboration with TIE, ADEM trained Standards I, II, III and IV teachers on the 3Rs curriculum. In the process, only a few members from TIE were involved.
UNICEF	<ul style="list-style-type: none"> • Collaborate with TIE to provide in-service training for teachers (a total of 4,162 teachers were trained in Mbeya, Songwe and Njombe). The training focused on supporting teachers to implement the national 3Rs curriculum • Participate in the Training of Trainers of Trainers (ToTs) • Participate in the development of nine Continuous Professional Development (CPD) modules for primary school teachers (SB-CPD)
EQUIP-T	<ul style="list-style-type: none"> • Provide in-service training for teachers • Provide training for head teachers to enhance their school leadership and management skills • Strengthen systems that support the district and regional management of education • Strengthen community participation and demand for accountability • Strengthen learning and the dissemination of results
USAID-TUSOME Pamoja	<ul style="list-style-type: none"> • Improve the Quality of Early Grade Basic Skills Instruction by building upon existing knowledge and develop new teaching and learning materials for students in Standard one • Build knowledge and skills for teachers and school leaders in addition to establishing school-based communities of learning • Increase parent's engagement and communities in education, thereby strengthening their participation in school governance, school management, and their children's learning • Enhance skills delivery systems with an emphasis on performance management for education system administration, including mentoring, monitoring, evaluation analysis and research
Right to play	<ul style="list-style-type: none"> • Train class 1-6 teachers on how to implement the national 3R curriculum using play • Produce teachers and facilitators' guides on how to teach standard I-VI pupils using play

As Table 2 illustrates, the 3R intervention attracted a number of stakeholders. Their roles range—as noted earlier—from the preparation of teaching and learning materials to the training of teachers. These actors prepared various materials for teachers and pupils. However, further evidence suggests that inadequate time was allotted for the preparation of the curriculum, curriculum materials and teachers' training manuals. Overall, the time between the preparation and rollout of the 3Rs curriculum reform was too short. As a result, some actors from donor-funded programmes ended up using materials for pupils and teachers that were not officially authorised, as there was no time to send the materials to the institution responsible for approval. Likewise, the

actors prepared the pupils' materials and manuals for training teachers and went ahead and trained teachers without the materials being authorised by the government first. This implies a lack of proper co-ordination of the actors. This problem was compounded by the lack of a Continuous Professional Development (CPD) framework, which led to inconsistency in the kind of training provided to the teachers. In a similar vein, the materials given to the pupils never underwent the official authorisation process and, hence, it was unclear whether they were appropriate and relevant to the Tanzania context.

Further analysis of the data in Table 2 indicates that TIE as the only institution with a legal mandate to offer in-service training to the teachers was less involved in initiatives related to in-service teacher training. This lack of TIE involvement may affect the sustainability of the donor-funded project in supporting the implementation of the 3Rs curriculum. The results further show that all donor-funded projects focused on public schools, which use Kiswahili as a medium of instruction, but only one such project trained teachers and produced teacher manuals for governmental and non-governmental schools using English as a medium of instruction. However, this project only covered three regions. The data indicate that, in 2018, there were 17,562 primary schools in Tanzania, of which 16,149 (92%) and 1,413 (8%) were government and non-government schools, respectively (URT, 2018). The new reform was to be implemented in both English- and Kiswahili-medium schools. In the English-medium schools, the children were expected to learn the 3Rs skills in both Kiswahili and English. Yet, the findings from this study indicate that most of the donor-funded programmes focus on Kiswahili-medium schools. This finding suggests inequality in terms of the provision of support to implement the 3Rs reform.

5.2 Reasons for the implementation of the 3Rs curriculum

The findings reveal that one of the factors which triggered the 3R reforms was the pupils' general inability to acquire early reading and numeracy skills, as a series of UWEZO (2010 – 2012) studies and EGRA and EGMA all confirmed. This worrisome situation was attributable, among other things, to the limitations of the previous curriculum that had been overloaded with subjects with which pupils generally struggled to cope. In consequence, the teachers were reported to pay more attention to subjects rather than instilling early literacy and numeracy skills in the learners. As the 2005 curriculum confirms:

The Curriculum for Standard I and II was overloaded with subjects, causing teachers to overemphasise the teaching of subject content and placing less emphasis on the development of the basic skills and competences in Reading, Writing and Arithmetic (interview, TIE, 2016, p.1).

