

Implementation of the Environmental Safety Policy and Learner Participation among Learners with Visual Impairment in Special Junior Schools in Kenya

Mutembei Christopher Stephen¹, Peter Kimanthi Mbaka², Ken Kelvin Kimathi³

¹PHD student Department of Educational Management, Chuka University, Kenya

^{2,3}lecturer Department of Educational Management, Chuka University, Kenya

DOI: <https://doi.org/10.47772/IJRISS.2026.100800327>

Received: 17 August 2026; Accepted: 22 August 2026; Published: 03 September 2026

ABSTRACT

Learners with visual impairment in Kenya's Special Junior Schools continue to face barriers that limit their participation in learning, particularly where school environments do not fully address accessibility, mobility and psychosocial needs. Although policies promote safe and inclusive learning environments, evidence on the implementation of the Environmental Safety Policy and its relationship with learner participation remains limited. This manuscript, drawn from a broader doctoral study, examined the study's second objective: evaluating Environmental Safety Policy implementation and learner participation among learners with visual impairment in Special Junior Schools in Kenya. Guided by Bronfenbrenner's Ecological Systems Theory, the study used a descriptive mixed-methods design. Data were collected from 246 respondents, drawn from a target population of 642, across four purposively and cluster-sampled schools. Questionnaires were administered to teachers and learners, while headteachers participated in interviews. Quantitative data were analysed using descriptive statistics and binary logistic regression, and qualitative data were analysed thematically. Findings showed high policy implementation among teachers ($M = 3.79$, $SD = 0.87$) and positive learner perceptions of school safety, accessibility and support ($M = 4.09$, $SD = 0.99$). Environmental safety significantly predicted learner participation ($B = 1.188$, $p < .001$, $\text{Exp}(B) = 3.279$) and remained significant in the combined policy model ($B = 0.759$, $p = .047$, $\text{Exp}(B) = 2.136$). Headteachers identified ramps, tactile pathways, lighting, accessible sanitation, and counselling as supports. The study concludes that safe, accessible and psychosocially supportive environments are essential for meaningful participation and recommends sustained infrastructure investment, routine safety audits and strengthened counselling services.

Keywords: environmental safety policy; learner participation; visual impairment; Special Junior Schools; inclusive education; Ecological Systems Theory

1. INTRODUCTION

Learning is a fundamental process in human development, yet learners with visual impairment often experience exclusion from meaningful learning activities because of inadequate support services and limited adaptation of educational environments. This exclusion narrows their learning opportunities, restricts knowledge acquisition, and reduces their access to post-basic education, vocational training, and ultimately, social and economic independence. Kenya has developed a range of educational policies intended to promote inclusive and participatory education, including provisions on funding, environmental safety, curriculum, assistive technology, and staffing. Despite these policy commitments, learners with visual impairment continue to record comparatively low levels of participation in learning activities within Special Junior Schools.

Among these policy domains, the Environmental Safety Policy occupies a distinctive position because it governs the physical, health and psychosocial conditions under which learning takes place. Within Kenya's education system, the policy seeks to ensure that schools provide safe, healthy, accessible and inclusive learning environments for all learners, including those with visual impairment. It addresses physical accessibility through

infrastructure such as ramps, tactile walkways, handrails, well-designed classrooms and appropriate signage, and extends to health services, emergency preparedness, sanitation facilities, and psychosocial support programmes intended to facilitate meaningful learner participation. A safe and accessible learning environment is considered fundamental to effective participation because it enables learners with visual impairment to move independently, engage confidently in classroom activities, and take part fully in school life; conversely, inaccessible physical environments raise the risk of accidents, undermine learner confidence, and discourage active participation.

This manuscript addresses the second objective of a broader doctoral study on the implementation of educational policies and learner participation among learners with visual impairment in Special Junior Schools in Kenya: to evaluate the implementation of the environmental safety policy and learner participation among learners with visual impairment in Special Junior Schools in Kenya. The study was guided by the corresponding null hypothesis that there is no statistically significant relationship between the implementation of the environmental safety policy and learner participation among learners with visual impairment in Special Junior Schools in Kenya.

