



**Early Grade Teachers' Implementation of
Phonics-based Literacy Instruction for Reading
Skills Development: Do Teachers' Professional
Experiences Make a difference?**

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Early Grade Teachers' Implementation of Phonics-based Literacy Instruction for Reading Skills Development: Do Teachers' Professional Experiences Make a difference?

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Abstract

In-service training in phonics-based literacy instruction comparing the USAID and non-USAID Jifunze Uelewe schools has not been focused on by the research team in Tanzania. Thus, there has been limited evidence to inform planning and implementing lessons improving reading skills among early grades pupils using phonics-based literacy instruction. Three data collection methods were used: in-depth interviews, classroom observation and a questionnaire reaching 305 participants (208 early-grade teachers, and 97 Ward Education Officers) in 50 public schools (40 in the Tanzania mainland and 10 from Zanzibar). Content analysis was used to analyse responses given by teachers' and education quality assurance officers on the focused research questions. The results indicate that teachers reported receiving better support for teaching practices than for the preparation of materials or for growing their content knowledge. Also, the programmes rarely help teachers gain skills for teaching children with special needs. Overcrowded classrooms and lack of technological materials were reported to compromise teachers' ability to promote responsive classrooms in their teaching. A good number of teachers (78%) in the USAID Jifunze Uelewe regions and 48% from non-USAID regions had an opportunity to attend in-service professional development on working with special needs children. Some teachers felt less satisfied with the in-service training they received as it was conducted over a short period, thereby not impacting their teaching skills. The study concludes that in-service training, especially mentoring and coaching, should be sustained to improve teachers' knowledge and skills to prepare and deliver phonics-based lessons appropriately.

Keywords: In-service teacher education, phonics approach, literacy, special needs, early grade



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Introduction

Enabling early-grade children to read at a young age is the cornerstone of improving educational outcomes (Hanemann, 2022). Central to the success of the teaching and learning process is the level of progress children attain in reading. Without developing reading ability, a child would inadequately participate and attain learning goals successfully (Sullivan & Brown, 2015). Gedik and Akyol (2022) point out that children below the expected reading levels struggle to develop more advanced skills because they are likely to disengage from different learning instructions. Gove and Wetterberg (2011) differentiate effective readers from ineffective readers, arguing that the former develops vocabularies through absorbing increasing amounts of written information and improving comprehension. However, the ineffective readers lose motivation and remain unable to comprehend information.

Different international and national reports show that most children complete their primary level of education without sufficient knowledge of reading (UNESCO, 2017; UWEZO, 2019; World Bank, 2019). UNESCO (2017) reveals that globally, more than 617 million children and adolescents are not achieving minimum proficiency levels in reading. The available statistics show that the challenge exists more in Sub-Saharan Africa (138 million primary school children) and in Central and Southern Asia (152 million primary school children). The World Bank (2019) highlighted that 53% of children in low and middle-income families could not read an age-appropriate text with comprehension by age 10. The challenges children face in reading at various levels threaten the progress towards the achievement of the Sustainable Development Goals, particularly goal number 4, which focuses on all children completing primary and secondary education with relevant and effective learning outcomes in reading and mathematics (UNESCO, 2017).

In Tanzania, poor reading skills among primary school pupils has been documented for many years (Uwezo, 2013; Brombacher et al., 2014). Uwezo (2019) indicates that 24% of grade seven pupils could not read grade two Kiswahili texts. Brombacher et al. (2014) state that most grade two pupils could not read with comprehension. There is a close and direct relationship between a teacher's literacy knowledge and skills and a pupil's reading outcomes with teachers' professional experiences [pre- and in-service training] they are exposed to (Piasta et al., 2009).

The teaching and learning of reading skills

Though the development of reading skills is attained through the involvement of the pupil in multiple tasks (Fielding-Barnsley & Purdie, 2005), there are debates on the approaches resulting in the so-called “reading wars” (Torgerson et al., 2019; Solity, 2020). The main variants of the debate focus on phonics-based literacy instruction, whole-language instruction, and the use of the balanced literacy approach (BLA). While the phonics-based literacy approach stresses teaching pupils to read sequentially and explicitly by forming the relationship of letter-sound correspondence in words, the whole language approach uses the entire word to engage pupils in developing reading skills without breaking it down into letters or combinations of letters (Maddox & Feng, 2013).

Grabe and Stoller (2002) challenge the use of the whole language arguing that it encourages guessing in reading among pupils, thus limiting the basic ability to decode text. Several authors recommend phonics-based literacy instruction as it enables children to become skilled readers by developing phonemic awareness and alphabet knowledge among pupils (Grabe & Stoller, 2002). The BLA on the other hand, is underpinned by the use of explicit instruction in which learners are engaged in authentic learning experiences while incorporating both reading and writing activities (Acosta, 2012). The author adds that the approach is characterized by read-aloud, shared reading, independent reading, modelled writing, shared writing, and independent writing. Therefore, the BLA (integrated phonics and whole language), in teaching reading skills is gaining more attention in increasing learners’ engagement in knowledge construction though some countries still favour phonics-based literacy instruction, including the United States of America (US), England, Australia, and Tanzania (URT, 2016).

Flynn et al. (2021) argue that effective teachers’ implementation of phonics-based literacy instruction needs special training. Designing this research was triggered by limited studies that have explored the effectiveness of professional development for phonics instruction, especially in Tanzania. Available evidence shows that teachers are unaware of their limited subject knowledge and skills or overestimate the level of knowledge and ability to teach early literacy skills (Stark et al., 2016). Oliveira et al. (2019) argue that any effective programme must be able to provide content and pedagogical knowledge and provide teachers with the tools to connect that



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knowledge to classroom practices.