In other words, this curriculum focused more on teaching subjects and less on the teaching of reading, writing and counting. Similar remarks emerged during the interviews with the key informants. The following statement captures this view:

The need assessment revealed problems in the pupils' acquisition of skills in 3Rs. Hence, there was a need to solve the existing problem. Also, the 2014 Education policy insists on the mastery and better foundation of 3Rs skills (interview, Representative from RTI TUSOME Pamoja).

Uwezo/Twaweza's assessment of the acquisition of the 3Rs produced rather discouraging results. The findings indicate that the "performance on 3Rs were shocking and that several pupils completed

Standard VII while unable to read and write. Hence in my view I think these findings contributed to the overhauling of the 3Rs curriculum” (interview, Representative from Equip-T).

Another interviewee further contended:

Previously, there were several subjects taught in Standard I but, later on, the reforms concentrated on the 3Rs only. Indeed, many of the people had lamented that the number of the subjects for standards I and II were too numerous for the pupils to manage; so, they insisted that the focus during the early grades should be on reading, writing and arithmetic. The major reason for implementing the 3Rs curriculum is that the pupils completed standard seven without having acquired competency in the 3Rs (interview, representative from TIE).

The findings show that the actors were familiar with the reasons for the implementation of the 3Rs curriculum. Such knowledge guided the implementation of various interventions aimed at boosting the acquisition of 3Rs skills. For example, Equip-T opted to focus on supporting nine poorly-performing regions and their programme targeted educational leaders and teachers. In this regard, it supported all of the head teachers, regional educational officers, regional academic officers, zone quality assurance officers, district quality assurance officers and ward educational and academic teachers in the target nine regions. These groups of leaders were trained on how to assist teachers with delivering the national 3Rs curriculum. In the same manner, they were trained on how to co-ordinate training at various levels, including schools. However, the programme focused only on the teachers and not on the pupils. Its impetus was on helping teachers to use the textbooks and other materials prepared by TIE effectively in implementing the 3Rs curriculum.

The USAID-Tusome pamoja, on the other hand, focused on producing supplementary learning materials and training teachers on how to use these. They distributed decodables and levelled readers. Supplementary textbooks were also prepared and distributed. In the same vein, quality assurers and the District Academic Officers in their respective regions were trained on the use of supplementary textbooks.

Similarly, Right to Play trained teachers on how to use play as a teaching methodology in the teaching of 3Rs. As such, the project prepared guidelines for supporting teachers to teach 3Rs using play for standards I-VI. This project extended its initiatives to both governmental and non-governmental schools using English as a medium of instruction.

5.3 Modus Operandi for various actors

Regarding the mode of operation of the actors, the data from the document review and interviews indicate that all of the government actors were supported in order to enable them to implement the 3Rs curriculum at the national level. TIE was supported to develop the curriculum and textbooks for the whole country. In this regard, TIE developed, printed and distributed the standard I-IV textbooks at a ratio of 1:3. These textbooks were distributed along with the teachers' guides. Along the same line, TIE was supported to produce 25 levelled storybooks for standards I and II. These were also distributed at a ratio of 1:1. TIE was also supported to train 24 national facilitators who later trained 480 facilitators. Likewise, TIE worked with the Ministry of Education and the PO-RALG in providing training to teachers, whereby 22,993 teachers who teach standards I-IV were trained. The data indicate that the number of teachers in public primary schools in 2018 was 179,341. This suggests that 13 percent of these teachers were trained on how to implement the 3Rs curriculum.

The PO-LARG was supported by GPE - LANES to fund teacher training for the whole country on how to implement the 3Rs curriculum. Hence, PO-RALG collaborated with TIE, MoEST and ADEM in the provision of in-service teacher training. ADEM was supported by GPE - LANES to provide teacher training in all regions of Tanzania. On the other hand, the GPE - LANES supported the implementation of the 3Rs curriculum, particularly in terms of supplying textbooks and other teaching and learning materials.