2. LITERATURE REVIEW

2.1 Conceptualising the Environmental Safety Policy

In this study, environmental safety policy implementation was conceptualised as the extent to which schools apply institutional guidelines intended to promote a safe, healthy, accessible and inclusive environment for learners with visual impairment. Its measurable indicators included physical accessibility of infrastructure, adapted sanitation facilities, emergency preparedness measures, health screening services, and other safety provisions. Learner participation, the outcome variable, was understood as learners' active engagement in academic, social, leadership and co-curricular activities within the school.

2.2 Empirical Literature

International evidence broadly supports a link between school environmental conditions and learner participation. A quantitative survey of 300 secondary school learners across several countries found that adequate lighting, proper ventilation, accessible classrooms and safe learning environments significantly enhanced learner participation in classroom discussions, academic activities and co-curricular programmes, although that study addressed the general school environment rather than the specific needs of learners with visual impairment (Chan & Lee, 2022). Complementary qualitative evidence, drawn from interviews with school administrators, teachers and health professionals, indicated that physical safety measures such as emergency preparedness and secure school environments improved attendance and participation, while mental health support and counselling programmes strengthened engagement by creating emotionally supportive learning environments; this study, too, did not specifically address environmental accessibility for learners with visual impairment (Adams & Cross, 2021).

Within Africa, a study conducted in Lusaka, Zambia, using surveys and focus group discussions, established that improved sanitation facilities, safe school environments and psychosocial support significantly enhanced participation in both classroom learning and co-curricular activities, demonstrating that participation depends on both physical infrastructure and supportive health and safety practices, though again without a specific focus on learners with visual impairment (Chirwa & Mutale, 2019). Closer to the population of interest, an investigation into the learning environment for learners with visual impairment in inclusive primary schools in Tanzania found inadequate teaching and learning resources, shortages of specialised teachers, inaccessible classroom environments and weak collaboration among teachers and parents, all of which limited participation and reduced learners' confidence to engage meaningfully in educational activities (Kiomoka, 2024).

Within Kenya, a descriptive survey of public secondary schools in Nairobi and Nyeri counties found that many schools failed to meet prescribed safety standards, with inadequate infrastructure, poorly maintained facilities and weak supervision negatively affecting teaching and learning, and unsafe social environments, including bullying, reducing participation and academic engagement; the study, however, focused on mainstream

secondary schools rather than learners with visual impairment (Wanderi, 2018). Similarly, research on factors influencing the enrolment of learners with disabilities in inclusive primary schools in Nandi South District found that inadequate infrastructure, insufficient specialised instructional resources, limited teacher preparation and delayed funding negatively affected access and participation, with many schools lacking facilities designed to accommodate learners with disabilities (Kosgei, 2021). A related study of predictors of participation among learners with cerebral palsy in Kiambu County similarly found that inadequate infrastructure, shortages of support personnel and limited teacher preparedness reduced participation, reinforcing the broader importance of accessible environments and specialised support across disability categories (Kamau, 2022).

Taken together, the reviewed literature consistently indicates that safe, accessible and supportive school environments enhance learner participation by promoting independent mobility, reducing physical and psychosocial barriers, and improving learner confidence and engagement. However, most prior studies focused on mainstream schools, inclusive education generally, or learners with disabilities as a broad category, leaving limited empirical evidence on how the implementation of the Environmental Safety Policy specifically influences learner participation among learners with visual impairment in Special Junior Schools in Kenya. This gap provided the basis for the present study.