Further, Lenski et al. (2013) inform that most programmes prioritize and equip teachers with knowledge related to literacy theory, instructional practices, and assessment procedures. The International Reading Association (2010) depict that teacher professional development has several impacts on teachers' teaching of reading skills ranging from foundational knowledge on curriculum and instruction, assessment and evaluation, to diversity in teaching reading. To make teacher professional development bring positive changes, Sailors and Price (2010) suggest classroom-based coaching as it gives teachers and experts to collaborate and enables practitioners (teachers) to put new knowledge into practice. On the other hand, Prince et al. (2010) purport that peer coaching at school contributes more to success than training via standalone events for large groups of teachers.

In Tanzania, teacher professional development requires refocusing as the available training and programmes are concentrated mainly on the general learning of pupils, with little attention given to specific skills such as foundational learning skills (Swai et al., 2022) as it inadequately helps to improve pupils' learning (UNICEF Innocenti-Global Office of Research and Foresight et al., 2024). The limited focus of the teacher professional programmes illustrates the importance of quality assurance in the design for supporting the achievement of quality learning outcomes. Teachers' professional development and quality assurance are inextricably linked and crucial interventions in a teacher's career and professional practices. When teachers' professional development and quality assurance are inadequately conducted, they compromise quality in teaching and learning outcomes (Day, 1991). To make a positive difference, professional development should equip teachers with a solid knowledge base, effective instructional tools that are aligned with the knowledge base, and school systems should support and nurture implementation. Kennedy (2016) and Taylor et al. (2019) add that for in-service training to be effective, they should be developed and conducted through ongoing practice. Taylor et al. (2019) expound further that a bundled intervention, the one that provides teachers with lesson plans and learning materials, combined with training and reading coaches who visit teachers regularly to observe teaching and provide feedback, is more likely to lead to significant improvements in early-grade reading.

Understanding the effectiveness of the professional development practices in Tanzania requires the voices of those who frequently interact at the institutional

level—the teachers, headteachers, and ward education officers. Available studies are general and do not compare the experience of teacher education programmes between regions under USAID Jifunze Uelewe and non-USAID Jifunze Uelewe; thus this study was conducted.

Phonics-based literacy instruction in Tanzania

Many programmes are initiated to address the challenge of phonics-based literacy instruction (URT, 2017, 2019). USAID, through the Tusome Pamoja Programme, worked to improve reading (with comprehension), writing, and mathematics for pupils in grades two and four in the target regions (Mtwara, Ruvuma, Iringa, Morogoro, and Zanzibar). Other initiatives included reducing the number of subjects among grade two pupils to the 3Rs to make sure that pupils and teachers concentrate on developing reading, writing, and arithmetic skills (Rodriguez-Segura et al., 2022). All these initiatives aim at achieving the 2025 Development Vision, which requires that children aged four to six develop reading skills (URT, 2014).

Phonics-based literacy instruction for basic education and teacher education in teaching reading for grades one and two and a whole-language approach for grades three and four (URT, 2016) was adopted. The phonics approach was proposed for lower grades as it is a tool for learning that words are composed of different sounds which is important for reading whole words or connected texts promoted through the whole language approach (Double et al., 2019). For its implementation, in-service training for teachers teaching in early grade classes was conducted by different agencies, including the USAID Tusome Pamoja programme, EQUIP-Tanzania in collaboration with the Ministry of Education Science and Technology (Rodriguez-Segura et al., 2022). The provision of training to teachers gives them the knowledge needed to implement a range of successful classroom strategies, such as pacing instruction based on pupils' needs (Leinhardt et al., 1981) and creating the right instructional groups (Johnson & Larsen, 2012). Training enables teachers to plan instruction (Elleman & Oslund, 2019), measure children's comprehension and misunderstanding (Ball et al., 2008), and create projects that deepen children's reading skills (An et al., 2004).

However, the learning attainment of early-grade learners is poor, as those performing at national benchmark levels for reading decreased from eleven per cent in 2019 to nine per cent in 2021 (National Examination Council of Tanzania-NECTA,



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2022). Results raise concern over the effectiveness of teacher education, especially the quality of in-service training in equipping teachers with sufficient knowledge and skills for implementing inclusive phonics lessons. The current study planned to answer two questions:

- i. How does in-service training equip teachers with robust knowledge and skills to implement phonics lessons?
- ii. How well does the in-service training enable teachers to effectively facilitate learning for all pupils?

Methods and Procedures

The study deployed a qualitative descriptive research design to collect and analyze data on teachers' views on the extent to which teacher preparation and professional experiences help them implement phonics-based literacy instruction. The qualitative descriptive study was selected to guide data collection and analysis as it allows the research team to obtain factual responses from respondents about how teacher preparation and professional experiences help them implement phonics-based literacy instruction (Sandelowski, 2000).

Sampling and Participants

The study was conducted in 50 primary schools in thirteen regions across Tanzania's mainland (eight) and Zanzibar (five). A total of 305 participants (208 early-grade teachers, and 97 quality assurers) with varied educational backgrounds, ages, and genders participated in the study. The study was conducted in two categories of regions: those with educational programmes implemented under the USAID funding we refer to as USAID Jifunze Uelewe regions, and those without specific funding from USAID. Regions which had no specific funding from USAID we refer to in this study as non-USAID Jifunze Uelewe. The USAID Jifunze Uelewe regions earlier implemented the Tusome Pamoja Programme, which was phased out in 2021. The USAID Jifunze Uelewe programme started its implementation as an extension project to the TUSOME PAMOJA project in the same regions to advance the benefits gained. Sampling of schools considered high- and low-performing in the randomly sampled districts. The sampling considered the rural-urban divide factor in the inclusion of a

location would have impacted the resource availability and engagement of teachers in professional development.

Most of the teachers had completed the minimum required formal training (i.e., certificate in teacher education referred to in Tanzania as Grade three); 144 teachers (69% of the total) had a certificate in teacher education, Grade three A, 53 teachers had a college diploma (associates' degree) in education (26% of the total), nine had a bachelor's degree (4.3%), and two (1.0%) held a postgraduate diploma in education. On the other hand, all quality assurers had either the minimum required qualification or above, that is, a diploma in education.