The other actors—UNICEF, Equip-T, USAID Tusome Pamoja and Right to Play— supported the implementation of the 3Rs curriculum in only a few, selected regions. UNICEF operated in Iringa, Mbeya, Njombe and Songwe, whereas Equip- T operated in the nine regions of Dodoma, Kigoma, Lindi, Mara, Rukwa, Shinyanga, Katavi, Singida and Tabora. The USAID Tusome Pamoja focused on the four regions of Mtwara, Morogoro, Iringa and Ruvuma. Right to Play operated in the three regions of Mara, Morogoro and Dar es Salaam. Within these regions, the programme worked in 15 districts and 225 primary schools. Right to Play empowers teachers on how to use games and sports to implement the national 3Rs curriculum.

These findings suggest that the mode of operation of the government's key actors resulted in an equal distribution of efforts regarding improving 3Rs skills among pupils throughout the country. Yet, it is clear that some regions had an added advantage of receiving extra support from donor-funded programmes. Hence, for example, whereas regions such as Mtwara, Morogoro, Iringa and Ruvuma received support from the government actors, they also received support from USAID Tusome Pamoja. Morogoro was also covered by Right to Play. In all, 17 regions (65%) received double support whereas nine (34.6%) regions received support from the government actors only. The researchers interviewed the teachers in the areas that received extra support. The responses indicate that, although the teachers appreciated this support, they noted that they felt confused by the sheer amount of materials received and received insufficient guidance on how and when to use them as well as which materials to use. The following responses from teachers in Morogoro and Mtwara exemplify this confusion:

I appreciate the efforts made to support us to teach the 3Rs. We were trained on how to teach effectively yet sometimes it is confusing which materials I should use and at what time. Note that I have the key textbooks from TIE and several other reading materials for the pupils. Indeed, I am sometimes confused (Primary school teacher, Morogoro, 23.8.2019).

We have been trained on how to teach the 3Rs. There are teachers' modules and several other documents for teachers to read. Sometimes, it's impossible for us to find time to read all of these documents provided to us (Primary school teacher Iringa, 29.8.2019)

These responses indicate that, in some regions, the teachers were provided with several guidelines; however, it was difficult for them to read all of the materials at their disposal. In addition, the teachers generally lacked training on which specific pupils' material to use in class.

Evidence from the data suggests that some of the regions that received more support, particularly from non-government organizations, were able to make more progress in improving the teaching and acquisition of the

3Rs skills than their counterparts who received a single bout of support. In this regard, the researchers compared the performance in the Standard Four National Examinations (SFNE) of the first cohort following the implementation of the 3Rs curriculum; that is, the 2018 cohort. The 2018 Standard Four results belong to pupils who were the first cohort to use the 3Rs curriculum. Table 3 presents a comparison of the Standard Four results for 2017 (the cohort prior to the implementation of the 3Rs curriculum) and 2018 (the cohort which benefited from the 3R reform initiative):

TABLE 3: Comparison of SFNE Results for 2017 and 2018

Year	Gender	Pupils who sat the SFNE	Pupils who passed (Grades A-D)		Pupils who failed with grade E	
2017	Female	588,781	554,240	94.14	34,516	5.86
	Male	569,718	531,916	93.37	37,772	6.63
Total		1,158,499	1,086,156	93.76	72,288	6.24
2018	Female	654,017	611,542	93.52	42,376	6.48
	Male	648,444	601,590	92.79	46,717	7.21
Total		1,302,461	1,213,132	93.16	89,093	6.84

Source: NECTA 2018 Standard Four National Examination (SFNE) Results

As Table 3 illustrates, the findings show an increase in the number of pupils who sat for the SFNE in 2018 compared to those who did so in 2017. Moreover, there is a slight improvement in the pass rate. More significantly, the rate of those who passed with A and B grades was higher for 2018 than in the preceding year. The researchers also compared the ranking of the regions supported by RTI Tusome Pamoja for two years regarding the SFNE performance in the 3Rs reform pre-intervention (2016 and 2017) and post-intervention periods (2018). The findings are presented in Table 4:

