



TEACHERS' LEVEL OF TRAINING IN PHONICS AND GRADE ONE LEARNER'S ACHIEVEMENT IN READING SKILLS IN MERU COUNTY, KENYA

Martin Kinyua M'amai¹ⁱ,

Wanjohi Githinji²,

Teresa Mwoma³

¹PhD Student,

School of Education,

Department of Early Childhood

and Special Needs Education,

Kenyatta University,

Nairobi, Kenya

²Senior Lecturer, Associate Professor, Dr.,

Department of Early Childhood

and Special Needs Education,

Kenyatta University,

Nairobi, Kenya

³Senior Lecturer, Associate Professor,

Department of Early Childhood

and Special Needs Education,

Kenyatta University,

Nairobi, Kenya

Abstract:

This study sought to establish whether there is a relationship between teachers' level of training in phonics and learners' achievement in reading skills among grade one learners in Meru County. The study was guided by Gough and Tunmer's Simple View of Reading and Vygotsky's Social Cultural Theory. A mixed methods design involving descriptive survey, causal-comparative, and quasi-experimental approaches was used. The study targeted 61,870 learners and 1,397 teachers, from which a sample of 400 learners and 248 teachers from 234 schools was selected. Data collection involved semi-structured interviews, lesson observations, and learner assessments adapted from the Hasbrouck Quick Phonics Screener and EGRA tools. Quantitative data were analysed using SPSS Version 28, with descriptive statistics and regression analysis, while qualitative data were analysed thematically. The study findings established that the phonics approach, especially phonemic and phonological components, was minimally used in classrooms. The findings show that the level of training on phonemic and phonological awareness was insufficient. Teachers' level of training on phonics was linked to higher reading

ⁱ Correspondence: email martin.amai@pt.tharaka.ac.ke

achievements among grade one learners. The more the teachers were trained on varied phonics levels involving phonics elements, the better the reading skills. It was noted that there existed a high positive relationship between teachers' level of training in phonics and reading achievements among grade one learners in Meru County. At the 5 per cent level of significance, the independent variable (teachers' level of training in phonics) was statistically significant ($p = 0.000 < 0.05$). Since the p-value was less than 0.05, the researcher had enough evidence to reject the null hypothesis that teachers' level of phonics training does not significantly influence the achievement of reading skills among grade one learners in Meru County. The study concludes that there is a strong relationship between the level of teachers' training in the phonics approach and reading achievements. The higher the level of training on varied phonics, phonemic and phonological awareness skills, the higher the reading achievements. This study recommended that training programmes should focus on comprehensive phonics instruction that covers a wide range of phonics elements. Teachers should be offered continuous professional development opportunities to deepen their knowledge and enhance their phonics teaching skills, leading to improved reading achievement among learners.

Keywords: achievement, grade one learners; phonics approach; reading skills; teachers' level of training

1. Introduction

Language is one of the most powerful means of communication where human beings share their ideas, feelings, emotions, thoughts, needs, desires and directions as well as convey information (Katta, 2020; Kimamo & Gathara, 2023). It is a vessel for the expression of one's ideals, excitement, desires, amusements and disappointments. In the twenty-first century, English has become an essential global language as it is widely and extensively used in various spheres internationally (Rao, 2019). Moreover, the English language, being an essential study tool, undoubtedly needs special attention on how it is taught during foundational years. English, being a universal language, has a high demand to learn it; thus, many non-English-speaking countries have declared it a compulsory primary school subject (Sun Jung *et al.*, 2020). Recent worldwide studies on English language learning indicate that the language's universal demands necessitate an urgent response to its teaching, learning, teacher education, assessment, and policy (Tan *et al.*, 2020).

Reading is the ability to understand words contained in a document and make use of the knowledge for personal growth and development (Boardman, 2020). It is one of the four English language skills useful in building the foundation for all formal learning in school and opens doors to progress and prosperity across a lifetime (Ong & Llanos, 2019). Children who can read independently in their early years have improved linguistic skills, richer vocabularies, correct grammar, improved writing, better spelling and more

articulate oral communication (Kim *et al.*, 2024). Learners with inadequate mastery of basic reading skills in early primary grades are likely to struggle to learn reading in later primary grades and are at an increased risk of falling behind in school or dropping out (Gedik & Akyol, 2022).

The ability to read and understand a simple text is one of the most essential skills a child should learn, yet in many African countries, learners in lower primary schools are unable to read and understand a simple text (World Bank, 2019). For instance, in underdeveloped countries in Africa like Zambia, the government and other key educational players have spent huge amounts of resources and efforts towards the achievement of reading competencies in children. Despite these endeavours, countries such as Zambia have continuously reported low levels of reading achievements among children (Iversen & Mkandawire, 2021). Likewise, the Southern Africa Consortium for Monitoring and Education Quality (SACMEQ) (2019) reports that Malawi recorded the lowest reading achievement scores for grade 6 at 5.5% followed by Zambia (9.5%), Mozambique (17.4%), Lesotho (20.2%), Zimbabwe (26.7%), Uganda (28.2%), Zanzibar (34.2%), Namibia (34.9%), and South Africa (36.1%). Nonetheless, the scores still fell below the world standards. Similarly, Uganda is not an exception in terms of low reading levels. Uwezo (2019) maintains that the percentage of learners in primary grade 3 to primary grade 7 who could read and comprehend an elementary story at the primary 2 level decreased from 39% in 2014 to 33% in 2018. In addition, recent studies in Namibia continue to report insignificant success in advancing literacy levels among Namibian learners. A significant number of learners in Africa, especially in the Namibian settings, appear to go through the primary cycle with poor reading skills (Liswaniso, 2023).

In Kenya, Ayiera (2023) affirms that learning outcomes for pupils in early grades continue to stagnate despite ambitious education reforms in the country, such as free primary education and the introduction of Competence-Based Education (CBE). Moreover, the 2021 Uwezo findings claim that only 40% of learners in grade 4 appropriately meet the threshold in reading a grade 3 English text (Uwezo, 2021). The Uwezo Initiative (2018) national learning assessment found that only 38% of Grade 3 pupils could read a simple story in Kiswahili or English (Uwezo, 2018). Poor reading achievements are exacerbated by many factors, among them pre-service training that is characterised by limited reading instructional and pedagogical content knowledge, which could empower teachers to teach beginning readers (Wawire, 2020). Ogetange and Wanjohi (2018) point out that grade 3 teachers have inadequate training on teaching reading skills. They recommend professional training and regular retraining of teachers through workshops, in-service courses and seminars to equip teachers with skills to teach reading.

A research by Uwezo (2021) conducted in Meru County established that several learners in early years classrooms had problems reading sounds, letter names, reading speed, fluency and reading comprehension. The report indicates that there has been no significant improvement in reading skills achievements since the start of the assessment in 2009, but instead, there are losses, probably due to the COVID-19 pandemic. Learning

outcomes in reading skills have consistently remained stagnant over the years, where only about 3 out of 10, that is, 30% of learners in grade 3 can competently perform grade 2 English reading tasks. The assessment further confirms that only 2 in 5 (20%) of learners in grade 4 meet expectations in appropriately reading a grade 3 English text. Poor reading achievements by learners in lower grades could mainly be attributed to ineffective methods of teaching reading, among other factors. Despite the recognized importance of phonics, research on its application in Kenya's lower primary schools remains limited, and the majority of studies focus on higher education levels or general literacy factors. This gap in research, coupled with the continued stagnation in national reading achievement levels, highlights the urgent need to examine teacher-related dynamics in the use of phonics for early reading instruction.

1.1 Objectives of the Study

- To establish whether there is a relationship between teachers' level of training in the phonics approach and achievement of reading skills among grade one learners in Meru County

1.2 Research Hypothesis

Ho1: There is no significant relationship between teachers' level of training in phonics approach and achievement of reading skills among grade one learners in Meru County

2. Literature Review

2.1 Theoretical Review

This study was guided by Gough and Tunmer's Simple View of Reading theory (1986) and Lev Vygotsky's social-cultural theory (1987). The two theories supplemented each other, thus providing a concrete foundation for a theoretical framework. The Simple View of Reading theory (SVR) is based on a mathematical formula that emphasizes reading comprehension as comprising two fundamental components namely decoding (word recognition) and listening comprehension (language comprehension). The formula shows that Reading Comprehension (RC) = Decoding (D) x Language Comprehension (LC). The theory assumes that reading comprehension (understanding prints) depends on the learners' decoding skills and language comprehension. The learners' language comprehension is not normally a teachable skill, unlike decoding, which is a teachable skill. Decoding of the written word is based on the principles of phonics, whereas language comprehension can be inferred or predicted through mental processes such as thinking, reasoning, imagining, interpreting, past experiences with language or the context.