Early grade teachers and the quality assurers (constituted of Head teachers-HTs and Ward Education Officers-WEOs) were purposely selected as they are at the implementation level of phonics-based literacy and are the ones involved in the in-service programmes aimed at enhancing reading skills through improved use of the phonics-based literacy approach. Therefore, their experiences were an important factor in their involvement in this study. Further, the quality assurers were involved because they are the immediate supervisors and are responsible for monitoring early-grade teachers in implementing the curriculum at the school level.

Data collection methods

Semi-structured interviews and classroom observations were used to gather data responding to the research questions. Classroom observations were conducted first for teachers to reveal their practices in using the phonic approach to develop reading skills among targeted pupils in early grades. A classroom observation guide consisting of the closed-ended scale observation rubric was used to observe how teachers implemented phonics-based literacy instruction during the reading lessons in the early-grade classroom. Classroom observation was employed as it enabled the research team to enter and understand the situation as it happened in a natural context (Cohen et al., 2007). Classroom observation took 40 minutes for the observers (research team) for the grade three lessons, 30 minutes were used to collect data in grades one and two, and 20 minutes were used for pre-primary.

Individual in-depth interviews were held with teachers and quality assurers following the classroom observation. A semi-structured interview guide was developed and used to lead the conversation between the research team and early-grade



teachers, HTs, and WEOs. Data collection through the semi-structured interviews involved systematic recording and documenting of responses using tape recorders and notebooks. Each interview took about 40 to 60 minutes per informant. The use of the two methods aimed at triangulation of the findings (Creswell, 2009; Tzagkarakis & Kritas, 2022) to enable the research team to validate the results from different data sources (Clark et al., 2008; Drolet et al., 2022; Flick, 2009).

Ethical issues

This research observed all ethical matters regarding fieldwork. Research permits and ethical clearances were obtained from the respective authorities—the University of Dodoma, on behalf of the Tanzania Commission for Science and Technology (COSTECH); and the President’s Office of Regional Administration and Local Government (PoRALG) respectively. The two allowed the research team access to the participants. During the data collection, the research team and the research assistants observed respect for human and moral values and sought informed consent from the HTs and participants. Research participants were informed about the purpose of the research and assured of how their responses would be treated and managed to ensure anonymity and confidentiality (Drolet et al., 2022).

Data analysis

Content analysis was used to develop an understanding of the teachers’ and quality assurers’ responses using open coding (Bengtsson, 2016). Information was transcribed from Kiswahili, the language used in conversing between research team and study respondents, which was conducted immediately after data collection. The transcription of information was done by the research team and trained enumerators by listening and re-listening to audio recordings for the development of texts that were processed. Translating the information collected in Kiswahili into English. Coding was done by reading and re-reading transcripts for initial code development as per the research and interview responses (Chandra & Shang, 2017). Similar codes were grouped to form categories related to research questions. Since the primary purpose of the study was to identify the extent to which professional training enabled teachers’ instruction of phonics-based literacy, the frequencies of responses related to emergent codes were recorded to determine the extent

of the frequencies (Baker-Henningham & Walker, 2009). Furthermore, tables and charts were used to present data, which later facilitated report writing.

Findings

Results are presented in line with the research questions. Furthermore, the themes identified within each research question are discussed, and their content is explained with participant quotes. To amplify the importance of each theme in the data, response frequencies are also presented.

The extent to which in-service training equips teachers with sufficient knowledge and skills to implement phonics lessons

The study began by exploring whether teachers had attended any training regarding the teaching of phonics lessons. The analysis of the data shows that professional experiences engaged teachers differently in that those in USAID Jifunze Uelewe also participated in the Tusome Pamoja regions and appeared to have been better prepared than their counterparts, the non-USAID Jifunze Uelewe regions. Figure 1 illustrates percentages of teachers reported to have participated in professional development programmes focusing the phonics instruction.

Figure 1: Teachers Participated in Professional Development Programmes

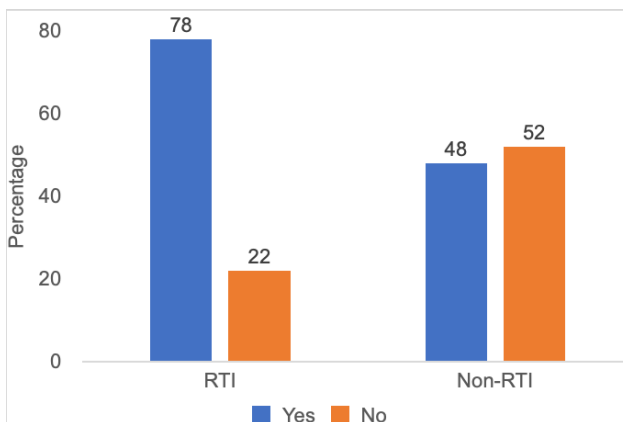


Figure 1 shows a difference in teachers receiving professional development between USAID and the non-RTI regions regarding equipping them with adequate knowledge and skills to implement phonics-based instruction. In the USAID Jifunze Uelewe regions, 78% of the teachers reported receiving training, compared to only 48% in the non-RTI regions. Such a difference implies that teachers in the USAID Jifunze Uelewe regions are more likely to be able to implement a phonic approach in promoting reading skills compared to the non-USAID Jifunze Uelewe regions.

The participants demonstrated a sense of dissatisfaction with in-service teacher education programmes prepared for teachers regarding their ability to use phonics-based literacy instruction. Some teachers were of the view that such in-service training opportunities were conducted rarely and therefore inadequately enhanced their knowledge and skills on the phonics-based approach and application to teaching and learning reading. One of the teachers said:

Teacher 1:

I have attended one training that was conducted over two days. The training had many things that were planned to be covered. As such, deep learning was limited in a way that many of the attendees claimed to not have been satisfied with what they had learned, particularly how to promote children's literacy (Teacher, Morogoro).