Table 4: Comparison of SFNE Results for RTI Tusome Pamoja Supported Regions Before and After the 3Rs Reforms

S/N	Regions	Year and Position		
		2016	2017	2018
1	Mtwara	21/26	19/26	18/26
2	Morogoro	13	11	9
3	Iringa	5	4	6
4	Ruvuma	19	15	7

Source: NECTA 2018 Standard Four National Examination (SFNE) Results

Table 4 shows positive progress in the ranking of the regions that were supported by RTI Tusome Pamoja regarding SFNE performance, as the results before and after the implementation of the 3Rs curriculum indicate. Regions such as Morogoro had two-donor support projects—Tusome Pamoja and Right to Play. Although there is insufficient evidence to prove that the increased support added value to the quality, one can argue that the multiple support could be attributed to the improvement in the regional rankings regarding the SFNE results.

Similarly, early literacy and numeracy gains were recorded by an EQUIP-Tanzania Midline Impact Evaluation study that was conducted in 2017. The study compared EQUIP-T focal areas and GPE-LANES initiative as the control group. According to the report, there was strong evidence that EQUIP-T has had a positive impact on Kiswahili literacy for poorer performing pupils. The programme has reduced the proportion of Standard 3 pupils in the bottom performance band for Kiswahili. Likewise, Standard 3 pupils in the EQUIP-T programme schools improved their early grades' maths skills (OPM, 2017).

Using the system perspective analysis, the study found that the sub-systems within the system were less well connected than they should be. The donor-funded sub-system supplemented the government's efforts in some of the regions, whereas other regions lacked this kind of opportunity. Implicitly, it is possible that these two support sub-systems also varied in terms of their quality, which is an area worth considering further in another study.

5.4 Sources of financing for the 3Rs reform implementation

The study sought to establish the adequacy of funds for implementing the 3Rs reform. With regard to this question, the researchers explored the availability of funds to support teacher training. Three questions were asked: (1) How were the teachers prepared and supported regarding 3Rs curriculum implementation? (2) Which government institutions participated in providing training? and (3) Who financed the training and for how long?

5.5 Teachers' preparation and support for implementing the 3Rs curriculum reform

The study explored how the teachers were prepared and supported to implement the 3R curriculum reform. The findings from the interviews with the key informants reveal that, following the introduction of the 3Rs curriculum, two major training schemes were launched nationwide. The Ministry of Education Science and Technology (MoEST) and its agency, the Tanzania Institute of Education (TIE), in collaboration with the PO-RALG, provided the first set of training. This initial nationwide scheme targeted standard I and II teachers who were provided with in-service training and 3Rs curriculum orientation. GPE LANES, USAID (TZ21), DfID (EQUIP-T) and UNICEF supported this training financially.

The study also established that at least one teacher from each primary school was provided with an eight-day face-to-face in-service residential training course, hosted by the University of Dodoma in January 2015. This training was conducted in phases. A cascade model informed it. Initially, 24 national Trainers of Trainers (ToTs) were trained. TIE conducted the training of these ToTs. Thereafter, the ToTs trained 480 tutors from public teacher training colleges, who in turn trained Standard I and II teachers across the country in four phases. Consequently, 18,656,000 teachers were trained. Pre- and post-test assessments were administered to evaluate the effectiveness of the training. According to a TIE training report, the training was effective as the

trainees demonstrated a high level of understanding of the concepts and an ability to apply the knowledge gained when teaching the 3Rs. Teachers who attended the training were expected to train other teachers when they returned to their respective work-stations. Indeed, during an interview with the TIE Director of Curriculum and Material Development, it emerged that, of all the previous curriculum reforms implemented in the country, this was the first reform to have a training component that comparatively covered a large number of teachers.