The theory is applicable to the study since it clearly emphasizes decoding as an important component in learning to read, which is the main focus of the study. Learners taught through a phonics approach are likely to have strong decoding skills, thus more likely to achieve reading comprehension. When decoding is the central focus of

instruction, learners are taught to sound out unfamiliar words using the letter sounds, which help them achieve maximum reading potential at an early stage. The theory may be of great impact in guiding teachers and other stakeholders in using appropriate reading approaches, such as phonics, to help bridge children's reading gaps. Reading skills are not naturally acquired but can be significantly attained in a socio-cultural context. It is a teachable skill that requires an expert or someone who is more knowledgeable, such as a teacher, to guide the child in decoding words as proposed by Lev Vygotsky (1978, 1987).

On the other hand, Vygotsky (1978) believed that cognitive development occurs through children's interactions with More Knowledgeable Others (MKO) such as teachers, peers and parents who act as guides, facilitators and coaches. Vygotsky's theories stress the fundamental role of social interaction and culture in the development of cognition (Vygotsky, 1978). Tasks such as reading may be too difficult to master alone, but can be learned with guidance and assistance from the teacher in a social context. The theory is based on two main principles referred to as the lower limit and the upper limit. The theory relates to the current study since reading is a complex skill that cannot be effectively acquired in the absence of a trained or skilled person, such as a teacher. Reading is not inborn; thus, our brains must be taught to read (Houston *et al.*, 2024). The reading process cannot be realized by the child in a vacuum. Deducing that spoken word (speech) can be represented through a written version and decoding the word is a complex process for a beginning reader. The teacher needs to assess what the child can do independently (pre-test) to ascertain the current status of the learner and thereafter assist the child (scaffold) through phonics instruction.

2.2 Empirical Review

Teacher quality, in terms of level of training in the phonics approach, can be a strong predictor and can also positively correlate with pupils' reading attainment. It is through training programmes that teachers can be equipped with knowledge, skills and advice on using results-oriented reading approaches such as phonics (Chris *et al.*, 2021). Teachers need to sufficiently understand the dynamics of scientifically proven reading techniques such as phonics. Owing to the impact of teacher training on reading implementation, teachers need adequate training to be able to use effective methods of teaching reading, such as phonics (Scull & Lyons, 2024). However, Ellis *et al.* (2023) validate that teacher trainers and preparation programs are inadequately trained to teach reading through phonics. Additionally, teacher training programs rely too much on theories with no or little practical foundations informed by scientific research. Predominantly, most of the teachers have not been explicitly and comprehensively trained to teach reading during their years of training. For example, Bear *et al.* (2020) noted that there are twenty-six letter symbols and individual sounds that beginning learners need to be introduced to for reading and spelling purposes. Moreover, Chen *et al.* (2022) maintain that the basic concepts of phonics instruction entail recognising letters and their sounds, blending them into words and phonics decoding rules for short and long vowel words. Ren (2020) points

out that to assist learners in reading new words, teacher training colleges and pre-service teachers need to be instructed to teach the International Phonetic Alphabet (IPA).

Thompson and Centre on Public Leadership (2023) reiterate that teacher training institutions are failing to prepare teachers in the science of reading that focuses on the phonics approach. However, Seidenberg (2020) contends that teachers should not be blamed, but rather the blame should be on those who taught them. Ellis *et al.* (2023) conclude that over 40% of the teacher programs teach teacher trainees content that is contrary to research-based practices. Notably, Ellis *et al.* (2023) in their study in America found that only 28% of the undergraduate and graduate teacher education programs fully focused on all five key components of reading instructions. The study further established that another 22% of the teacher training programs did not adequately focus on any of the five components, such as phonics, phonemic awareness, fluency, vocabulary and reading comprehension. However, it is not clear whether the level of teacher training on phonics had an impact on teaching reading in early childhood.

Adamu *et al.* (2020) maintain that despite the critical importance of teaching phonics, which is a fundamental skill for reading acquisition, there is inadequate teacher training on effective reading approaches with regard to phonics. In a study in Tanzania, Kamanzi and Seni (2024) revealed that teachers had limited training on reading skills, which in turn challenged their pedagogical knowledge in using the phonics instructional approach. Likewise, Mrutu and Kulwenza (2024) assert that gaps still remain in teacher training, as most of the teachers have insufficient training in foundational literacy methods, especially the phonics approach. The study established that many teachers with limited training in phonics approach switched to the whole word approach, where words were taught as wholes without splitting them into manageable elements. Nonetheless, teachers expressed concerns that despite the advantage of the method in aiding comprehension using prior knowledge and words in context, learners struggled with unfamiliar words because of their limited decoding skills.

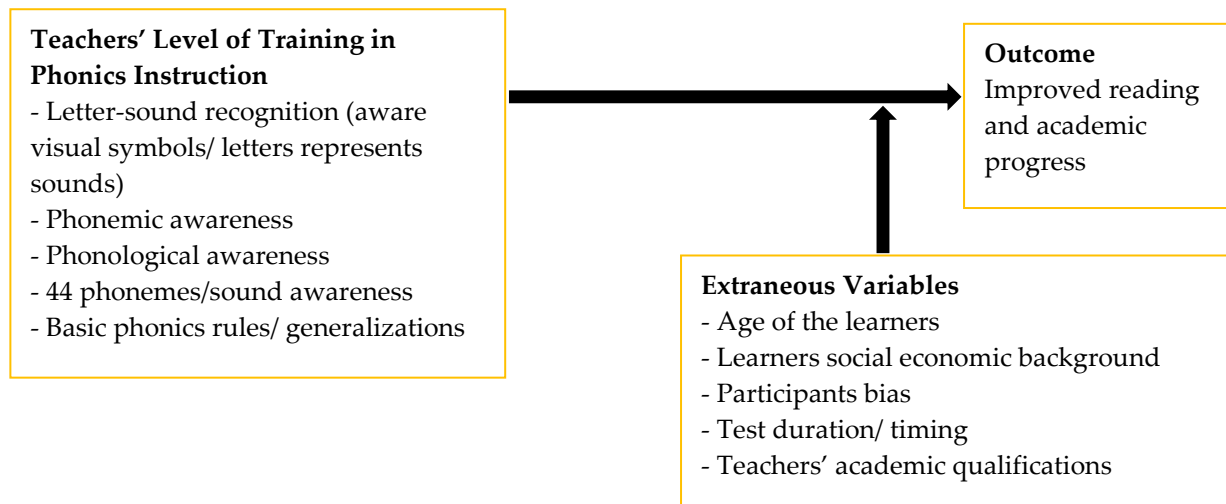
Njiru and Karuri (2024) affirm that though the phonics approach is gaining popularity in reading instruction in Kenya, teachers do not have the phonemic competencies required to effectively instruct learners with phonemic problems. Learners with phonemic problems are often labelled as slow learners and do not get any help from their teachers; thus, they are left to struggle with reading. The problem is exacerbated by insufficient teacher preparation during the pre-service training period. Similarly, Ngure, Mwoma and Buna (2019) indicate that reading levels in lower primary schools in Kenya and other regions fall short of the expected standards, yet very little has been done to establish the cause. Notably, all these studies are very crucial in informing and adding value to the body of knowledge on the missing links in the teacher training institutions, which are key teacher manufacturers. However, none of the studies reviewed focused on teachers' level of training in the phonics approach in enhancing reading achievements, particularly in grade one. Most of the reviewed studies have not concentrated on the levels to which teachers have been trained in phonics instruction, yet they are expected to resolve the ongoing reading crisis. Focusing on core phonics areas such as knowledge

levels in letter-sound symbols, cognizance in terms of letter sound articulation, awareness of the 44 English phonemes, basic phonics rules, word families or generalizations, and short and long vowel sounds may remedy the reading dilemma.

2.3 Conceptual Framework

Figure 1 presents a diagrammatic illustration of the relationship between teachers' level of training in the phonics approach and achievement of reading skills.