Teacher 2:

I happened to attend training that focused on how to manage the class. However, the conducted training hardly exposed us to the actual challenges as we handle a larger number of children in a single classroom, which impacts efforts to use the phonics-based approach to enhance reading skills (Teacher, Songwe).

This implies that teacher education programming and implementation need to focus on problems teachers' face that are classroom-based so they can help solve problems for better teacher-pupil interaction. Positive teacher-pupil interaction is crucial in implementing phonics-based reading lessons.

Further, the study explored the extent to which the training equipped them with robust knowledge for implementing phonics literacy instructions. The research team asked teachers to weigh the benefits of professional experiences in improving their knowledge of phonics-based literacy instruction. The analysis shows that teachers acknowledged that in-service training mainly equips teachers in two aspects: content and pedagogical knowledge (see Table 1). It indicates that in-service training inadequately developed teachers with pedagogical knowledge to support pupils in

becoming proficient readers because they focused on alphabetical knowledge.

Table 1: Teaching Skills Developed by Teachers Through Professional Experience

Responses	Extent	Status			Grand Total, N (% of responses)
		HTs, N (% of responses)	Teachers, N (% of responses)	WEOs, N (% of responses)	
Classroom management	Large extent		2 (<1)		2 (<1)
	Small extent		7 (2)		7 (1)
Coaching and mentoring skills	Large extent	9 (10)	4 (1)	4 (4)	17 (3)
	Small extent	15 (17)	6 (2)		21 (4)
	Some extent	13 (14)	2 (<1)	1 (1)	16 (3)
Instructional knowledge	Large extent	8 (9)	6 (2)	2 (2)	16 (3)
	Small extent	10 (11)	5 (2)		15 (3)
	Some extent	11 (12)	3 (<1)	1 (1)	15 (3)
Pedagogical knowledge	Large extent		51 (16)		51 (10)
	Small extent		26 (8)		26 (5)
	Some extent		27 (8)		27 (5)
Subject matter knowledge	Large extent	5 (6)	63 (19)	30 (33)	98 (19)
	Small extent	9 (10)	72 (22)	19 (21)	100 (20)
	Some extent	11 (12)	49 (15)	35 (38)	95 (19)
Life skills	Small extent		1 (<1)		1 (<1)
Grand Total*		91 (100)	324 (100)	92 (100)	507 (100)

* (Participants could give more than one response)

Note. This table presents perceived benefits of teacher education program in developing teachers with required skills in the teaching of phonics-based lessons in early-grades in Tanzania.

Subject matter knowledge

A great number of teachers (121 of 208 teachers equivalent to 37 per cent of responses) indicate that, to a lesser extent, professional learning experiences developed teachers with subject matter knowledge more than their pedagogical knowledge. On the other hand, WEOs indicated that professional experiences had little to contribute



to teachers' subject matter knowledge. HTs held a different perspective from that of teachers and WEOs.

The knowledge was explained as being important in implementing phonics lessons through the phonic approach. Sounding letters and preparing and using phonics-based learning materials were mostly promoted. Teachers reported that before attending the training (USAID-Tusome Pamoja and the famous in-service programme called Kusoma, Kuandika, na Kuhesabu, that is, reading, writing, and arithmetic (3Rs) organized by MoEST under Global Partnership for Education-GPE), their knowledge on the reading components was poor. As such, the teacher reported:

The training I received was helpful. I did not know some of the letter sounds, such as glottal sounds involving /g/ and /k/, but now I can sound them appropriately (Teacher, Unguja).

In addition, teachers also reported that some knowledge and skills related to preparing and using phonics instructional materials were enhanced. Instructional materials development was their challenge, but in-service training supported them with the ability to use locally made and purchased materials for teaching the initial and final sounds. In their preparation of materials, they could prepare reading cards facilitating the way of teaching syllables such as /ba/ + /ba/ = /baba/ meaning that the word “baba” (meaning father in English) has two syllables.

On the other hand, classroom observation revealed that teachers still exhibit inadequate knowledge to implement phonic lessons. For instance, most of the teachers were observed concentrating on teaching pupils to read a connected text accurately and fluently, attending to punctuation, expression, and intonation as well as word-recognition errors. On the other hand, teachers revealed limited knowledge of phoneme teaching and comprehension teaching (see Table 2).

Pedagogical knowledge

Though HTs and WEOs did not see the contribution of professional experience to improve teachers' pedagogical knowledge, classroom teachers indicated the opposite. Table 2 depicts that teachers' professional experience was somewhat enhanced with multiple skills, especially preparation of teaching aids, lesson preparation, strategies to engage children in learning, and classroom management. One teacher exemplified:

The in-service training helped me, especially in the learning involving the use of story-reading books that have levels and not using them without adhering to specified guidelines.

Previously, I used to read the whole storybook to the children without being focused. I came to learn it was beyond their learning capacity (Teacher, Iringa).

Teachers' growth in pedagogical knowledge was also boosted by the school-based peer coaching done to sustain within and outside school experience sharing. One of the teachers explained:

I consult my fellow teachers in our community of practice to assist me in preparing teaching and learning aids and share experiences on methods used to teach phonics-based learning. For example, they help me with appropriate methods to teach the sounds, letter names, vocabulary, and blending (Teacher, Ruvuma).

Analysis of the data obtained through classroom observation showed that teachers had limited knowledge of the use of effective strategies. For instance, teachers were observed modelling appropriate reading (94%), sharing reading activities with all pupils (98%) and providing pupils with reading practices (78%). However, other strategies, such as partner reading (44%) and small group reading (31%) were inadequately used. In general, the analysis shows that the methods focusing on teaching reading comprehension, such as discussing with pupils, making predictions about a text or story they read, and answering questions about the text or story they read were not observed. This implies that the teaching of reading comprehension is likely to be compromised as teachers focus more on strategies that improve phonological awareness and fluency.

