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Teachers' professional qualifications and learning outcomes of visually impaired learners in integrated primary schools: A case of Nairobi County

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Abstract

Teachers' attitudes toward learners with special needs are essential to inclusive education, yet their relationship with the academic performance of visually impaired learners remains underexplored in Kenya. This study examined the influence of teachers' attitudes on the academic performance of visually impaired learners in integrated primary schools in Nairobi County. A descriptive survey design combining quantitative and qualitative approaches was employed. Four schools were purposively selected from thirteen integrated public primary schools. The sample comprised 32 randomly selected teachers and four head teachers included through a census. Data were collected using Likert-scale questionnaires, structured interviews, and learners' assessment scores. Instrument validity was established through expert review and reliability assessed using the split-half technique. Quantitative data were analyzed using an independent-samples t-test, while qualitative responses underwent thematic analysis. Of the 32 questionnaires distributed, 29 were returned, yielding a 90.6% response rate. Findings revealed a statistically significant difference in academic performance between learners taught by teachers with positive and less positive attitudes ($t = 2.492$, $p = .019$). Positive teacher dispositions, characterized by patience, accommodation, and inclusivity, were associated with improved academic performance and classroom engagement. Head teachers' interviews reinforced these findings, emphasizing the importance of supportive teacher attitudes in inclusive classrooms. The study concludes that teacher attitudes significantly shape learning outcomes among visually impaired learners. It recommends targeted teacher sensitization, continuous professional development, and strengthened preservice and in-service training to cultivate inclusive attitudes and instructional practices, thereby improving educational outcomes in

integrated primary schools.

Key terms: Teacher professional qualifications; Visually impaired learners; Learning outcomes; Inclusive education; Integrated primary schools

INTRODUCTION

In inclusive educational settings the presence of appropriately trained teachers is essential for providing successful educational services to children with special needs including those who are visually impaired (Kang & Martin 2018). Recent studies from many worldwide contexts including the United States India Egypt and Kenya have examined the impact of teachers' professional qualities on the learning outcomes of visually impaired children. This section consolidates findings from four recent comparative studies to evaluate the influence of teachers' qualifications uncover prevalent themes and underscore deficiencies that the current study aims to remedy.

Numerous studies consistently demonstrate that teachers possessing advanced qualifications and specialized training in special education markedly improve the learning outcomes of visually impaired children in inclusive environments. Davis and Williams (2022) conducted a quantitative study in the United States involving 300 teachers and 450 learners across various states revealing that teachers with advanced degrees and specialized certifications in special education significantly enhanced learners learning outcomes. Patel and Singh (2024) employed a comparative methodology in India examining data from 200 teachers and 300 learners and confirmed that teachers' professional qualifications favourably affect the academic achievement of visually impaired children.

In Egypt Hassan and El-Sayed (2022) examined the similar link concluding that teachers qualifications are important in facilitating academic success for visually impaired learners. Ndegwa and Maina (2022) executed a comparative study in Kenya engaging 80 teachers and 150 learners from integrated and non-integrated schools. They illustrated through surveys and learning outcomes records that teachers possessing advanced qualifications in special education and experience with visually impaired learners significantly enhanced academic outcomes. These studies overall underscore the global significance of specialist teacher training in promoting academic achievement for visually impaired children in inclusive environments.

These studies provide useful insights but they also have methodological and empirical limitations that may affect the strength of their conclusions. Davis and Williams (2022) identified a methodological limitation in their study specifically the lack of a control group of teachers without specialized training which hinders a direct comparison between qualified and unqualified teachers. Smith and Green (2023) advocate for the inclusion of control groups in future research to strengthen the validity of the findings. In addition, both Hassan and El Sayed (2022) and Ndegwa and Maina (2022) recognized a gap in evidence concerning the absence of longitudinal data which hinders the assessment of the enduring effects of teachers' qualifications on learners' academic progress and skill enhancement over time.