Figure 1: Conceptual Framework



3. Methodology

3.1 Study Area

The study was carried out in Meru County, Kenya, based on several factors, among them findings by Uwezo Kenya national assessment. The majority of learners, especially in public primary schools, have consistently been unable to demonstrate basic reading skills since the first national assessment in 2009 (Uwezo, 2021). The low reading levels cut across all classes to the extent that out of 1000 children completing class eight, 50 cannot read a class two story, while one out of four (25%) of children in class 5 cannot read a story of class two level. Meru County Schools are not an exception to this trend, whereby a number of children in early childhood classes are characterised by an inability to read at the expected levels. There has been public outcry over poor performance in the KCPE and KCSE examinations in Meru County over a long period of time. For example, before national KCPE and KCSE rankings were abolished in 2014, Meru County was ranked in position 33 out of 47 Counties in Kenya for two consecutive years in KCPE in 2012 and 2013 (Ministry of Education, 2012; 2013).

The County was ranked in position 33 out of the 47 counties countrywide both in 2020 and 2016 (Knec, 2020; 2016), thus suggesting a negative trend between the years 2016 and 2020. This was an indication that the county has not been doing well, especially in the English language.

3.2 Research Design

The study adopted an in-depth descriptive survey design utilising causal comparative and quasi-experimental designs. An in-depth descriptive survey design was found appropriate for this qualitative study for examination of intensive, extensive and in-depth data (Villamin *et al.*, 2024). The design enabled the researcher to gather in-depth information concerning the teachers' level of phonics approach training and the achievement of children's reading skills. Causal comparative design was used to measure the impact of changes due to treatment (Creswell and Creswell, 2018). A pretest-posttest quasi-experimental design was used to determine the relationship between phonics use and learners' reading achievements before and after treatment (Isnawan, 2022).

3.3 Study Population

The research population includes 1,397 primary school teachers, 61,870 learners in grade one classes in 1199 public and private primary schools in Meru County (Meru County Education Office, 2021). Learners in grade one classes were the targeted population since these learners are assumed to have spent almost two years in pre-school and have gained substantial basic reading skills in grade one. Learners in grade one classes were targeted since this level of learning to read is the pillar for a child's future academic success. Grade one teachers were also included in this study as they are the key pillars and prime movers in the implementation of the English language learning activities, mainly reading skills. Teachers are basically involved in the daily routine of curriculum content implementation; therefore, they are central figures in this study.

3.4 Sampling Procedure and Sample Size

Probability and non-probability sampling methods using cluster, simple random, multi-stage and purposive sampling techniques were employed. Cluster sampling was found necessary to sample subjects in various categories of schools, such as public, private, rural and urban schools for comparison purposes. This was achieved by putting all public, private, rural and urban schools into clusters, followed by randomly selecting the required school samples. A simple random sampling technique was used to select the required number of schools and teachers from each cluster. A sampling frame that comprised various categories of schools was obtained from the County Director of Education. Sampling was subjected to some further conditions so as to yield suitable samples. Schools with less than 30 learners did not meet the expected conditions of an experiment that requires a minimum sample size of 30 cases for individual, blocks or clusters (Singh 2023; Naz, 2024). Only those who purported to be using a phonics approach were purposely selected after meeting the required conditions. There were 99 teachers from 99 schools that indicated using phonics. The next step in the multi-stage cluster sampling was dividing the 99 teachers into sub-groups or subsets of teachers into the public rural, public urban, private rural and private urban. From the four clusters, schools with more than 30 learners were purposely considered. In total, there were six equal treatment and control groups. In this case, the total sample consisted of 12 teachers

in 12 grade one classes who were finally subjected to either the control or intervention groups. It was necessary to sample learners from schools where the sampled teachers were using phonics. There were 99 teachers spread throughout the 99 schools where it was possible to select learners. However, all learners from the 99 identified schools could not be involved in the rigorous process that characterises quasi-experimental studies. Purposive sampling entailed scrutinising data on the number of grade one learners enrolled in each of the 99 schools as sought from the County Education Offices. There were 6 schools that had 2 streams with more than 30 grade one learners who eventually formed the sample size. Finally, the sample consisted of 6 schools, that is, one from each region, adding up to a total of 12 grade one teachers and 12 classes.

Krejcie and Morgan (1970) formula was used to determine the sample size. The sample for the study was drawn at two levels, that is, the teachers and the learners. The procedure for sampling teachers entailed deducing the required sample of 248 teachers from the targeted population of 1397 selected as per cluster, that is, 87 teachers in rural public schools, 50 urban public schools, 37 rural private schools and 74 urban private schools drawn randomly. A general survey that sought to identify teachers who indicated using a phonics approach was established. Out of the 248 teachers teaching learners in grade one classes, 99 of the teachers indicated that they were using the phonics approach, therefore forming the working sample of teachers. Consequently, a total of six streams were randomly assigned to intervention and another group of six grade one streams was assigned to control procedures, making a total of 12 streams/classes. Schools that met the said conditions as per the requirements of quasi-experimental design finally had their grade one learners being subjected to pretest, treatment or control and post-test to statistically ascertain effect sizes due to treatment. Eventually, an actual total number of 400 learners in 6 schools comprising 12 classes participated in the study.

Table 1: Distribution of Sample

Category	Total Population	Sampling Method	Sample	Actual Sample Size
Schools	1,199	Cluster/Simple random	234	6
Teachers	1,397	Cluster/multi-stage cluster/Purposive	248	99
Learners	61,870	Cluster/purposive	400	400
Total	64,466		882	505

Source: Meru County Education Office: 2021.

3.5 Tools for Data Collection

A semi-structured interview schedule was found appropriate to gather information. This was through a few focused, predetermined questions, as teachers were able to give detailed information on training in the phonics approach through in-depth probing. The tool allowed teachers an opportunity to ask questions and for clarification on contentious areas, thus increasing the validity of the tool. Observation schedule was preferred as a primary data collection tool to gather direct information from teachers and learners during the English language lesson. It was considered an appropriate tool since it did not rely on teachers' thoughts, perceptions or what one says, but it entailed direct, first-hand,

witnessed data in a real, natural classroom situation. The researcher adapted the test from Hasbrouck's (2017) assessment tool (Quick Phonics Screener) and Early Grade Reading Assessment tool (EGRA) to collect data. A pre-test and post-test were administered to assess the learners' competencies in phonics use and reading skills. It was designed to assess beginning readers to assist teachers in quickly and accurately diagnosing the learners' instructional needs in phonics and decoding skills. It is a criterion-referenced assessment tool which is not timed but measures learners' ability to decode, pronounce and recognize phonetic concepts such as letter names, letter sounds, consonant digraphs, short vowels, long vowels, and silent letter words, among others (Hasbrouck, 2017). Similarly, some components from the Early Grade Reading Assessment (EGRA) tool, which is internationally and regionally recognized were adapted to complement the Quick Phonics Screener (QPS). The EGRA tool was considered very essential in the current study since it comprises lower-order reading skills such as letter-sound knowledge, phonemic awareness and decoding skills, which have been found to be predictive of later reading achievement (Snow, 2007).

3.6 Techniques for Data Collection

Prior to the study, the researcher made visits to the 6 schools to familiarize themselves with the school administration, mainly the head teachers, teachers, and learners. All the study participants, including the head teachers of the schools, were given the authorisation letters from the County Commissioner and County Director of Education and were further briefed on the purpose of the study. All the teachers and the head teachers in the 6 schools gave informed consent to participate in the study and voluntarily assisted where needed. The researcher used to report to the schools very early in the morning and attended the morning school assembly sessions or class-level assembly. After the assembly, the researcher interacted with both the teachers and learners in all the schools' routine tasks, such as morning lessons, tea break, outdoor play activities, mid-morning learning activities, lunch time, resting time, up to the time the learners were released to go home.

After being granted permission by the school administrators, the researcher proceeded to the classes that were sampled, met the teacher and learners who were already familiar with the researcher. The researcher would briefly explain to the regular class teacher what was expected during every visit while ensuring minimum class interruptions. Data collection began by observing teachers as they taught in class to avoid providing a stimulus. An observation schedule was used to measure the frequency of teachers' use of phonics instruction and phonemic elements in teaching reading. To minimize the observer's effect during lesson observation, the researcher avoided interrupting the normal running of the school by observing the lessons as they appeared on the timetable. The observations were carefully noted down in a notebook by tallying the frequencies of use of certain phonics elements or phonemic skills by the individual teacher in three separate lessons lasting 30 minutes. Specific key areas that were observed included tallying the frequency of certain phonics elements such as the 26 phonemes,

short vowel words syllables, long vowel words, double sound words and application of simple phonics rules. Phonemic skills/ strategies observed entailed phoneme blending, segmentation, isolation, manipulation strategies such as phoneme addition, subtraction or deletion.