Table 2: Practices Commonly Used to Ensure Inclusion in Reading Instruction

Aspect observed	Response	USAID		Non-USAID		Total	
		N	%	N	%	N	%
Reading connected text accurately and fluently	Not Observed	14	18	8	16	22	17
	Observed	62	82	43	84	105	83
	Subtotal	76	100	51	100	127	100
Purposefully focusing on increasing fluency toward the grade-level goal	Not Observed	13	17	12	24	25	20
	Observed	63	83	39	77	102	80
	Subtotal	76	100	51	100	127	100
Reading attending to punctuation, expression, intonation	Not Observed	26	34	18	35	44	35
	Observed	50	66	33	65	83	66
	Subtotal	76	100	51	100	127	100
Self-correcting word-recognition errors	Not Observed	19	25	15	29	34	27
	Observed	57	75	36	71	93	73
	Subtotal	76	100	51	100	127	100



Identifying and sorting pictures of words into categories, sets, or groups	Not Observed	56	74	45	88	101	80
	Observed	20	26	6	12	26	21
	Subtotal	76	100	51	100	127	100
Using word structure and use in a sentence to infer word meaning	Not Observed	42	55	29	57	71	56
	Observed	34	45	22	43	56	44
	Subtotal	76	100	51	100	127	100
Use correct procedures for handling books (opening, closing books, turning the page).	Not Observed	49	65	42	82	91	72
	Observed	27	36	9	18	36	28
	Subtotal	76	100	51	100	127	100
Categorizing words hierarchically	Not Observed	38	50	29	57	67	53
	Observed	38	50	22	43	60	47
	Subtotal	76	100	51	100	127	100
Use finger-pointing to indicate text direction	Not Observed	36	47	32	63	68	54
	Observed	40	53	19	37	59	47
	Subtotal	76	100	51	100	127	100
Develop knowledge of print and printed material (e.g. identify book cover; title of the book, author; and contents)	Not Observed	57	75	49	96	106	84
	Observed	19	25	2	4	21	17
	Subtotal	76	100	51	100	127	100
Match picture or action to vocabulary word in print to clarify the meaning	Not Observed	46	61	44	86	90	71
	Observed	30	40	7	14	37	29
	Subtotal	76	100	51	100	127	100
Discuss the meaning of vocabulary words with peers	Not Observed	38	50	32	63	70	55
	Observed	38	50	19	37	57	45
	Subtotal	76	100	51	100	127	100
Discuss in small or large groups what they see in a picture in a story or on the cover of a book	Not Observed	51	67	44	86	95	75
	Observed	25	32	7	14	32	25
	Subtotal	76	100	51	100	127	100
Predict what will happen based on a story or from a picture they are reading in a story or the title of a story	Not Observed	52	68	40	78	92	72
	Observed	24	32	11	22	35	28
	Subtotal	76	100	51	100	127	100
Retell, act out or summarize a story they have read or has been read to them (covering the story or plot)	Not Observed	46	61	42	82	88	69
	Observed	30	40	9	18	39	31
	Subtotal	76	100	51	100	127	100

Note: This table presents instructional strategies used by teachers in implementing phonics-related lessons for promoting reading skills among early-grade pupils in the sampled schools in Tanzania mainland and Zanzibar. Analysis revealed that there were no significant differences between the two categories of the regions, USAID and non-USAID, in the classroom practices. However, some teachers in the USAID regions have shown better phonics-related instruction practices, for example, purposefully focusing

on increasing fluency toward the grade-level goal; paying attention to punctuation, expression, and intonation; and using finger-pointing to indicate text direction. This implies that the professional experiences that teachers were engaged in in the regions categorized as USAID regions were helpful as compared to those experienced by their counterparts.

Moreover, in both categories of regions, teachers demonstrated poor teaching and learning skills in facilitating students to identify and sort pictures of words into categories, sets, or groups; developing pupils with reading comprehension (Using word structure and use in a sentence to infer word meaning); and inadequately engaged pupils to develop knowledge of print and printed material (e.g., identify book cover; title of the book, author; and contents). This would further lead to the conclusion that higher-order reading skills were inadequately paid attention to by teachers from all sides involved in this study.

The in-service training with effective learning of the pupils with special needs

In this section, the research team explored the extent to which in-service training helped teachers gain the knowledge they needed to support pupils with special needs to develop reading skills. Table 3 illustrates the three categories of respondents who shared their views regarding the benefits of the training in helping pupils with special needs develop reading skills.



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Table 3: Practices Commonly Used to Ensure Inclusion in Reading Instruction

Categories	Responses	WEOs, Number of Responses (%)	Teachers, Number of Responses (%)	HTs, Number of Responses (%)
Classroom management	Classroom arrangement	7 (9)	23 (9)	6 (8)
	Equality in learning	16 (21)	97 (36)	23 (32)
	Gender-responsive	16 (21)	44 (16)	12 (16)
	Mixing pupils	1 (1)		
Support	Professional support	5 (7)		
	Teacher-parent	2 (3)	9 (3)	
	Infrastructure	1 (1)		
	Pupil-pupil cooperation	(<1)	11 (4)	2 (3)
	Parent-pupil	(<1)	2 (<1)	
Monitoring	Pupil progress	2 (3)	2 (<1)	2 (3)
	Attendance	1 (1)	(<1)	1 (2)
	Learning attainment	(<1)	16 (6)	3 (4)
	Lesson preparation	(<1)	(<1)	1 (1)
	Remedial teaching	1 (1)		2 (3)
Teaching and learning strategies	Differentiated instructions	11 (15)	22 (8)	13 (18)
	Peer-assisted learning	(<1)	5 (2)	
	Individualized learning	(<1)	7 (3)	
	Group learning	10 (13)	15 (6)	8 (11)
Not aware	Not aware	3 (4)	19 (7)	
Grand Total*		76 (100)	272 (100)	73 (100)

Note: This table classroom practices commonly used by early-grade teachers in ensuring teaching and learning is inclusive. The presentation constitutes of the responses from the implementers and education administrators (HTs and WEOs) of the schools involved in this study. As Table 3 depicts, in-service training mostly developed teachers' classroom management skills for helping children with special learning needs. To a lesser extent, teaching and learning strategies were also enhanced.