3. Theoretical Framework

The study was anchored on Bronfenbrenner's Ecological Systems Theory (EST), which explains human development as the outcome of continuous interaction between individuals and the multiple environmental systems within which they live, rather than as a product of individual characteristics alone. The theory comprises five interrelated systems: the microsystem, mesosystem, ecosystem, macrosystem and chronosystem. For the environmental safety policy objective, the microsystem is especially salient, as it captures the learner's immediate environment, including classroom accessibility, teacher support and the physical school setting, all of which directly affect learners' safety, mobility and participation. The ecosystem and macrosystem are also relevant, as decisions made by the Ministry of Education, county governments, and national legal and policy frameworks establish the institutional environment within which schools implement safety and accessibility measures. EST was considered appropriate because it frames learner participation as an outcome of interaction between learners and their environments, providing a coherent basis for examining how environmental safety policy implementation shapes participation among learners with visual impairment, while also acknowledging effective implementation requires coordinated effort across families, schools, government agencies and communities.

4. METHODOLOGY

The study adopted a descriptive research design within a mixed-methods approach, which was considered appropriate for examining the implementation of the environmental safety policy and its relationship with learner participation without manipulating the study variables, while combining quantitative measurement with qualitative depth. The study was conducted in Kenya's twelve Special Junior Schools for learners with visual impairment, of which four were selected through cluster sampling: one urban school and three rural schools, to capture diverse educational contexts and resource conditions.

The target population comprised 12 headteachers, 55 teachers and 575 learners with visual impairment across the twelve Special Junior Schools, giving a total target population of 642. Applying Yamane's (1967) formula for finite populations at a 5% margin of error yielded a sample size of 246 respondents. Because the number of headteachers and teachers was relatively small, complete enumeration was applied to these two categories, while a proportionate sample of learners with visual impairment was drawn from the selected schools.

Data were collected using structured questionnaires administered to teachers and learners with visual impairment (the learner questionnaire being made available in Braille and large-print formats as appropriate), and an interview schedule administered to headteachers. The Environmental Safety Policy construct was measured through items on physical accessibility, safety and accessibility compliance, health and safety provisions, and psychosocial support services, rated on five-point Likert scales. Content validity was established through expert

review, and a pilot study conducted in a Special Junior School not included in the main study was used to refine the instruments and assess reliability. Cronbach's alpha for the environmental safety policy scale was 0.786, exceeding the recommended threshold of 0.70 and indicating satisfactory internal consistency (Table 1).

Table 1: Reliability of the Environmental Safety Policy Scale

Variable	Number of Items	Cronbach's Alpha
Environmental safety policy	4	0.786
Learner participation	4	0.798

Quantitative data were coded and analysed using the Statistical Package for the Social Sciences (SPSS) through descriptive statistics and binary logistic regression, while qualitative data from headteacher interviews were analysed thematically. Ethical principles governing educational research, including informed consent, anonymity and confidentiality, were observed throughout the study.

5. RESULTS

5.1 Teachers' Views on the Implementation of the Environmental Safety Policy

Teachers were asked to rate, on a five-point scale from Strongly Disagree to Strongly Agree, statements relating to the implementation of the Environmental Safety Policy in their schools. As shown in Table 2, teachers generally rated implementation positively. The availability of ramps, tactile paths and other accessibility facilities recorded a mean of 3.80 (SD = 1.15), with 73.4% of teachers agreeing or strongly agreeing that such facilities were available. Regular monitoring and enforcement of safety and accessibility standards attained a mean of 3.73 (SD = 0.96). Attention to learners' health and safety needs recorded one of the highest mean scores (M = 3.87, SD = 0.64), while the presence of proper safety rules and emergency plans recorded the lowest mean among the items (M = 3.67, SD = 0.72), suggesting room for further strengthening of emergency preparedness. The provision of psychosocial support services such as counselling (M = 3.87, SD = 0.83) and support for learners' emotional and mental well-being (M = 3.80, SD = 0.94) were also rated positively. Overall, the Environmental Safety Policy recorded a composite mean of 3.79 (SD = 0.87), indicating a high level of implementation.