Interviews were conducted after observations to avoid participants knowing what the researcher was looking for, hence pre-empting the content on the observation schedule. The face-to-face interviews lasted for about 40- 50 minutes per the teacher in all schools, conducted after the teacher completed the required school activities. During the interviews, the spoken words were recorded using a notebook and a voice recorder. The voice recorder was a necessary tool that helped the researcher to back up or capture all the details that could otherwise be omitted, as the researcher noted down what was discussed. The voice recorder was referred to during the data organization and analysis process. Direct quotations were transcribed and recorded in the notebook. The tool was considered appropriate for qualitative data collection since both the researcher and the interviewee had a chance to get clarifications whenever there were any misinterpretations. In-depth data was guaranteed since the researcher could use probing skills to get reliable data.

Finally, quantitative data were collected through the researcher's self-designed and validated achievement tests adapted from Hasbrouck's Quick Phonics Screening tests and Early Grade Reading Assessment (EGRA). The choice for adapting the two tests was to complement each other in terms of each test's strengths and weaknesses. The lead researcher, together with the already oriented research assistants (regular class teachers) selected from the participating schools, administered the pre-test (Appendix III). The pre-test administered to the learners was meant to gauge the learners' current reading status as well as their entry reading behaviour. The participating learners involved in the quasi-experiment were from the 6 schools with a total of 12 grade one classes. Schools that had two grade one classes together with their teachers participated in the quasi-experiment such that in every school, one grade one class was randomly assigned to the intervention and the other stream assigned to control procedures. Pre-test was administered to individual learners with the help of the class teachers, mostly during break time, lunch time and in the afternoon when learners were free from regular class activities.

Intervention using phonics approach elements, phonemic and phonological strategies was provided to learners in six grade one classes for a period of one and a half months. Intervention through the phonics approach was done by the regular class teachers (research assistants) in the presence of the researcher. Instructional guidelines, drawn from grade one curriculum design, were used to orient the participating class teachers. The other six grade one classes assigned to control procedures were also taught by their regular class teachers, but were taught conventionally using a phonics approach, such as whole word (sight) or whole language method. The same procedures used during pre-tests were followed during the administration of post-tests, and the scores were computed in readiness for analysis.

3.7 Piloting of the Research Tools

The research instruments were piloted on teachers and learners in one public and one private primary school in Meru County that were not included in the final study. The two schools, representing about 1% of the entire sample size as recommended by Orodho (2010), were randomly selected after clustering them first into public and private to reduce any biases. Four teachers teaching grade one classes in the selected pilot schools were observed while teaching and later interviewed to ascertain the appropriateness, feasibility and worthiness of the study tools. While the teachers were teaching during the English language lessons, the researcher noted down key areas that needed to be adjusted or improved to ensure quality. After piloting the instruments, two irrelevant items in the interview guide for teachers were excluded since they were redundant. For example, the word "strategy" was used in the first item in the interview guide and the word "approach" was used in the second item in the interview guide. This was found to be a repetition and was thus eliminated. Other errors that were rectified were items that were lengthy to comprehend, ambiguous, unclear, and thus modified.

3.7.1 Validity

Content validity was ensured by ensuring that all the topics were fully covered in all the study instruments, namely the interview schedule and questionnaires for the teachers and the reading test for the learners. Consequently, construct validity was established by correlating and comparing both pre- and post-tests reading scores with EGRA for grade one, which was found to have a correlation coefficient (r)= 0.75. A correlation coefficient between two instruments measuring the same construct, such as reading achievements above (r)= 0.60, is said to be high, implying that it was accurate, right, dependable and obtained what it was supposed to measure (Kasomo, 2007). Triangulation was also made possible through comparing different viewpoints of the respondents during the interview and what was evident during the observations. Where there were significantly varying responses noted, the researcher made clarifications through seeking feedback from the respondents, thus coming to an agreement and ensuring validity.

3.7.2 Reliability

One of the ways of ensuring reliability was by visiting the schools under study prior to the commencement of the actual study. This was meant to ensure initial familiarity with the study schools, study respondents and reduce stranger anxiety. Learners and participating teachers developed confidence, honesty and trust with the researcher, hence credibility was ensured. Research professionals were also consulted and engaged in reviewing the ongoing study work, especially during pre-testing of the instruments. Reliability of qualitative items was ascertained through frequent debriefing sessions between the researcher and respondents. In addition, the researcher invited respondents to read transcripts of dialogues in which they had participated to confirm authenticity. Feedback from the participants was useful in establishing reliability since they confirmed their actual dialogues, hence clarification was done where necessary. Test-retest

reliability was further utilized to correlate pre-test and post-test scores administered during piloting at different times rather than once. The same learners in the same pilot schools were subjected to pre-tests and post-tests during the second week of the piloting process, and the scores correlated with the scores of the same tests administered after two weeks. Correlation coefficients for the two tests computed using Cronbach's alpha-internal consistency were found to be $\alpha=0.80$ and $\alpha=0.75$ for pre-test and post-test, respectively. A measure between $\alpha=0.7$ and $\alpha=0.9$ is acceptable, meaning the current achievement tests were found to be reliable. Adjustments, improvements or corrections were made to the study tools while conducting observations, interviews and test administration.

3.8 Data Analysis

The researcher employed thematic analysis in order to categorize data based on shared characteristics in relation to particular research inquiries, as well as similar findings gathered under overarching themes and assigned codes. The organization and synthesis of both quantitative and qualitative data involved summarization, quantitative content analysis, tabulation, and the creation of tables and pie charts for additional examination. A thematic analysis and coding helped evaluate textual data from the interviews to arrive at a conclusion. Quantitative data were coded and then run through the SPSS (version 26.0) analysis tool. The analysed data were summarized using inferential statistics and presented using tables and graphs. The research hypothesis was answered through descriptive statistics and one sample t-test from the collected data. Additionally, correlation analyses were performed, and the results were used to answer the research hypothesis. Qualitative data was analysed using the content analysis technique, in which words, themes, patterns, and concepts within the texts were determined and arranged as per the study objective. The following null hypothesis was tested:

H₀₁: There is no significant relationship between teachers' level of training in phonics and achievement of reading skills among grade one learners in Meru County.

The hypothesis was tested using the p-values generated from the Multiple Regression Analysis, as expressed as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y = Reading achievements;

β_0 = Constant (coefficient of intercept);

X_1 = Frequency of teachers' use of the phonic approach;

X_2 = Teachers' level of training in phonics;

X_3 = Teachers' experience in teaching phonics; and

$\beta_1 \dots \beta_3$ = Regression coefficient of three variables.

3.9 Logistics and Ethical Considerations

Permission to conduct this study was sought from the Postgraduate School, Kenyatta University. The researcher thereafter sought a research permit from the National Commission for Science, Technology and Innovations (NACOSTI). Likewise, permission to carry out the study in Meru County was sought from the County Director of Education and the County Commissioner. Head teachers of the sampled schools were consulted to allow the study to be carried out in their schools. The researcher asked for permission from the sampled teachers and requested them to provide the researcher with their teaching timetables. This enabled the researcher to prepare a visitation schedule to the schools. The purpose of the research was explained thoroughly to the head teachers and teachers. The researcher obtained informed consent from all the participants by means of a dialogue, during which each participant was informed of the purpose of the study and assured of the confidentiality of the data they gave. Participants were provided with adequate information regarding the procedures that were to be followed during the research. The participants were also assured of their anonymity and the confidentiality of their responses.

4. Findings and Discussions

4.1 General Information

The information with regards to the School Category, Nature of School Administration and Number of Teachers was necessary to guide the selection of the schools that participated in the quasi-experiment procedures.

Table 2: School Category, Nature of School Administration and Number of Teachers

School Category	Nature of the School	Frequency	Percentage
Public	Rural Schools	87	35
	Urban Schools	50	20
Private	Rural Schools	37	15
	Urban Schools	74	30
Total		248	100

Table 2 indicates that the majority of teachers were from the public rural schools, 87 (35%), followed by private urban schools, 74 (30%), public urban schools, 50 (20%) and lastly the private urban schools, 37 (15%). This implies that there are more primary schools situated in rural areas compared to schools located in the urban areas in the County. The information was necessary to guide the selection of the schools that participated in the quasi-experiment procedures.

4.2 Relationship between Teachers' Level of Phonics Training and Achievement of Reading Skills

This entailed establishing approaches teachers were trained in to teach reading during their college period and were using to teach reading skills, teachers' levels of phonics

training and finally the relationship between teachers' level of phonics training and achievement of reading skills. The information on the approaches teachers were trained in to teach reading during their college period is presented in Table 3.