Classroom management skills

The analysis of the data shows that teachers and quality assurance staff had a similar view that in-service training equipped teachers with classroom management skills for helping pupils with special learning needs develop reading skills. Among the aspects revealed by teachers and quality assurers were ensuring equality in learning (21%

- WEOs, 36% - Teachers, and 16% - HTs of their responses), adhering to gender responsiveness (21% - WEOs, 16% - Teachers, 16% - HTs) and classroom arrangement (9% - WEOs, 9% - Teachers, 8% - HTs).

Explaining the concept of equality in learning, participants believed that the training they received enabled them to increase their understanding that each learner has the right to access quality services and that respecting all pupils, regardless of their ability in the classroom, was necessary. To achieve it, teachers reported that through the in-service training, they were sensitized that identification of pupils with special learning needs such as limited vision or blindness is necessary for positive adjustment of the instruction and learning materials so that no pupil lags behind others. Due to different learning needs, exposure to the design of tactile materials was among the training benefits that teachers had for helping children with visual impairments develop their reading skills, as they could not access braille books. One teacher said:

During the training, we were trained on how to use the beads to make letters or numbers by glueing them on the cards so those unable to see could touch and feel the shapes. The letters made on beads enable visually impaired pupils to develop the concept of the letter made through touching, says the teacher (Teacher, Singida).

Teachers reported also that the training helped them with the skills to deliver learning experiences that are gender-responsive, so every learner, regardless of gender, equally develops targeted learning competencies in reading. Teachers said that they group and assign roles to pupils by mixing them regardless of their gender and learning needs. One teacher argued:

Yes, when it comes to instruction and learning, I ensure both boys and girls are mixed where necessary and do group tasks within and outside the class by mixing so they work cooperatively (Teacher, Morogoro).

The use of instruction and learning experiences that promote inclusion and not discrimination because of one's gender is crucial to closing the learning gap between boys and girls.

Discussion

The study findings reveal that the training provided to teachers was inadequate in the sense that it is provided to a limited number of the target population and the time used was not sufficient to meet the needs of the trainees. Cordingley (2015) notes the direct relationship



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between teacher subject professional knowledge and pedagogical knowledge obtained from pre- and in-service training and better pupil outcomes across the curriculum. The provision of in-service training for teachers in different countries is not promising compared to pre-service training (Mufti, 2024). This is because most of the training takes a short time or has limited content impacting the translation of skills, thus a failure to meet the participants expectations. The lack of enough time and other facilitation to teachers during their engagement in professional development, as cited by this study's participants, impact their effectiveness in delivering phonics-based lessons. It therefore, necessitate the call for the use of a bundled intervention that involves the provision of lesson plans and learning materials, combining training with coaches who visit teachers regularly to observe teaching and provide feedback (Taylor et al., 2019). The bundled intervention has proved successful in many countries for teachers teaching grades one and two

Training provided should strengthen teachers' pedagogical and subject content knowledge through instructional methods and learning materials (International Reading Association, 2010; Lenski et al., 2013). Unlike other studies, none of the teachers in this study reported whether the training helped them develop phonics teaching and learning materials. In addition to other cited inputs in teacher professional development, phonics-based training is crucial in developing teachers with assessment knowledge (Sailors & Price, 2010; Lenski et al., 2013). This is contrary to this study's findings, where the effectiveness of in-service training assessment skills was not identified. This means that teachers may have inadequate skills in assessing phonics content for pupils, and therefore teachers may not know the status of pupils' reading ability (Flynn et al., 2021). This request ensures the provision of comprehensive in-service training to teachers to meet teachers' expectations in teaching phonics. Different from the experiences explained by teachers from the non-USAID Jifunze Uelewe schools, Darling-Hammond et al. (2017) identify that an effective teacher professional development programme is content-focused, incorporates active learning, supports collaboration, uses models of effective practice, is of sustained duration accompanied by coaching and expert support, and offers feedback and reflection.

In-service training and special needs pupils

On the effectiveness of the in-service training to equip teachers with rich and applicable knowledge and skills, this study learned from informants that teachers had

very limited knowledge of how to help pupils with special needs develop reading skills. The situation elsewhere is different as there is the use of peer-assisted learning (Hargreaves et al., 2022) and the use of group learning (Fernández-Villardón et al., 2021), which all assist pupils with special needs develop reading skills. Therefore, their limited use by teachers in the studied areas limits the rights of the pupils with special needs to gain reading ability. Limited use of peer-assisted learning indicates that differentiated learning characterizes the ineffectiveness of teachers. Therefore, if teachers are provided with in-service training focusing on special needs students, they may be in a good position to enable pupils with special learning needs to develop sufficient reading skills.

Conclusion and recommendations

The delivery of phonics-based lessons by teachers would continue being low unless the teacher professional development, especially in-service training, adequately develops them with pedagogical and content knowledge for supporting pupils to develop higher-order reading skills. Importantly, the effectiveness of the teacher professional development would be at scale when the number of those attending it is large, accommodating all eligible teachers. Engagement of teachers in inclusion and pupils' assessment practices are crucial components of the teacher's professional development; excluding them impacts the quality of the in-service training and effectiveness of the delivery of phonics-based lessons and learning outcomes of the early-grade pupils. The study recommends providing comprehensive in-service training to teachers to meet teachers' expectations in teaching phonics.