The studies reviewed were conducted in different geographical contexts demonstrating that the relationship between teachers' qualifications and the academic achievement of visually impaired learners is a matter of worldwide importance while also indicating that the practical application of training and inclusive educational practices may vary according to regional resources policies and cultural contexts. Davis and Williams (2022) conducted their research within a comparatively well-resourced educational system in the United States while Ndegwa and Maina (2022) examined challenges in Kenya where integrated and non-integrated schools may experience resource disparities. This points to the need for research that considers the local context such as the current study to guide customized educational strategies for integrated primary schools in Nairobi County.

METHODOLOGY

2.1 Research Design

The research employed a descriptive survey approach, integrating both qualitative and quantitative methodologies. This method is extensively acknowledged as one of the most efficacious for gathering data on various educational and social matters. Creswell (2009) asserts that the descriptive survey design is suitable for acquiring a comprehensive understanding of a phenomenon without the need to involve the entire population. The justification for utilizing this strategy is its capacity to efficiently and economically collect the views, attitudes, and features of a target group, therefore offering a thorough comprehension of the study issue.

2.2 Study Population

The research was carried out at designated integrated public primary schools in Nairobi County, Kenya. Nairobi County is situated in the south-central part of Kenya and functions as the nation's capital. It encompasses roughly 696 square kilometres, rendering it the smallest county by land area and among the most populated. Nairobi is situated at an altitude of approximately 1,795 meters above sea level, yielding a temperate environment conducive to year-round education. The county features advanced urban infrastructure alongside extensive informal settlements, resulting in inequalities in access to fundamental services, such as schooling.

Nairobi is the most populous county in Kenya, boasting a population over 4.5 million as per the 2019 national census, and is seeing tremendous growth attributed to rural-urban migration. A considerable number of Nairobi's inhabitants lives in informal settlements like Kibera, Mathare, and Mukuru, characterized by elevated poverty levels and restricted access to excellent public services, including education. This demographic composition poses distinct problems and opportunities for inclusive education, especially for students with disabilities, including visual impairments.

Nairobi County encompasses numerous educational establishments, comprising public and private schools, special needs units, integrated schools, and teacher training institutes. It hosts numerous national and regional educational bodies and non-governmental organizations that advocate for inclusive education. The county has advanced in executing inclusive education policy, incorporating learners with special needs into mainstream public primary schools. Nonetheless, obstacles remain in domains such as educator readiness, accessibility of assistive technologies, infrastructure, and tailored support for students with impairments. Nairobi County's high population density, educational diversity, and geographic variations render it a pertinent locale for research in special education, providing a practical framework for analyzing the impact of teacher-related factors on the learning outcomes of visually impaired students in integrated public primary schools.

2.3 Sampling Procedure and Sample Size

Nairobi County comprises roughly 13 integrated public primary schools serving both standard learners and individuals with special needs. Four schools were intentionally chosen for this study due to their substantial enrolment of students with visual impairments. The study's target population consisted of 106 instructors and 4 head teachers from four selected integrated public primary schools. The selection of these four schools was predicated on their inclusive education practices and the significant presence of students with visual impairments, rendering them appropriate for examining the impact of teacher-related factors on student outcomes in an inclusive educational context.

2.4 Sampling Methodology and Sample Dimension

This study employed simple random sampling to pick 32 teachers from a target population of 106 educators among four purposively chosen integrated public primary schools, concentrating on those directly involved in instructing students with visual impairments. This selection guaranteed the acquisition of comprehensive, contextually pertinent data from participants possessing direct experience in inclusive education (Creswell, 2014). The 32 chosen teachers constitute roughly 30 percent of the 106 educators throughout the four institutions, adhering to the proportionate sampling method advised for descriptive survey designs. A census method was employed to incorporate all four head teachers from the selected schools, as the target population of head teachers, numbering four, was sufficiently small for comprehensive study. This sampling technique, as indicated by Patton (2015), is suitable for research aiming to obtain profound, focused insights from particular subgroups. The distribution of participation, consisting of 32 instructors and 4 head teachers, totalling 36 individuals, is illustrated in Table 1.

Table 1: Sample Size of the Study

Category	Target Population (N)	Sample Size (n)	Sampling Technique
Teachers	106	32	Simple Random Sampling
Head teachers	4	4	Census

Source: Nairobi County Education Office (2025)

Instruments of Data Collection

Data were gathered by a combination of questionnaires and interviews as advised by Muthomi et al. (2015).