Table 3: Varied Approaches Teachers were
Trained in and used to Teach Reading Skills

Approaches teachers were trained in and using to teach learners to read	Number of teachers trained in using the approach	Percentage (%)
Sound and Read (Phonics)	37	15%
Look and say (whole-word)	47	19%
Whole Language	00	0%
Mixed Phonics and Whole-word (Combined/eclectic)	62	25%
None/No training received at all	102	41%
Total	248	100%

Table 3 indicates that the majority of the teachers (41%) never received any form of phonics-related training to prepare them to teach reading after their college graduation. Other teachers, that is, 19% were trained in the whole word/ look and say approach that mainly depended on exposure to prints or contextual cues. Only 15% of the total number of teachers were explicitly and systematically trained in the phonics approach to teach reading. A total of 25% were trained in teaching reading through a mix of the phonics and whole-word approaches. At least a total of 99 or 40% of teachers had some basic training in either solely phonics or partly phonics/ whole word approaches at varied levels. Comparatively, this means that the rest of the teachers, that is, 60% were trained in whole word/ look and say or never received any training in approaches that could adequately prepare them to teach reading after their college graduation. This implies that the majority of grade one teachers were inadequately trained to teach reading through the phonics approach. This implies that without proper training on reading approaches such as the phonics approach, learners may consistently result in poor reading achievements among learners. The study findings are in congruence with studies by Joshi (2019), Mesmer and Kambach (2022) and Englert *et al.* (2020), who posit that teacher instructors substantially lack comprehensive knowledge of a phonics-based approach to effectively execute quality phonics instruction. Amadi and Grace (2019) also conclude that pre- and in-service teacher trainees' students should be properly exposed, trained and made to adopt phonics during the training since the phonics approach is an effective mode of instructing beginning readers. Similar findings are those by Njiru and Karuri (2024) who reiterate that the majority of the teachers are neither taught reading nor know approaches to use to teach reading.

Table 4: Teachers' Levels of Phonics and Phonemic Training During Professional Training

Teachers' Levels of Training in Phonics Elements, Phonemic or Phonological Awareness or Basic Reading Comprehension	No. of Teachers Trained on This Particular Area	Percentage (%)
Letter- sound symbols knowledge.	50	51
Recognition of the 26 letters and sounds.	29	29
Letter sound articulation (accurate sound reading).	17	17
Phonemic awareness (hear, identify and manipulate sounds such as phoneme isolation, blending, substitution, segmentation, addition, deletion).	2	2
Phonological awareness (awareness of units larger than phonemes (word, syllable, rhyme, onset, rhyme awareness).	1	1
Strategies for reading comprehension	0	0
Awareness that there exist 44 English phonemes.	0	0
Awareness of basic phonics rules (short and long vowel words).	0	0
Awareness of word families/ generalizations.	0	0
Total	99	100

From the findings in Table 4, the majority of grade one teachers, 50 (51%), only received some basic training on the lowest level of phonics that entailed letter-sound symbols' knowledge. Further, 29 (29%) received training on recognition of the 26 letters and sounds and 17 (17%) on accurate letter sound reading. The teachers reported that they were only basically trained on letter-sound symbols' identification and single-sound reading during the English language lessons. Other teachers received some basic introductory subtopics on recognition of visual symbols and the sounds they produce embedded in the English curriculum, but no further training on other essential areas for a comprehensive phonics instruction. Only 3 (3%) of the teachers were basically trained on Phonemic and phonological skills. Teachers who purported to have been trained to teach phonics only received insufficient training in phonemic and Phonological awareness. Other components of reading, such as reading comprehension strategies, awareness of the 44 English phonemes, Phonics rules and word families, were exclusively left out in the teachers' training programmes. These findings show that the greatest percentage of teachers were only trained on the basic level, which only emphasised letter-to-sound relationships without including other very essential areas that could promote proficient levels of reading.

During the interview, one of the interviewees lamented:

"...our tutors in the college never taught us how to use the phonics method".

Another participant amazingly responded:

"...During the training, no guidelines were emphasized to us to effectively use the phonics method".

Another participant in a different school pointed out,

"... throughout my training period, my trainers only mentioned various methods of teaching reading without particularly showing how to use the methods or strategies to help learners in reading comprehension. It is only recently during Tusome programme that the education officers offered us some basic guidelines on phonics use, though the technique still poses challenges to me".

This was an indication that grade one teachers received insufficient professional training on the use of phonics, phonemic and phonological skills and other reading comprehension strategies in helping learners to acquire reading skills. Those who were trained only received some mentions on the topics which entailed the lowest levels of reading through phonics skills, such as identification of letters, sounds and symbols. The most essential levels of phonics instruction, such as awareness of the 44 English phonemes, phonics rules, short and long vowels, phonics word families, phonemic and phonological awareness and strategies for reading comprehension were missing. Inadequate training in the phonics approach, phonemic and phonological skills, which are the pillars for successful reading achievement, may result in consistent reading challenges, which could be mitigated through thorough teacher training. The study is in harmony with Scull and Lyons (2023), who contend that the majority of teachers graduating have limited knowledge and skills in teaching reading. Lane *et al.* (2025) affirm that despite the importance of systematically teaching phonics and phonemic skills in kindergarten and grade one classes, most of the reading curricula do not sufficiently incorporate foundational skills during their teachers' training. Similarly, Haile and Mendisu (2023) accede that teacher trainers teaching in-service and pre-service programs have significantly limited knowledge and skills to execute an effective, efficient and quality phonics instruction. Teachers have been found to undergo training devoid of phonics and phonemic instruction, thus posing a challenge in teaching reading after college graduation. Wawire (2020) concludes that the teacher training curricula have limited content and pedagogical content knowledge on phonics, which are crucial elements for equipping teachers to teach emergent readers. Generally, the findings manifest a weak attention on teacher training, particularly on teaching reading through phonics and phonemic programs despite its substantial gains.

4.2.1 Relationship between Teachers' Level of Phonics Training and Achievement of Reading Skills

The Entry Behaviour Test (pre-test) was designed for situational analysis of the learners' current reading status before the start of the treatment process in the selected schools. A total of 12 grade one classes in 6 schools were assigned to either the control or intervention group. After computing pre-test scores for schools where teachers were trained on varied levels, the results were compared against the actual levels of phonics

training to correlate teachers' level of phonics training and achievement of reading skills. The findings are presented in Table 5.

Table 5: Relationship between Teachers' Level of
Phonics Training and Achievement of Reading Skills

Teachers Levels of training in phonics	Pre-test average scores for grade one learners taught by teachers trained on only one/ the first basic phonics level	Pre-test average scores for grade one learners taught by teachers trained on all the three basic phonics level
1. Letter-sound symbols knowledge	185.72	277.15
2. Recognition of the 26 letters and sounds	0	277.15
3. Letter sound articulation (accurate sound reading)	0	277.15
Percentage Average scores	30.95	46.19

From the findings in Table 5, the study established that the more the learners were taught by teachers who had initially been trained in varied phonics levels, the better their reading competencies. For example, the total pre-test percentage score for grade one classes with teachers trained on only one basic phonics level was 30.95% compared to 46.19% for schools with teachers trained on three basic phonics levels. The study established that the more the teachers are trained on varied phonics levels, the better the outcomes in reading achievements and vice versa. This implies that there is a relationship between teachers' level of phonics training and achievement of reading skills among grade one learners in Meru County. However, although there was a significant difference of 15.17% for the two groups, the level of training on phonics was notably low. The findings are in agreement with those by Taylor (2019), who maintains that a substantial number of teachers have insufficient skills in teaching reading. Ellis *et al.* (2023) underscore that teacher trainers instructing in-service and pre-service modes have notably insufficient knowledge to execute quality and effective phonics-based instruction. The trainers are inadequately trained to teach reading through phonics. Chen *et al.* (2022) assert that training in basic concepts of phonics instruction is an essential component in reading instruction. Kamanzi and Seni (2024) reveal that teachers have insufficient training on reading skills, thus posing challenges in using the phonics instructional approach. Likewise, Njiru and Karuri (2024) affirm that teachers do not have the phonological competencies required to instruct learners with phonemic challenges. Nevertheless, most of the findings indicate a weak emphasis on teacher training, particularly training of teachers in teaching reading using the phonics-based approach. Consequently, this may be a strong predictor of poor reading competencies exhibited in

the subsequent classes. It is therefore essential to extensively and comprehensively embark on quality teacher training on decoding competencies since millions of young learners needlessly labelled as reading failures could be as a result of teacher trainees having insufficient training on how to teach reading. The same findings were subjected to null hypothesis testing as follows:

H₀₁: There is no significant relationship between teachers' level of phonics training and achievement of reading skills among grade one learners in Meru County.