Table 2: Teachers' Responses on the Implementation of the Environmental Safety Policy

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	SD
Ramps, tactile paths and accessibility facilities	6.7	6.7	13.2	46.7	26.7	3.80	1.15
Monitoring and enforcement of safety/accessibility standards	0	13.2	20.0	46.7	20.0	3.73	.96
School attends to health and safety needs	0	0	26.7	60.0	13.3	3.87	.64
Proper safety rules and emergency plans	0	6.7	26.7	60.0	6.7	3.67	.72
Support services such as counselling	0	6.7	20.0	53.3	20.0	3.87	.83
Support for emotional/mental well-being	0	9.5	9.5	53.3	20.0	3.80	.94
Composite score						3.79	.87

5.2 Learners' Views on the Implementation of the Environmental Safety Policy

Learners with visual impairment rated the extent to which their school environment supported their safety, accessibility and participation on a five-point scale from Never to Always (Table 3). Most learners reported feeling safe moving around the school, with 38.8% reporting they often felt safe and 33.0% reporting they always felt safe ($M = 3.94$, $SD = 0.99$). Paths, walkways and classrooms were reported as clear and easy to use by a large majority ($M = 4.06$, $SD = 0.99$). Teachers and staff support for safe movement recorded a mean of 4.15 ($SD = 1.00$), with 47.7% of learners reporting that such support was always provided. The item with the highest mean concerned whether the school environment did not prevent learners from joining learning activities ($M = 4.20$, $SD = 0.97$), with 45.7% of learners reporting this was always the case. Overall, learners' composite rating of the Environmental Safety Policy was 4.09 ($SD = 0.99$), indicating that the participating schools had established relatively safe, accessible and supportive learning environments.

Table 3: Learners' Views on the Implementation of the Environmental Safety Policy

Statement	Never (%)	Rarely (%)	Sometimes (%)	Often (%)	Always (%)	Mean	SD
I feel safe moving around the school	2.5	5.1	20.8	38.8	33.0	3.94	.99
Paths, walkways and classrooms are clear and easy to use	2.5	6.1	12.7	40.1	38.6	4.06	.99
Teachers/staff help me move safely	1.5	5.6	17.3	27.9	47.7	4.15	1.00
School environment does not stop me from joining activities	3.0	3.6	9.6	38.1	45.7	4.20	.97
Composite score						4.09	.99

5.3 Headteachers' Qualitative Accounts

Interviews with headteachers provided contextual depth to the quantitative findings. Respondents consistently emphasised that schools had made deliberate efforts to adapt physical infrastructure to the accessibility needs of learners with visual impairment, citing ramps, handrails, smooth pavements, spacious walkways and adequate classroom lighting as common adaptations.

“The physical environment supports learners when it is adapted to suit their accessibility needs.” (HT1)

“There are ramps, good lighting in classrooms, and large windows that allow adequate natural light.” (HT3)

“The physical facilities are learner-friendly; there are ramps, handrails, and smooth pavements.” (HT4)

Headteachers also described how classroom organisation and storage facilities for Braille materials contributed to a barrier-free learning environment, and how psychosocial support was embedded in school routines through guidance and counselling, mentorship, motivational activities and occupational therapy.

“Accessibility is enhanced through the construction of ramps and environments that are free from dangerous barriers.” (HT1)

“Lockers are provided to create adequate space for storing Braille books and learning materials, while wide windows allow sufficient natural light into the classrooms.” (HT3)

“Support is provided through guidance and counselling and occupational therapy.” (HT1)

“Schools promote learners' well-being through guidance and counselling, encouragement, motivation, and the use of role models.” (HT2)

These qualitative accounts corroborated the quantitative findings from teachers and learners, suggesting that accessible infrastructure, safe learning environments and psychosocial support jointly enabled learners with visual impairment to move independently, access instructional resources, and participate effectively in academic and co-curricular activities.