3.0 RESULTS

3.1 Teachers Professional Qualifications

The respondents were asked to provide details about their teaching qualifications. This information was crucial in determining the academic and professional qualifications of the teachers as credentials frequently affect instructional proficiency pedagogical abilities and the capacity to properly execute curriculum mandates. Figure 4.4 depicts the distribution of teachers based on their greatest professional qualifications.

Figure 4.4: Professional Qualifications of Teacher Respondents (N = 29)

In addition, 11 (37.9%) of the teachers possessed a diploma certification whereas 4 (13.8%) had achieved a bachelor’s degree as their highest educational attainment. The results indicate that most respondents held basic professional qualifications while fewer teachers possessed advanced academic credentials such as a bachelor’s degree reflecting the overall profile of the primary teaching workforce in Kenya’s public integrated schools.

3.2 Learning Outcomes

The dependent variable of this study was the educational outcomes of visually impaired learners in integrated elementary schools in Nairobi County. This phase of the study gathered teachers’ perspectives via questionnaires regarding the learning outcomes of visually impaired learners utilizing the Kenya

Primary School Education Assessment (KPSEA) grades from 2022 2023 and 2024. The results are displayed in Table 4.1.

Table 4.1

Descriptive Statistics of Learning Outcomes of Visually Impaired Learners in Integrated Primary Schools in Nairobi County

Rating

(KPSEA) 2022 n 2022 % 2023 n 2023 % 2024 n 2024 % Mean n Mean %

Below

Expectation 7 24.14 4 13.79 6 20.69 6 20.69

Approaching

Expectation 16 55.17 17 58.62 15 51.72 16 55.17

Meeting

Expectation 5 17.24 6 20.69 8 27.59 6 20.69

Above

Expectation 1 3.45 2 6.90 0 0.00 1 3.45

Total 29 100.00 29 100.00 29 100.00 29 100.00

Source: Field Data (2025).

This study's findings indicate that most visually impaired learners in integrated primary schools in Nairobi County consistently performed at the approaching expectation level over the three-year period from 2022 to 2024 with an average of 55.17 percent of learners in this category. A mere 20.69 percent of learners continuously met expectations during the review period while an even smaller percentage exceeded expectations with no learners achieving this status in 2024 after a little peak of 6.90 percent in 2023. The patterns indicate that visually impaired learners exhibit moderate academic engagement in the integrated school system; however, the majority have not achieved the competency levels outlined by the Competency Based Curriculum framework and the performance improvement trajectory is insufficiently strong to imply that current instructional and institutional support adequately addresses the educational needs of this population.

These findings are consistent with those reported by Mugo and Wachira (2024) who investigated the learning outcomes of visually impaired learners in integrated primary schools in Nairobi County and determined that most of these learners performed markedly below their cognitive potential due to systemic instructional resource and attitudinal barriers present in integrated school environments. Their study emphasized that the inability of a considerable number of visually impaired learners to advance from approaching expectation to meeting or exceeding expectation levels was directly linked to the lack of systematic and sustained differentiated instructional interventions tailored to meet the distinct sensory and learning requirements of visually impaired learners in the main-stream integrated classroom setting.

Waweru and Ngugi (2022) similarly discovered in Nakuru County that visually impaired learners in integrated primary schools exhibited a consistent and persistent pattern of moderate learning outcomes across various assessment cycles. This pattern was attributed to a chronic shortage of Braille learning materials and tactile teaching aids inadequate adaptation of assessment instruments and the limited

availability of qualified itinerant teachers and special needs education support personnel within integrated school environments. Waweru and Ngugi (2022) identified a pattern similar to the anticipated decline in performance noted in the current study indicating that enhancements in learner performance observed in one assessment cycle were often not maintained in later cycles. This suggests that the incremental progress made by visually impaired learners in integrated environments was tenuous sporadic and significantly dependent on the persistence of particular teacher support structures.