In-service training enhanced teachers' ability to create and use learning materials in inclusive classes in the USAID Jifunze Uelewe regions compared to their counterparts in non-USAID Jifunze Uelewe. Therefore, this study recommends that designing and provision of in-service training for teachers in other regions should take care of better programming and implementation as done in other regions.



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References

- An, S., Kulm, G., & Wu, Z. (2004). The pedagogical content knowledge of middle school, mathematics teachers in China and the U.S. *Journal of Mathematics Teacher Education*, 7(2), 145–172. <https://doi.org/10.1023/B:JMTE.0000021943.35739.1c>
- Baker-Henningham, H., & Walker, S. (2009). A qualitative study of teacher's perceptions of an intervention to prevent conduct problems in Jamaican pre-schools. *Child: Care, Health and Development*, 35(5), 632–642. doi: 10.1111/j.1365-2214.2009.00996.x
- Ball, L. D., Thames, H. M., & Phelps, C. G. (2008). Content knowledge for teaching: What makes it special? *Journal of Teacher Education*, 59(5), 389–407. <https://doi.org/10.1177/0022487108324554>
- Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *Nursing Plus Open*, 2, 8–14. <http://dx.doi.org/10.1016/j.npls.2016.01.001>
- Brombacher, A. Nordstrum, L., Davidson, M., Batchelder, K., Cummiskey, C., & King, S. (2014). National baseline assessment for the 3Rs (Reading, Writing, and Arithmetic) using EGRA, EGMA, and SSME in Tanzania: A study report. <https://learningportal.iiep.unesco.org/en/library/national-baseline-assessment-for-the-3rs-reading-writing-and-arithmetic-using-egra-egma-and-ssme>
- Chandra, Y., & Shang, L. (2017). An RQDA-based constructivist methodology for qualitative research. *Qualitative Market Research: An International Journal*, 20, 90–112. doi: 10.1108/QMR-02-2016-0014
- Clark, V. L. P., Huddleston-Casas, A. H., Churchill, L. S., O'Neil, D., & Amanda L. Garrett, L. A. (2008). Mixed methods approaches in family science research. *Journal of Family Issues*, 29(11), 1543–1566. <https://doi.org/10.1177/0192513X08318251>
- Cohen, L., Manion, L., & Morrison, K. (2007). Research methods in education. Routledge
- Cordingley, P. (2015). The contribution of research to teachers' professional learning and development. *Oxford Review of Education*, 41(2), 234–252. <https://doi.org/10.1080/03054985.2015.1020105>
- Creswell, J. W. (2009). Research design: Qualitative, quantitative and mixed methods approaches. Sage
- Darling-Hammond, L., Hyster, E. M., Gardner, M., & Espinoza, D. (2017). Effective teacher professional development. Learning Policy Institute.



- Day, C. (1991). Quality assurance and professional development. *Journal of In-Service Education*, 17 (3), 189-194. <https://doi.org/10.1080/0305763910170303>
- Double, K. S., McGrane, J. A., Stiff, J. C., & Hopfenbeck, T. N. (2019). The importance of early phonics improvements for predicting later reading comprehension. *British Educational Research Journal*, 45(6), 1220-1234. <https://doi.org/10.1002/berj.3559>
- Drolet, M. J., Rose-Derouin, E., Leblanc, J-C., Ruest, M., & Williams-Jones, B. (2022). Ethical Issues in research: Perceptions of researchers, research ethics board members and research ethics experts. *Journal of Academic Ethics*, 269-292. <https://doi.org/10.1007/s10805-022-09455-3>
- Elleman, A. M., & Oslund, E. L. (2019). Reading comprehension research: Implications for practice and policy. *Policy Insights from the Behavioral and Brain Sciences*, 6(1), 3-11. <https://doi.org/10.1177/2372732218816339>
- Fernández-Villardón, A., Valls-Carol, R., Alcántud, M., & Tellado, I. (2021). Enhancing literacy and communicative skills of students with disabilities in special schools through dialogic literary gatherings. *Frontiers in Psychology*, 12, 1-13. <https://doi.org/10.3389/fpsyg.2021.662639>
- Fielding-Barnsley, R. & Purdie, N. (2005). Teachers' attitude to and knowledge of metalinguistics in the process of learning to read. *Asia-Pacific Journal of Teacher Education*, 33(1), 65-76. <https://doi.org/10.1080/1359866052000341133>
- Flick, U. (2009). An introduction to qualitative research (4th ed.) Sage Publications.
- Flynn, N., (2021). Training teachers for phonics and early reading: Developing research-informed practice. *Journal of Research in Reading*, 44(2), 301-318. <https://doi.org/10.1111/1467-9817.12336>
- Gedik, O., & Akyol, H. (2022). Reading difficulty and development of fluent reading skills: An action research. *International Journal of Progressive Education*, 18(1), 22-41 <https://doi.org/10.29329/ijpe.2022.426.2>
- Gove, A. & Wetterberg, A. (2011). *The early grade reading assessment: An introduction, the early grade reading assessment: Applications and interventions to improve basic literacy*. RTI International
- Grabe, W., & Stoller, F. L. (2002). *Teaching and researching: Reading* (2nd ed.). Routledge
- Hanemann, U. (2022). *International Literacy Day and Prizes 2022: Transforming literacy learning spaces*. UNESCO Digital Library
- Hargreaves, J., Ketnor, C., Marshall, E., & Russell, S. (2022). Peer-assisted learning in a pandemic. *International Journal of Mathematical Education in Science and Technology*,