5.4 Hypothesis Testing

The null hypothesis, that there is no statistically significant relationship between the implementation of the environmental safety policy and learner participation among learners with visual impairment in Special Junior Schools in Kenya, was tested using binary logistic regression. The omnibus test of model coefficients was statistically significant, $\chi^2(1) = 49.416$, $p < .001$, indicating that environmental safety policy implementation significantly predicted learner participation. The model explained between 22.2% (Cox and Snell R^2) and 33.5% (Nagelkerke R^2) of the variation in learner participation, and the Hosmer-Lemeshow test, $\chi^2(5) = 22.190$, $p = .121$, indicated an adequate model fit.

Table 4: Binary Logistic Regression – Environmental Safety Policy and Learner Participation

Predictor	B	S.E.	Wald	df	Sig.	Exp(B)	95% CI
Environmental safety policy	1.188	.190	39.172	1	.000	3.279	2.261–4.756
Constant	-3.510	.752	21.781	1	.000	.030	—

The regression coefficient for environmental safety policy was positive and statistically significant ($B = 1.188$, $SE = 0.190$, $Wald = 39.172$, $p < .001$). The odds ratio, $Exp(B) = 3.279$, indicated that a one-unit increase in environmental safety policy implementation increased the odds of high learner participation by approximately 3.3 times, with a 95% confidence interval of 2.261 to 4.756. On this basis, the null hypothesis was rejected, confirming a statistically significant relationship between environmental safety policy implementation and learner participation.

The relationship remained significant when environmental safety policy was entered alongside funding, National Curriculum, assistive technology and staffing policies in a combined binary logistic regression model, $\chi^2(5) = 117.208$, $p < .001$, Nagelkerke $R^2 = .677$. Collinearity diagnostics confirmed no material multicollinearity among the predictors (tolerance for environmental safety = 0.394, VIF = 2.540). In this combined model, environmental safety policy retained a positive and significant coefficient ($B = 0.759$, $Wald = 3.943$, $p = .047$; $Exp(B) = 2.136$), indicating that a one-unit increase in its implementation increased the odds of high learner participation by approximately 2.1 times, net of the other four policy domains. Among the five policy predictors, environmental safety policy ranked fourth in strength of association, behind staffing, assistive technology and curriculum policy, but ahead of funding policy, underscoring that a safe and accessible environment makes an independent, if comparatively modest, contribution once human-resource and technological supports are accounted for.

6. DISCUSSION

The finding that environmental safety policy implementation significantly predicted learner participation is consistent with international evidence linking safe, well-maintained school environments to learner engagement and academic participation (Chan & Lee, 2022). It also aligns with evidence that comprehensive safety policies addressing both physical safety and psychological well-being positively influence participation and educational

engagement, particularly through guidance and counselling provision (Adams & Cross, 2021). The present study extends this evidence by demonstrating that the relationship holds specifically among learners with visual impairment in a specialised schooling context, where accessible infrastructure and psychosocial support appear to interact to support independent mobility, confidence and engagement.

The generally positive perceptions of environmental safety recorded in this study contrast with findings from broader disability and mainstream-schooling contexts, where safety and accessibility deficits have been more pronounced. Studies of inclusive primary schools in Tanzania (Kiomoka, 2024), public secondary schools in Nairobi and Nyeri counties (Wanderi, 2018), inclusive primary schools in Nandi South District (Kosgei, 2021), and schools serving learners with cerebral palsy in Kiambu County (Kamau, 2022) each reported more substantial infrastructural and resourcing gaps than were evident in the Special Junior Schools examined here. This divergence may reflect the specialised mandate of Special Junior Schools, which are established specifically to serve learners with visual impairment and may therefore be more likely to have institutionalised disability-responsive safety standards than mainstream or more generally inclusive settings. It is also consistent with evidence from Zambia that participation depends on the combination of physical infrastructure and supportive health and safety practices rather than infrastructure alone (Chirwa & Mutale, 2019), a pattern mirrored in the present study's qualitative findings on guidance, counselling and welfare support.