The performance patterns identified in this study have substantial and immediate implications for Kenya's inclusive education policy framework and its execution in integrated elementary schools within Nairobi County. The Basic Education Act of 2013 guarantees every Kenyan child's right including those with visual impairments to quality and equitable education in an inclusive learning environment (Republic of Kenya 2013). Additionally, the National Special Needs Education Policy Framework requires the provision of suitable learning materials trained specialist teachers and individualized support plans for learners with disabilities in integrated settings (Republic of Kenya 2018). The discovery that 55.17 percent of visually impaired learners consistently performed at merely the approaching expectation level throughout the three-year review period coupled with the absence of any learner achieving above expectation performance in 2024 highlights a substantial and quantifiable disparity between the equity and quality commitments outlined in these policy instruments and the actual educational outcomes attained by visually impaired learners within the integrated school system.

The Kenya Institute of Curriculum Development underscores the significance of differentiated instruction tailored assessment and learner-centered pedagogy as essential principles in its Competency Based Curriculum implementation guidelines ensuring that all learners including those with special needs can achieve competency at optimal levels (KICD 2019). The results of the current study indicate that these standards are not being consistently or appropriately implemented in integrated primary schools in Nairobi County failing to adequately address the special instructional requirements of visually impaired learners. Strategic investment in Braille resources assistive technologies and ongoing professional development for integrated school teachers in visual impairment pedagogy constitutes the most evidence-based and policy-compliant approach to enabling visually impaired learners in Nairobi County's integrated primary schools to advance from near expectations to consistently achieving and surpassing the competency standards outlined by the Competency Based Curriculum framework.

3.3 Teachers' Professional Qualifications and Learning Outcomes of Visually Impaired Learners in Integrated Primary Schools

The study was directed by the subsequent null hypothesis:

H05: Teachers' professional credentials do not exert a statistically significant impact on the learning results of visually impaired learners in integrated primary schools within Nairobi County.

This study investigated teachers' answers concerning their professional credentials and their correlation with the learning outcomes of visually impaired learners. The analytical findings are displayed in Table 4.13.

Table 4.13: Descriptive Statistics for Teachers' Professional Qualifications and Learning Outcomes

Professional Qualification	Below Expectation	Approaching Expectation	Meeting Expectation	Total

Certificate	2 (6.9%)	9 (31.0%)	2 (6.9%)	14 (48.3%)
Diploma	3 (10.3%)	5 (17.2%)	3 (10.3%)	11 (37.9%)
Bachelor's degree and above	1 (3.4%)	2 (6.9%)	1 (3.4%)	4 (13.8%)

Note. Source: Field Data (2025).

Table 4.13 reveals that among teachers with certified qualifications 2 learners (6.9%) performed below expectations 9 learners (31.0%) were approaching expectations 2 learners (6.9%) met expectations and 1 learner (3.4%) exceeded expectations. Among teachers with a diploma qualification 3 learners (10.3%) underperformed 5 children (17.2%) were nearing expectations and 3 learners (10.3%) met expectations. Among teachers holding a bachelor's degree or higher 1 learner (3.4%) performed below expectations 2 learners (6.9%) were approaching expectations and 1 learner (3.4%) met expectations.

A chi-square test of independence was performed at the 0.05 significance level to determine the existence of a statistically significant link between teacher certification levels and pupil performance categories.

Table 4.14: Chi-Square Test for Teachers' Professional Qualifications and Learning Outcomes of Visually Impaired Learners

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.128	6	.660
Likelihood Ratio	5.014	6	.542
N of Valid Cases	29		

Note: 10 cells (83.3%) have expected count less than 5. The minimum expected count is .14. Source: Field Data (2025).

The results presented in Table 4.14 revealed that teachers' professional qualifications did not exert a statistically significant effect on the learning outcomes of visually impaired learners in integrated primary schools in Nairobi County $\chi^2(6\ N = 29) = 4.128\ p = .660$. As the p-value exceeded the .05 threshold the null hypothesis was retained. This finding suggests that formal professional qualification on its own may not be a decisive determinant of improved learning outcomes for visually impaired learners within this sample.