To test the relationship between teachers' level of phonics training and achievement of reading skills among grade one learners, a multiple regression analysis test was utilized. Individual correlation coefficients of the independent variable (teachers' level of training in phonics) are presented in Table 6.

Table 6: Multiple Regression Correlation
Coefficients for each of the Three Independent Variables

Model		Unstandardised Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	1.341	1.423		.942	.010
	Status of teachers' use of Phonic approach	.729	.130	.466	2.519	.004
	Teachers' level of training in phonics	.862	.279	.404	2.015	.000
	Teaching experience	-.400	.201	-.517	-1.996	.064
a. Dependent Variable: Reading Skills						

$$Y = 1.341 + 0.729X_1 + 0.862X_2 + -0.400X_3 + \varepsilon$$

Findings as indicated in Table 4.13 reveal that, the multiple correlation of independent variable teachers' level of training on phonics and the dependent variable Reading skills indicated that there existed a high positive correlation between teachers' level of phonics training and achievement of reading skills among grade one children in Meru County (B = 0.862). Multiple regression analysis test results, as indicated in Table 6, reveal that the null hypothesis was therefore rejected. At 5 percent level of significance, the independent variable (Teachers' level of training in phonics) was statistically significant ($p = 0.000 < 0.05$). Since the p-value was less than 0.05, the researcher had enough evidence to reject the null hypothesis that teachers' level of phonics training does not significantly influence the achievement of reading skills among grade one learners in Meru County. From the above statistics, having the probability (p) value at .000, which was less than 0.05, means rejecting the null hypothesis thus accepting the alternative hypothesis that there is a significant relationship between teachers' level of phonics training and achievement of reading skills among grade one learners in Meru County (B=0.862). This implies that teachers who were trained on certain levels of phonics used the skills in teaching reading, hence their learners had better reading achievement. For example, learners whose teachers used varied phonics elements had their pre-test scores significantly higher than

those whose teachers used phonics at a lower level or basic level. The higher the level of the teachers trained in phonics elements, the higher the pre-test average scores for grade one learners, indicating a positive relationship ($B=0.862$).

This study outcome is in agreement with findings by Putri *et al.* (2024) who accede that the degree to which teachers were trained in the use of phonics components corresponded to learners' increased reading achievements, especially accurate pronunciations and vocabulary spurt. The method should be emphasized as it strengthens learners' early understanding of English, lays a firm foundation, and is a powerful instructional tool for reading achievements. The findings also coincide with those by Putri (2023), who concludes that phonics instructional use relates to increased decoding skills, hence recommends that phonics instruction needs to receive greater attention to resolve pupils' learning challenges. Likewise, Njiru and Karuri (2024) contend that it is important that teachers need to be properly trained to have sophisticated letter-sound knowledge, phonemic and phonological awareness, since their integration results in the acquisition of early literacy skills.

5. Conclusions and Recommendations

5.1 Conclusion

The study concludes that there is a strong relationship between the level of teachers' training in the phonics approach and reading achievements. The higher the level of training on varied phonics, phonemic and phonological awareness skills, the higher the reading achievements. Nevertheless, the majority of teachers were inadequately trained on critical phonics knowledge areas such as awareness of the 44 English sounds of letters, phonemic skills, as well as basic phonics rules such as short and long vowels. Teacher-related dynamics, especially teacher training in the use of the phonics approach, are a key determinant of learners' reading achievements. Adequate training of teachers is an essential component that can resolve the continuous reading crisis that has been experienced over several decades.

5.2 Recommendations

The study found that teachers' training in phonemic and phonological awareness was inadequate. However, a strong positive relationship existed between the level of phonics training and learners' reading achievement. The more comprehensive the training in phonics elements, the higher the learners' reading performance. To improve reading outcomes, it is critical to strengthen teachers' training in phonics, particularly in phonemic and phonological awareness. Training programs should focus on comprehensive phonics instruction that covers a wide range of phonics elements. Teachers should be offered continuous professional development opportunities to deepen their knowledge and enhance their phonics teaching skills, leading to improved reading achievement among learners.

Acknowledgement

First and foremost, gratitude goes to my supervisors, Dr. Wanjohi Githinji and Prof. Teresa Mwoma, for their professional guidance, resourcefulness, frequent feedback and expertise, which shaped and sharpened my research skills up to completion. My profound gratitude goes to all the study participants, research assistants and the institutional staff who participated in the study. I am also grateful to my professional colleagues who tirelessly dedicated their time and excellent constructive criticisms for a well-refined document. I wish to thank the entire academic staff members of Kenyatta University Department of Early Childhood and Special Needs Education, the University examiners and the defense panellists who provided a scholarly critique. I am also indebted to those who took me through the coursework for their invaluable suggestions and recommendations – Prof. Gladwell Wambiri, Prof. Teresa Mwoma, Dr Rachel Kang'ethe, Dr Maureen Mweru, Dr Esther Waithaka and Wycliff Akaka. Special thanks go to my wife, Charity Kawira Kinyua and my children, Rodgers Koome and Joy Makena Kinyua, who gave me moral and financial support. Last but not least, Meru ECE Teachers' Training College office staff: Macklon, Margaret, Daniel P.O., Duncan and Tharaka University staff Prof Karuri, Dr Charles Mwirigi and Dr Njagi, who also need special mention for being compassionate and for offering technical support in editing, data analysis and typesetting.

Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Author(s)

Martin Kinyua M'amai is a Lecturer in the Department of Education, Faculty of Education at Tharaka University. Before joining Tharaka University, Martin served as a part-time Lecturer in the Department of Education at Chuka University from 2015 to 2019. Prior to joining and working at the University, Martin served as the Director of Meru Early Childhood Education Teachers Training College, Tharaka ECE TTC and Mumoni ECE TTC from 2008 to 2022. He previously worked as Deputy Principal Kitui ECE TTC, Early Childhood Development and Education Officer under Christian Children's Fund Int'l (CCF) based in Loitoktok Mt. Kilimanjaro Cluster, Amicus College in Conjunction with Froebel College of Education Dublin (Ireland), Kiraria Primary School, Redemmed Gospel Christian School Gitimbine, St. Patrick's Hill School Kiserian and St. Christopher's Int'l School among others. Other accomplishments include-Guidance and counselling, Schools and Colleges workshop facilitator, Youth mentorship, Motivational speaker, Youth life skills trainer, Mental Health facilitator.

Dr. Wanjohi Githinji is a Senior Lecturer in the Department of Early Childhood and Special Needs Education at Kenyatta University, with expertise in education research. He is an accomplished educationist, policy advisor and lecturer at Kenyatta University's Department of Early Childhood and Special Needs Education. He has a PhD in Education focusing on Early Childhood Studies, with a wealth of academic insight and practical

experience in education systems, policy implementation and capacity development. Dr. Wanjohi is a respected voice in the field of child development and education policy. He has conducted extensive research and training on early childhood education, curriculum reform and inclusive practices. He has also been instrumental in the design and rollout of programs aimed at enhancing the quality of learning environments for young children. Currently serving as the Chairman of the Nyeri County Education Board, Dr. Wanjohi provides strategic leadership in education governance, policy domestication and stakeholder engagement. His commitment to child-centered policies has informed county and national-level dialogues on education reforms.

Prof. Teresa Mwoma is an Associate Professor at Kenyatta University in the Department of Early Childhood and Special Needs Education. She is the Executive Director, African Council for Distance Education and the 1st African woman to head the Council's Secretariat. Before joining ACDE, Prof. Mwoma was managing higher education in emergencies for refugees in Kakuma and Dadaab refugee camps in Kenya. Prior to that, Prof. Mwoma was the Director of the International Centre for Capacity Development Kenyatta University. In addition, Prof. Mwoma is the founder and National Coordinator of the Early Childhood Development Network for Kenya (ECDNeK) hosted in the Department of Early Childhood and Special Needs Education Kenyatta University. Through ECDNeK, Prof. Mwoma has championed the ECD agenda in Kenya since 2015. Prof. Mwoma is currently supporting Tharaka Nithi County Childcare programme funded by The Gates foundation as part of the Kenyatta University and Yale University Randomized Control Trial as Co-Principal Investigator, Curriculum Intervention. Besides that, Prof. Mwoma has successfully mentored and supervised over 40 postgraduate students who have graduated with Masters and PhD in early childhood studies in the Department of Early Childhood and Special Needs. She is the Kenya Country Coordinator for the European Early Childhood Education Research Association. She is a researcher and consultant in early childhood development, care and education with over 25 years' experience in the field of early childhood. She has conducted over 20 studies focusing on children's learning, development and care. Prof. Teresa has taught several courses in early childhood studies at institutions of higher learning. She has trained preschool teachers in various institutions of early childhood education and taught preschool children both in rural and urban setups. Her research interest is to find solutions that can enhance nurturing care to promote children's development and wellbeing through research, capacity building, programming, advocacy, and policy. She is now venturing into open, distance and e-learning. Prof. Mwoma is determined to influence policy and uptake of open, distance and e-learning in Africa, borrowing on lessons learned from COVID-19 indicating that education cannot survive on face-to-face learning alone, but by embracing virtual learning. Prof. Mwoma is a DAAD scholar who holds a Ph.D. in Early Childhood Studies from Kenyatta University. She also completed a Post-Doctoral Research Fellowship in Education and Care in Childhood from the University of Johannesburg, South Africa. She was a Visiting Scholar at the University of Agder, Norway, in 2020.