Interpreted through Bronfenbrenner's Ecological Systems Theory, the findings illustrate how conditions within the learner's immediate microsystem, accessible infrastructure, supportive teacher–learner relationships, and psychosocial support services, combine to shape participation, while decisions made within the exosystem and macrosystem, by the Ministry of Education, county governments and national policy frameworks, establish the resourcing and standards environment within which schools implement these measures. The persistence of a significant environmental safety effect even after accounting for funding, curriculum, technology and staffing policies suggests that a safe and accessible environment is not merely a proxy for adequate funding, but makes a distinct contribution to participation in its own right.

7. CONCLUSION AND RECOMMENDATIONS

The study concludes that the implementation of the Environmental Safety Policy contributes significantly to learner participation among learners with visual impairment in Special Junior Schools in Kenya. The provision of ramps, tactile pathways, spacious classrooms, adequate lighting, accessible sanitation facilities, and guidance and counselling services enhanced learners' mobility, independence, confidence, and participation in school activities. These findings indicate that accessible and learner-friendly school environments are indispensable for promoting inclusive education and ensuring that learners with visual impairment participate meaningfully in academic and co-curricular activities.

Arising from these findings, the study recommends that Boards of Management and school administrators continue improving the physical accessibility of school environments by constructing and maintaining ramps, tactile pathways, handrails, barrier-free classrooms, accessible sanitation facilities, and adequate lighting within school compounds. School management should also strengthen guidance and counselling programmes to promote the emotional, psychological, and social well-being of learners with visual impairment, and regular school safety audits should be conducted to ensure continuous compliance with national school safety standards and accessibility requirements. More broadly, the Ministry of Education should embed environmental safety within an integrated policy implementation framework that coordinates it with funding, curriculum adaptation, assistive technology, and staffing interventions, supported by measurable performance indicators, regular monitoring, and periodic policy review, so as to maximise the collective contribution of these policy dimensions to learner participation and to the achievement of inclusive, equitable, and quality education.

Future research could usefully examine the implementation of the Environmental Safety Policy across a larger and more geographically dispersed sample of Special Junior Schools, and explore, through longitudinal designs, how improvements in school infrastructure and psychosocial support translate into sustained gains in learner participation and academic outcomes over time.

REFERENCES

1. Adams, R., & Cross, T. (2021). School safety policies, learner well-being and participation: Evidence from administrators, teachers and health professionals.
2. Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
3. Bronfenbrenner, U. (2000). *Ecological systems theory*. American Psychological Association.
4. Chan, K., & Lee, S. (2022). School environment and learner participation: A cross-national survey of secondary school learners.
5. Chirwa, M., & Mutale, P. (2019). School health and safety policies and learner participation in Lusaka, Zambia.
6. Doyle, L., Brady, M., & Byrne, G. (2016). An overview of mixed methods research–revisited. *Journal of Research in Nursing*, 21(8), 623-635.
7. Kamau, A. (2022). Analysis of predictors of participation in learning among learners with cerebral palsy in special and regular schools in Thika Municipality, Kiambu County, Kenya (Doctoral dissertation).
8. Kiomoka, D. (2024). Children with visual impairments in Tanzania: An investigation of the challenges which children with visual impairments face in learning and participation in inclusive primary schools (Master's thesis).
9. Kiru, W. (2019). Special education in Kenya. *Intervention in School and Clinic*, 54(5), 298-303.
10. Kosgei, K. (2021). Factors influencing enrolment of learners with disabilities in an inclusive education in primary schools in Nandi South District, Kenya (Doctoral dissertation, University of Nairobi).
11. Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative and qualitative approaches*. African Centre for Technology Studies.
12. Ohba, A., & Malenya, L. (2022). Addressing inclusive education for learners with visual impairment.
13. Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. *Clinical Nurse Specialist*, 34(1), 8-12.
14. Wanderi, N. (2018). School safety and its influence on teaching and learning processes in public secondary schools in Nairobi and Nyeri counties, Kenya (Doctoral dissertation, Kenyatta University).
15. Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper and Row.