On the other hand, some of the participants interviewed for this study reported that the effectiveness of the training had yet to be established, since there has been no monitoring or evaluation of it to date. There were also claims that the training was too short to cover the content comprehensively and holistically. In this regard, one interviewee remarked that:

The training could have been longer and more practically-oriented than that provided to be able to empower teachers with the knowledge and skills to implement the curriculum effectively (interview Tusome Pamoja, 22.8.2019).

The second training session lasted seven days and was provided in September 2018 at Butimba Teachers' Training College. For this second set of training, the Ministry of Education, Science and Technology and the President's Office–Regional Administration and Local Government (PO-RALG) commissioned the Agency for the Development of Educational Management (ADEM) to co-ordinate the training for standards I and II primary school teachers from regions with high pupil enrolment in these two grades. The Global Partnership in Education (GPE), through the Literacy and Numeracy Education Support (LANES), funded the training programme. The general objective of this training, as stated in the training report, was to train 1,600 standard I and II primary school teachers in order to strengthen their Reading, Writing and Arithmetic competencies based on the revised 2015 Standard I & II curriculum. Specifically, the training aimed to enable standard I and II primary school teachers to build their competency regarding how to analyse the standard I&II curriculum and syllabus and build their 3Rs competencies. Moreover, the training aimed to enable the standards I and II teachers to acquire the skills and competencies needed to prepare a revised scheme of work and lesson plan for effective teaching and learning. Furthermore, the training aimed to enable the teachers to acquire the skills both to prepare and improvise teaching and learning materials for standard I and II and also to apply participatory teaching methods to teach 3Rs in standard I and II, especially in overcrowded classrooms. Further findings indicate that this training was provided too late, after the rollout of the 3Rs reform.

The evaluation of this training indicates that its duration was relatively short in light of the number of competencies that it covered. In addition, the funds for training the teachers were insufficient, as only a few teachers benefited from it. The findings suggest that the provision of INSET training for teachers is very expensive. For example, more than 12 billion Tanzanian shillings were spent in the first round of 3Rs reform implementation training. The authors of this paper recommend that, to minimise the costs, training to acquire 3Rs competencies should be integrated into the pre-service teacher-training curriculum as well as university curricula.

In line with training, the study also sought to understand the kind of materials, information, professional development, guidance, and instructions that were provided to the teachers to enable them to implement the

3R curriculum. The findings show that several types of materials were provided both during the training and in schools. These materials include textbooks, a teacher's guide, syllabus, modules, teachers' manuals, story-books and teachers' handbooks. These materials guided the teachers on how to teach a particular lesson.

5.6 Mechanisms for monitoring and evaluating the 3Rs curriculum reform implementation

Officially, the Tanzania Institute of Education has the sole responsibility for monitoring and evaluating the implementation of any school curriculum in Tanzania. In this regard, TIE is expected to design an approach to collecting and analysing information related to the implementation of the curriculum. The evaluation of the curriculum is expected to be conducted after the completion of the curriculum implementation cycle. The current study found that, although it is almost five years since the 3Rs curriculum was introduced in schools, TIE was able to conduct only one assessment to explore the extent to which the 3Rs curriculum was being implemented in standards I and II. The conducting of regular monitoring and evaluation has been largely hit by a lack of funding to cover this exercise. Nevertheless, the study found that plans were afoot to conduct an evaluation following the completion of a seven-year cycle of implementation of the 3Rs curriculum, in 2022. The heads of school, teachers, Ward Educational Officers and quality assurance officers conduct regular monitoring, although this does not replace the role of the TIE in monitoring and evaluating curriculum implementation. During an interview, the Director of ADEM reported:

Heads of schools are the ones who monitor how the 3Rs curriculum is being implemented. The WEOs have a schedule of visiting schools at least once a week. Quality assurance officers have their own schedules for visiting schools. The rationale is that, once monitoring is carried out as it should be, then the implementation of the 3Rs curriculum should work. Heads of schools have been trained and regularly monitor the implementation of the 3Rs curriculum. The school quality assurance committee, comprising the head teacher and department heads, make follow-ups pertaining to the preparation, and teaching of the 3Rs. In addition, the WEOs are now allowed to visit the classrooms to support and monitor the activities therein, and only handle 2-5 schools, which is manageable. Furthermore, the school quality assurance officers are required to visit twice per year and have motorbikes at their disposal and receive an allowance for such visits. Under a new framework, these officials come with evaluation forms so that the school can have a conversation about improvements (interview, ADEM, 21.8.2019).