References

- Adamu, A., Tsiga, A., & Zuilkowski, S. (2020). Teaching Reading in Northern Nigeria: The Challenges of Large Class Size. *Pedagogy, Culture and Society. Advance online publication* 30(2). <https://doi.org/10.1080/14681366.2020.1794948>
- Amadi, E. & Grace, C. Offorma. (2019). Effects of Two Phonics Instructional Modes on English as a Second Language Learners' Achievement in Reading. *Studies in English Language Teaching* 7, (2), 236. <http://dx.doi.org/10.22158/selt.v7n2p236>
- Ayiera, A. (2023). Kenya Needs to Invest in Advancing Literacy and Numeracy Skills in Early Grades. *TaRL, Africa*. Retrieved from <https://teachingattherightlevel.org/kenya-needs-to-invest-in-advancing-literacy-and-numeracy-skills-in-early-grades-2/>
- Boardman, K. (2020). "Too Young to Read": Early Years Practitioners' Perceptions of Early Reading with Under-Threes. *International Journal of Early Years Education*, 28(1), 81-96. <http://dx.doi.org/10.1080/09669760.2019.1605886>
- Chen, M., Yin, G., Goh, H., Soo, R., Harun, R., Singh, C., & Wong, W. (2022). Theoretical Review of Phonics Instruction Among EFL Beginner-Level Readers in China. *International Journal of Academic Research in Progressive Education and Development*, 11(2), 449–466. Retrieved from https://hrmars.com/papers_submitted/13141/theoretical-review-of-phonics-instruction-among-efl-beginner-level-readers-in-china.pdf
- Chen, S., Zhao, J., de Ruiter, L., Zhou, J., & Huang, J. (2022). A burden or a boost: The impact of early childhood English learning experience on lower elementary English and Chinese achievement. *International Journal of Bilingual Education and Bilingualism*, 25(4), 1212-1229. <https://doi.org/10.1080/13670050.2020.1749230>
- Chris, C; Steve, H; Louise, G & Pauline, D. (2021). The effect of different teacher literacy training programmes on student's word reading abilities in government primary schools in Northern Nigeria, School Effectiveness and School Improvement. *An International Journal of Research, Policy and Practice*, 33(2):1-20. <https://doi.org/10.1080/09243453.2021.1991960>
- Clemens, N. H., Solari, E., Kearns, D. M., Fien, H., Nelson, N. J., Stelega, M., Burns, M. K., St. Martin, K., & Hoeft, F. (2021). *They say you can do phonemic awareness instruction "in the dark", but should you? A critical evaluation of the trend toward advanced phonemic awareness training*. Retrieved from <https://www.readingrockets.org/resources/resource-library/they-say-you-can-do-phonemic-awareness-instruction-dark-should-you>
- Dilgard, C. & Hodges, T. (2022). Phonics Instruction in Early Literacy: Examining Professional Learning, Instructional Resources and Intervention Intensity. *Reading Psychology*. 43. <https://doi.org/10.1080/02702711.2022.2126045>
- Englert, C. S., Mariage, T. V., Truckenmiller, A. J., Brehmer, J., Hicks, K., & Chamberlain, C. (2020). Preparing special education preservice teachers to teach phonics to struggling readers: Reducing the gap between expert and novice performance.

- Teacher Education and Special Education*, 43(5), 235-256.
<https://doi.org/10.1177/0888406419863365>
- Gedik, O. & Akyol, H. (2022). Reading Difficulty and Development of Fluent Reading Skills: Action Research. *International Journal of Progressive Education*, 18(2), 2022. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1332254.pdf>
- Gehsmann, K. And Mesmer, H. (2023). The Alphabetic Principle and Concept of Word in Text: Two Priorities for Learners in the Emergent Stage of Literacy Development. *Read Teach*, 77: 156-166. <https://doi.org/10.1002/trtr.2225>
- Gillon, G., McNeill, B., Scott, A., Denston, A., Wilson, L., Carson, K., & Macfarlane, A. H. (2019). A better start to literacy learning: Findings from a teacher-implemented intervention in children's first year at school. *Reading and Writing*, 32(8), 1989–2012. <https://doi.org/10.1007/s11145-018-9933-7>
- Gingras, M., & Sénéchal, M. (2019). Evidence of Statistical Learning of Orthographic Representations in Grades 1–5: The Case of Silent Letters and Double Consonants in French. *Scientific Studies of Reading*, 23(1), 37-48. <https://doi.org/10.1080/10888438.2018.1482303>
- Giovianna, G. N., Kamariah, A. B. (2023). The use of the Jolly Phonics method in improving English reading and writing skills among preschool students. *International Journal of Academic Research in Business & Social Sciences*, 3726-3738. Retrieved from https://hrmars.com/papers_submitted/20219/the-use-of-the-jolly-phonics-method-in-improving-english-reading-and-writing-skills-among-preschool-students.pdf
- Githinji, W. & Ndiangui, P. (2024). Synthesizing policy and practice: an examination of child-related policy implementation in elementary education within Nyeri County. *Kenya. Research in Educational Policy and Management*. 6. 117-135. <http://dx.doi.org/10.46303/repam.2024.26>
- Githinji, W. (2022). Implementation of Child-Related Policies in Schooling: Policy versus Practice in Primary Schools in Nyeri County, Kenya. *Open Journal of Learning and Development*, 1(1). Retrieved from <https://ojld.org/index.php/education/article/view/5>
- Hasbrouck, J. & Tindal, G., (2017). *An update to compiled ORF norms* (Technical Report No. 1702), Behavioral Research and Teaching, University of Oregon, Eugene. Retrieved from <https://files.eric.ed.gov/fulltext/ED594994.pdf>
- Hasbrouck, J. (2006; 2011; 2017). QPS Quick Phonics Screener: A Diagnostic Phonics Assessment.
- Hikida, M., Chamberlain, K., Tily, S., Daly-Lesch, A., Warner, J., & Schallert, D. (2019). Reviewing how preservice teachers are prepared to teach reading processes: What the literature suggests and overlooks. *Journal of Literacy Research*, 51(2), 177–195. <https://doi.org/10.1177/1086296X19833297>
- Hoover, W. A., & Tunmer, W. E. (2022). The Primacy of Science in Communicating Advances in the Science of Reading. *Reading Research Quarterly*, 57(2), 399–408. <https://doi.org/10.1002/rrq.446>