However, this statistical result differs from the qualitative accounts gathered from head teachers among whom there was broad consensus that professional certification in special needs education meaningfully improves learning outcomes. HT1 whose staff included specially trained teachers offered the most emphatic endorsement: 'Teachers who have gone through specialized training in special needs education particularly in braille literacy handle these learners far more effectively.'HT2 and HT4 whose schools lacked certified staff voiced the same conviction though in more speculative terms; HT4 remarked 'I cannot say for certain since none of our staff hold that certification. My assumption is that it would make a real difference' This divergence between a statistically null quantitative finding and a strongly held qualitative belief is itself a meaningful result and points to a possible gap between perceived and measured impact that merits closer examination.

The finding likewise diverges from much of the existing literature. Onyango Muthee and Olewe (2024) reported that teachers' professional qualifications substantially shaped the learning outcomes of visually impaired learners in integrated public primary schools in Nairobi County finding that teachers with

specialized training in visual impairment were markedly more effective in supporting their learners. This is consistent with Mugweru et al. (2022) who identified teacher preparedness and professional training as critical determinants of educational quality for learners with disabilities in Nairobi County and with Jakinda et al. (2023) who found that qualifications and experience together underpin effective instructional support for learners with visual disabilities particularly in specialized domains such as braille literacy.

Several factors may account for this study's departure from prior findings. First the relatively small sample size (N = 29) may have constrained statistical power increasing the risk of a Type II error and limiting the likelihood of detecting a true underlying effect. Second professional qualification may function less as an independent driver of learner outcomes than as an enabling condition one that equips teachers with technical competence but requires the presence of other factors such as sustained positive attitude and relevant classroom experience to translate into measurable gains. Taken together these findings suggest that qualification should not be viewed in isolation but as one component within a broader constellation of teacher-level factors that jointly shape outcomes for visually impaired learners.

Despite these differences in the findings the results of the current study suggest that formal academic qualifications alone are inadequate to affect learning outcomes unless supplemented by practical competencies including Braille literacy inclusive pedagogical skills access to assistive technologies teaching experience and ongoing professional development. This assertion is corroborated by Mutia (2021) who noted that numerous teachers at inclusive institutions hold general teaching credentials however lack specialized training in visual impairment and inclusive pedagogical methods. The findings corroborate the assertion that learner achievement in inclusive environments is affected by various related factors beyond teacher qualifications; recent studies in Kenya have identified inadequate instructional resources limited assistive devices overcrowded classrooms and insufficient institutional support as significant obstacles impacting learners with visual impairments (Kinyua 2022). Therefore, although professional qualifications are significant the current study indicates that they may not autonomously forecast enhanced learning outcomes for visually impaired learners unless combined with specialized training sufficient learning resources and supportive inclusive educational practices.

CONCLUSION

The findings indicate that teachers; professional qualifications do not substantially affect the learning outcomes of visually impaired learners in the research area. The study therefore failed to reject the null hypothesis H05 which asserted that teachers' professional qualities do not have a statistically significant influence on the learning results of visually impaired learners in integrated primary schools in Nairobi County.

RECOMMENDATIONS

Teacher training institutions ought to amend their pre-service curricula to incorporate enhanced practical exposure to learners with visual impairments as formal qualifications alone were not statistically significant predictors of learner outcomes underscoring the necessity of integrating practical competencies with academic training.

The Ministry of Education should create differentiated continuing professional development frameworks based on age and experience rather than uniform training programs to ensure that both novice and veteran teachers receive support tailored to their specific developmental needs in inclusive pedagogy.

This study offers significant insights into the influence of teacher-related factors on the learning outcomes of visually impaired learners in integrated primary schools in Nairobi County; however numerous areas remain unexamined and require more research. Subsequent studies could duplicate this research in

different counties or undertake a countrywide analysis to compare findings across various socio-economic and cultural contexts thereby enhancing generalizability and more thorough national viewpoint.

This study examined teachers' perspectives. Future research ought to include the viewpoints of visually impaired learners their parents and head teachers to enhance comprehension of their educational experiences and the particular pedagogical behaviours or tactics that facilitate their success. Future longitudinal studies may monitor the same cohort of visually impaired learners and their teachers over multiple years to ascertain more definitive causal links between teacher experience attitudes and long-term academic and social outcomes.

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