These findings imply that school quality assurers monitor the implementation of the 3Rs curriculum, yet the heads of schools were not sufficiently prepared to handle the new quality assurance process. In fact, the evidence suggests that the teachers were not trained to implement the 2018 quality assurance framework. In this regard, the effectiveness of a monitoring system remains largely unclear. Moreover, there is inadequate evidence to suggest that these actors, who regularly monitor the 3Rs reform, communicate officially and regularly with TIE regarding the implementation of the 3Rs reforms.

6. Discussion

Generally, the findings indicate that the 3Rs curriculum reform was triggered by the need to enhance the learning outcomes of the teaching of the 3Rs in the early grades. The curriculum review and subsequent reform involved various actors from the curriculum development stage to the actual implementation on the ground. The actors included both governmental and non-governmental institutions. However, there was little co-ordination

and monitoring of how the non-governmental actors implemented the reform. As a result, they prepared the materials and put them to use without necessarily following the proper authorisation process.

We further learned that the key curriculum implementers, including the teachers, received initial in-service training. However, little is known about the effectiveness of this training or whether the teachers implemented the curriculum in accordance with the expectations. TIE monitored the curriculum implementation once, yet this was only limited to standards I and II. The failure by TIE to conduct regular monitoring and evaluation is primarily attributable to financial constraints. Nevertheless, the heads of schools, ward education officers and quality assurers are expected to ensure the quality implementation of the curriculum. Doing so could serve as an avenue for TIE to obtain curriculum implementation feedback. However, it seems that there is a gap in the communication between these actors and TIE.

The actors provided teaching, learning materials and supported the provision of in-service teacher training. Both donor-funded and the government-aided programmes facilitated the acquisition of these materials. GPE-LANES provided funds that facilitated the training of teachers and production of teaching and learning materials, yet these funds did not cover all training needs but only a few days' training and a few teachers. The materials prepared by the donor programmes for both pupils and teachers were never authorized by the Commissioner for Education. Teachers in areas that were exposed to more than one source of support, on the other hand, were provided with various materials, which confused some of them regarding how to use these. Furthermore, the study found that the implementation of the 3Rs was extremely uneven across the country. Although some effort was made to support programmes in every region, the intensity of these programmes varied considerably nationwide.

7. Conclusion

On the basis of the study findings, the following conclusions are made:

7.1 Key actors in implementing the 3Rs curriculum reform

The key actors in the implementation of the 3Rs curriculum were both government and development partners. These include the Tanzania Institute of Education (TIE), Ministry of Education Science and Technology (MoEST), the Ministry of State Regional Administration, the Agency for the Development of Education Management (ADEM), the United Nations Children's Fund (UNICEF), Education Quality Improvement Programme (Equip- T), RTI-TUSOME Pamoja, GPE- Literacy and Numeracy Education Support (LANES) and Right to Play.

7.2 The roles of each actor and how these contribute towards promoting pupils' 3Rs skills

The actors provided in-service training for teachers, produced key, supplementary and story books and provided electronic reading materials, teacher professional development modules and other learning materials. Other actors supported the development of 3Rs curriculum materials by TIE. However, it has been shown that insufficient time was allowed for the preparation of the teaching and learning materials, as a result of which, all

of the materials produced and used in the regions that were supported by the donor-funded programmes were not officially verified and authorised. Hence, it is unclear whether these materials were appropriate and relevant to the Tanzanian context. This finding also suggests a lack of proper co-ordination of the actors who participated in implementation of the 3Rs reform. As a result, different supplementary textbooks and teacher training modalities were used across the country. This tendency resulted in inconsistency regarding the kind of training provided to the teachers across the country and thus variations in the kinds of skills that teachers acquired in different regions, which finally may mean that variations exist in the teaching strategies for implementing the 3Rs curriculum.