- 53(3), 708–716. <https://doi.org/10.1080/0020739X.2021.2008036>
- International Reading Association. (2010). Standards for Reading Professionals. <https://www.literacyworldwide.org/docs/default-source/bonus-materials/front-matter-713.pdf>
- Johnson, E. M. S., & Larsen, S. P. (2012). Teacher listening: The role of knowledge of content and students. *Journal of Mathematical Behavior*, 31(1), 117–129. <https://doi.org/10.1016/j.jmathb.2011.07.003>
- Leinhardt, G., Zigmond, N., & Cooley, W. W. (1981). ‘Reading instruction and its effects American. *Educational Research Journal*, 18(3), 343–361. <https://doi.org/10.3102/00028312018003343>
- Lenski, S., Ganske, K., Chambers, S., Wold, L., Dobler, E., Grisham, D., Scales, R., Smetana, L., DeVere Wolsey, T., Yoder, K. & Young, J. (2013). Literacy course priorities and signature aspects of nine elementary Initial licensure programmes. *Literacy Research and Instruction*, 52(1), 1–27. <https://doi.org/10.1080/19388071.2012.738778>
- Maddox, K., & Feng, J. (2013). Whole language instruction vs. hhnics instruction: Effect on reading fluency and spelling accuracy of first grade students. <https://files.eric.ed.gov/fulltext/ED545621.pdf>
- Mufti, A. (2024). *Improving Teacher Continuous Professional Development: Case Examples from the Coach Program*. The World Bank
- National Examinations Council of Tanzania). (2022). *Analysis of the assessment of reading, writing, and arithmetic skills (3Rs) for standard two pupils 2021*. The Ministry of Education, Science and Technology
- Oliveira, C., Lopes, J., & Spear-Swerling, L. (2019). Teachers’ academic training for literacy instruction. *European Journal of Teacher Education*, 42(3), 315–334. <https://doi.org/10.1080/02619768.2019.1576627>
- Piasta, S. B., Connor, M. C., Barry J., Fishman, J. B., & Morrison, J. F. (2009). Teachers’ knowledge of literacy concepts, classroom practices, and student reading growth. *Scientific Studies of Reading*, 13(3), 224–248. <https://doi.org/10.1080/10888430902851364>
- Prince, T., Snowden, E., & Matthews, B. (2010). Utilizing peer coaching as a tool to improve student-teacher confidence and support the development of classroom practice. *Literacy Information and Computer Education Journal*, 1(1), 45–51. <https://doi.org/10.20533/licej.2040.2589.2010.0007>



- Sailors, M., & Price, L. R. (2010). Professional development that supports the teaching of cognitive reading strategy instruction. *Elementary School Journal*, 110(3), 301–322.
- Sandelowski, M. (2000). Focus on research methods: Whatever happened to qualitative description? *Research in Nursing and Health*, 23(4), 334–340. [https://doi.org/10.1002/1098-240X\(200008\)](https://doi.org/10.1002/1098-240X(200008)23(4)<334::AID-RN200008>3.0.CO;2-1)
- Solity, J. E. (2020). Instructional psychology and teaching reading: Ending the reading wars. *Educational and Developmental Psychologist*, 37(2), 123–132. <https://doi.org/10.1017/edp.2020.18>
- Stark, H. L., Snow, P. C., Eadie, P. A., & Goldfeld, S. R. (2016). Language and reading instruction in early years' classrooms: The knowledge and self-rated ability of Australian teachers. *Annals of Dyslexia*, 66(1), 28–54. <https://doi.org/10.1007/s11881-015-0112-0>
- Sullivan, A., & Brown, M. (2015). Reading for pleasure and progress in vocabulary and mathematics. *British Educational Research Journal*, 41(6), 971–991. <https://doi.org/10.1002/berj.3180>
- Taylor, S., Cilliers, J., Prinsloo, C., Fleisch, B., & Reddy, V. (2019). *Improving early grade reading in South Africa*. International Initiative for Impact Evaluation
- Torgerson, C., Brooks, G., Gascoine, L., Higgins, S. (2019). Phonics: reading policy and the evidence of effectiveness from a systematic “tertiary” review. *Research Papers in Education*, 34(2), 208–238. <https://doi.org/10.1080/02671522.2017.1420816>
- Tzagkarakis, S. I., & Kritas, D. (2022). Mixed research methods in political science and governance: Approaches and applications. *Quality and Quantity*, 57 (suppl 1), 5739–53. <https://doi.org/10.1007/s11135-022-01384-y>
- UNESCO. (2017). *More than one-half of children and adolescents are not learning worldwide*. Institute for Statistics. Available at: <http://uis.unesco.org>
- UNICEF Innocenti. (2024). Data Must Speak: Unpacking Factors Influencing School Performance in Mainland Tanzania. <https://www.unicef.org/innocenti/reports/data-must-speak-united-republic-tanzania>
- URT (United Republic of Tanzania). (2014). *The Education and Training Policy 2014*. Ministry of Education, Science and Technology. Dar es Salaam, Tanzania.
- URT (United Republic of Tanzania). (2016). *Curriculum and syllabus for pre-primary education*. Tanzania Institute of Education
- URT (United Republic of Tanzania). (2017) *Education sector development plan (2016/17–2020/21)*. Government Press

- URT (United Republic of Tanzania). (2019). *National curriculum framework for basic teacher education*. The Ministry of Education, Science and Technology
- Uwezo (2013). Are our children learning? Literacy and numeracy across East Africa 2013. <https://twaweza.org/wp-content/uploads/2021/02/2013-Annual-Report-Final-Web-version.pdf>
- Uwezo (2019). Learning Assessment Report 2019. <https://uwezotanzania.or.tz/wp-content/uploads/2021/04/Uwezo-Tanzania-Learning-Assessment-Report-2019.pdf>
- World Bank (2019). Ending learning poverty: What will it take? World bank. <https://documents1.worldbank.org/curated/en/395151571251399043/pdf/Ending-Learning-Poverty-What-Will-It-Take.pdf>.