- Kamanzi, V., & Seni, A. (2024). How Teachers in Tanzania Understand and Implement Phonics Instructional Approach for The Teaching of Reading in Early Grades. *Cogent Education*, 11(1). <https://doi.org/10.1080/2331186X.2024.2419702>
- Katta, D. (2020). Speaking, The Skill of Skills: A Comprehensive Study. *Contemporary Literary Review India*, 7 (4), 10-19. Retrieved from <https://www.proquest.com/openview/3ea5b7a6296919c81142096efcaed741/1?pq-origsite=gscholar&cbl=2055417>
- Kim, Y., Harris, K., Goldstone, R., Camping, A., & Graham, S. (2024). The Science of Teaching Reading is Incomplete Without the Science of Writing: A Randomized Control Trial of Integrated Teaching of Reading and Writing. *Scientific Studies of Reading*, 1–23. <https://doi.org/10.1080/10888438.2024.2380272>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30(3), 607-610. <https://doi.org/10.1177/001316447003000308>
- Larsen, L., Schaubert, S. K., Kohnen, S., Nickels, L., & McArthur, G. (2020). Children's Knowledge of Single and Multiple-Letter Grapheme-Phoneme Correspondences: An Exploratory Study. *Early Childhood Research Quarterly*, 51, 379-391. Retrieved from <https://acuresearchbank.acu.edu.au/item/8z422/children-s-knowledge-of-single-and-multiple-letter-grapheme-phoneme-correspondences-an-exploratory-study>
- Lefstein, A., Vedder-Weiss, D., & Segal, A. (2020). Relocating Research on Teacher Learning: Toward Pedagogically Productive Talk. *Educational Researcher*, 49(5), 360–368. <https://doi.org/10.3102/0013189X20922998>
- Liswaniso, B. (2023). Failing to Progress or not being Supported to make Progress: Examining Variability in Reading. *South African Journal of Childhood Education*, 13(1), 13-15. <http://dx.doi.org/10.4102/sajce.v13i1.1315>
- Mullis, I., & Martin, M. (2022). IEA's TIMSS and PIRLS: Measuring Long-Term Trends in Student Achievement. In: Nilsen, T., Stancel-Piątak, A., Gustafsson, JE. (Eds) *International Handbook of Comparative Large-Scale Studies in Education*. Springer International Handbooks of Education. Springer, Cham. Retrieved from <https://link.springer.com/referencework/10.1007/978-3-030-88178-8>
- Muronga, H., Ong'ang'a, H., & Mwoma, T. (2020). Teenage Mothers' Socio-Economic Status and Involvement in Their Children's Early Literacy Skills Acquisition in Kilifi County, Kenya. *Journal of Education and Practice*, 2(18). Retrieved from <https://ir-library.ku.ac.ke/items/3426fbcd-d25c-4b9e-82b8-b35fd7cb07ac>
- Mwanza, D. (2012). The Language of Initial Literacy in A Cosmopolitan Environment: A Case of Cinyanja in Lusaka District. Unpublished Masters' Dissertation, University of Zambia. Zambia. Retrieved from https://www.researchgate.net/publication/332082594_The_Language_of_initial_Literacy_in_a_Cosmopolitan_Environment_A_Case_of_Cinyanja_in_Lusaka_District_Unpublished_Masters'_Dissertation_University_of_Zambia

- Mwoma, T. (2017). Children's Reading Ability in Early Primary Schooling: Challenges for A Kenyan Rural Community. *Issues in Educational Research*, 27(2), 347-364. Retrieved from https://www.researchgate.net/publication/316253281_Children's_reading_ability_in_early_primary_schooling_Challenges_for_a_Kenyan_rural_community
- Naz, S. (2024). Minimum Number of Participants in the Experimental Study?
- Njiru, F & Karuri, M. (2024). Phonemic Awareness in English Language Literacy Among Grade Three Pupils in Public Primary Schools in Embu County, Kenya. Retrieved from https://www.researchgate.net/publication/377490086_PHONEMIC_AWARENES_S_IN_ENGLISH_LANGUAGE_LITERACY_AMONG_GRADE_THREE_PUPILS_IN_PUBLIC_PRIMARY_SCHOOLS_IN_EMBU_COUNTY_KENYA
- Ngunge, W., Mwoma, T. & Buna, Y. (2019). Investigating the Levels of Reading Skills among Grade Three Pupils in Nairobi County, Kenya. *European Journal of Education Studies*, 6(1), 197-209. <https://doi.org/10.5281/ZENODO.2635828>
- Nkurunziza, S. (2024). The Role of Phonological Awareness in Early Reading Development. *European Journal of Linguistics*, 3(3), 15–26. <http://dx.doi.org/10.47941/ejl.2051>
- Ogetange, T., & Wanjohi G. (2018). Influence of Teachers and Demographic Characteristics on Acquisition of Reading Skills among Grade III Pupils in Kisii County, Kenya. *World Journal of Innovative Research*, 4(4). <https://ir-library.ku.ac.ke/items/7906b2d8-435e-416e-98a0-d49998861336>
- Ohaka, E. (2022). How 'Jolly Phonics' Can Fix Learning Imbalance in Nigeria. *Business Day (Nigeria)*. Retrieved from <https://businessday.ng/features/article/how-jolly-phonics-can-fix-learning-imbalance-in-nigeria/>
- Ong, E., & Llanos, M. (2019). How Phonological Awareness Helped Facilitate Reading Acquisition of a Pre-School Child in the Home Environment Before Formal Schooling. *Journal of Reading & Literacy*, 38.
- Orodho, J. (2010). Techniques of Writing Research Projects and Reports in Education and Social Sciences. *Nairobi: Kanezja HP Enterprises*.
- Putri, A., Widya, J., Paulina, F., Nabila, P., Meili, A., & Muhammad, F. (2024). Building A Strong Foundation in English with the Phonics Method among the First Graders of Elementary School in Magelang. *Satya Widya* 40, (1), 62–72. <https://doi.org/10.24246/j.sw.2024.v40.i1.p62-72>
- Rao, P. (2019). The Role of English as A Global Language. *Research Journal of English*, 4(1), 65-79. Retrieved from https://www.researchgate.net/publication/334282978_THE_ROLE_OF_ENGLISH_AS_A_GLOBAL_LANGUAGE
- Scull, J. & Lyons, D. (2023). Narrative Inquiry: Critiquing Narrative Inquiry's Epistemological Pillars Within a Large-Scale Study into the Teaching of Phonics. *International Journal of Research & Method in Education*, 47(2). <https://doi.org/10.1080/1743727X.2023.2196066>

- Scull, J. & Lyons, D. (2024). Teaching Phonics in Context: Stories of Teachers' Practice and Students' Outcomes. *The Australian Journal of Language and Literacy* 47(5)181-201. <https://doi.org/10.1007/s44020-024-00058-6>
- Seidenberg, M. (2017). *Language at The Speed of Sight: How We Read, Why So Many Cannot and What Can be Done about it*. Basic Books. Retrieved from <https://www.hachettebookgroup.com/titles/mark-seidenberg/language-at-the-speed-of-sight/9780465080656/?lens=basic-books>
- Shanahan, T. (2020). Reading Workshop: How Not to Teach Reading Comprehension, Shanahan on Literacy. Retrieved November 15, 2019, from <https://www.shanahanonliteracy.com/blog/what-do-you-think-of-the-reading-workshop-or-how-not-to-teach-reading-comprehension>
- Singh, A. (2023). What is the Minimum Sample Size for a Quasi-Experiment? Retrieved from https://www.researchgate.net/post/What_is_the_minimum_sample_size_for_a_quasi_experiment/64a65b1158b01225060dc7fb/citation/download.
- Tan, K., Farashaiyan, A., Sahragard, R., & Faryabi, F. (2020). Implications of English as an International Language for Language Pedagogy. *International Journal of Higher Education*, 9(1), 22-31. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1234483.pdf>
- Taylor, N. (2019). Inequalities in Teacher Knowledge in South Africa. In Spaull, N., & Jansen, J. (Eds.), *South African Schooling: The Enigma of Inequality* (Pp. 263–282). https://doi.org/10.1007/978-3-030-18811-5_14
- Thompson Center on Public Leadership & Tommy, G. (2023). Thompson Center Summit on Early Literacy (Youtube Video). University of Wisconsin-Madison. https://www.youtube.com/watch?v=w_snmp4brtw
- Uwezo (2019). Are Our Children Learning? Uwezo Uganda Eighth Learning Assessment Report. Kampala: Twaweza East Africa. Retrieved from <https://twaweza.org/wp-content/uploads/2021/01/UWEZO-REPORT-2019-FINAL-8.pdf>
- Uwezo (2021). *Are All Our Children Learning?* Uwezo 7th Learning Assessment Report Nairobi: Usawa Agenda. Copyright Usawa Agenda 2022.
- Uwezo. (2016). *Are Our Children Learning?* Uwezo Kenya Sixth Learning Assessment Report, December 2016. Nairobi: Twaweza East Africa.
- Vygotsky, L. (1987). The Collected Works of LS Vygotsky: Problems of the Theory and History of Psychology. Retrieved from <https://link.springer.com/book/10.1007/978-1-4615-5893-4>
- Vygotsky, L. S., & Cole, M. (1978). Mind in Society: Development of Higher Psychological Processes. <https://doi.org/10.2307/j.ctvjf9vz4>
- Wawire, B. (2020). Promoting Effective Early Grade Reading: The Case Study of Primary Teachers' Preparation Programmes in Kenya. *The Curriculum Journal*. 32 (69), 10-100. <http://dx.doi.org/10.1002/curj.69>

Creative Commons licensing terms

Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Education Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflicts of interest, copyright violations and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).