It is further concluded that one of the measures for ensuring the sustainability of the donor-funded program, which requires engaging existing government institutions that are legally mandated to provide the donor support service, was less considered. As a result, the institute, which is legally authorised to offer in-service training, was less involved in the provision of in-service teacher training, which may affect the sustainability of the reform initiatives.

Regarding the scope of the government and donor-funded actors, it is concluded that there existed inequality in terms of the provision of support to implement the 3Rs reform between the government and non-government schools as well as between schools which use Kiswahili and English as the medium of instruction.

7.3 Reasons for the implementation of the 3Rs curriculum and modus operandi of the various actors

Regarding the reasons for implementing the 3Rs curriculum, it is concluded that the actors were familiar with the reasons and goals related to implementing the 3Rs curriculum, and that this knowledge guided the design of their programmes.

7.3.1 Modus Operandi for the Various Actors

The mode of operation of the government's key actors resulted in an equal distribution of the efforts made to improve 3Rs skills among pupils throughout the country. However, the support from the donor-funded programmes focused on a few regions and, hence, some regions received extra support from both the government and the donor-funded programmes. The regions with extra support show improvements in the pupils' acquisition of the 3Rs, as measured by the pupils' performance in the SFNE compared to those who received support from the government only. This suggests that the sub-systems within the system were poorly-connected, as evidenced by the regions with received twin support and those which received only support from the government. The negative outcome of receiving extra support was that the teachers in the regions that were provided with additional support had several materials, which resulted in confusion regarding when to use which kind of materials.

7.4 Sources of financing for the 3Rs reform

Concerning the sources of financing for the 3Rs curriculum, it is concluded that teachers from standard I-IV in all regions received 3Rs training and that the donors largely supported this, yet the training was too short compared to the competencies intended to be covered.

7.5 Monitoring and evaluation

Monitoring and evaluation were largely done by the school quality assurance, yet there is inadequate evidence to suggest that the quality assurance Tteam communicate officially and regularly with TIE.

8. Recommendations

On the basis of these findings, it is generally concluded that there exist gaps in the accountability relationship in the context of 3Rs curriculum implementation. Indeed, the sustainability of the 3Rs reform initiatives currently in force in the country remains largely questionable in the absence of donor money. In addition, the lack of proper co-ordination between donor-supported and government-aided programmes for them to be complementary in a seamless manner suggests the need for further changes. As such, the study makes the following recommendations:

- i. Enough time should be set aside to implement a new reform. There should be sufficient time allowed between the preparation and rollout of the 3Rs reforms. Allowing sufficient time would have enabled the development of the teaching and learning materials by following all of the necessary steps, including the piloting and approval of the materials. There is also a need to ensure that the teachers are well-prepared to implement the curriculum before rolling it out.
- ii. The provision of teacher training by various actors should be centrally co-ordinated by the government agency i.e., TIE. This institution is legally mandated to offer INSET training to teachers on issues related to the school curriculum at the pre-primary, primary, secondary and teacher education levels. Engaging TIE would help to improve the sustainability of the donor-funded programme.
- iii. To minimize the costs of INSET training and ensure the sustainability of the project, training on the 3Rs should be integrated into the initial pre-service preparation of teachers. In addition, School-Based Continuous Professional Development is among the ways to reduce the costs of training.
- iv. There is a need to develop guidelines on the use of teaching and learning materials, especially in the areas that were supported by a number of actors.
- v. There is a need to scale up donor-funded programmes to include the regions and schools that were not covered initially; for example, English medium schools as well as non-government schools. In other words, since the curriculum in Tanzania is centralised, all efforts related to improving the 3Rs skills should be extended to all children across the country.
- vi. There is a need for TIE to conduct national monitoring and evaluation of the 3Rs curriculum reform. This could go hand-in-hand with establishing a strong relationship between the actors, including quality assurers and TIE. Such a relationship can help TIE to obtain curriculum implementation feedback on a regular basis.

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