

CAREGIVER-RELATED CHALLENGES IN THE PROVISION OF EARLY LEARNING OPPORTUNITIES IN EARLY CHILDHOOD DEVELOPMENT CENTRES IN KIAMBU COUNTY, KENYA

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Abstract

This study examined the challenges faced by caregivers in Early Childhood Development and Education (ECDE) in Kiambaa sub-county, Kiambu County. The study was anchored in Bronfenbrenner's Ecological Systems Theory, which helped identify external environmental factors contributing to caregiver challenges. The study used mixed-methods research with a descriptive cross-sectional design. The target population comprised caregivers and managers from across 18 ECDE centres. The study adopted multiple sampling approaches. First, the study purposively selected locations based on population dynamics. Second, a stratified approach was adopted where the nature of the ECDE centre (whether public or private) was used as the main strata. The findings indicated that low motivation was the most significant challenge faced by caregivers, followed by heavy workloads and limited training opportunities. Limited access to training was associated with limited professional skills, technical competencies, and digital literacy. The workloads and external challenges faced were associated with psychological stress and emotional strain, affecting the ability of caregivers to commit and concentrate. The study recommends that county governments and relevant stakeholders increase remuneration and offer permanent contracts to address motivation, the most common challenge. Lastly, the study recommends institutionalizing professional development programs to ensure caregivers have the skills and capabilities needed to deliver holistic development in ECDE contexts.

Keywords: *Early childhood learning, caregiver challenges of early childhood learning, early childhood development centres, Kiambaa, Kiambu*

1. INTRODUCTION

Early Childhood Development and Education (ECDE) plays a pivotal role in children's cognitive, social, emotional, and physical development (Davis & Elliott, 2023). However, scholars argue that ECDE success depends heavily on caregivers' ability to provide support and ensure learners achieve holistic development (Bawani & Mphahlele, 2021). Globally, frameworks such as Sustainable Development Goal (SDG) Target 4.2 place responsibility for equitable and inclusive access to care and high-quality early education on caregivers. Despite this, scholars recognize that caregivers face structural challenges that often outpace the systemic support institutions offer. Across sub-Saharan Africa, caregivers continue to work in difficult conditions characterized by overcrowding and insufficient learning materials, which affect their ability to provide quality ECDE (Gao et al., 2021).

In Kenya, the shift towards the devolved model of governance transferred the management of ECDE centres to the county governments. Some of the benefits associated with the shift have been the expansion of ECDE centres and the increase in enrolment rates (Chenane et al., 2025).

For caregivers, the shift means county governments directly manage their activities, which face funding challenges and may be affected by competing development priorities. In Kiambu County, for instance, population growth has increased demand for ECDE services without a proportionate increase in caregivers or the resources available to them (Mwaniki et al., 2020). This means that despite challenges such as overcrowding and insufficient infrastructure and materials, caregivers are still required to provide quality learning that aligns with national and international standards and promotes holistic development.

Research has demonstrated that teacher-related challenges significantly affect the implementation of competency-based assessment and curriculum delivery in pre-primary schools (Ngusa, Begi, & Ndani, 2026a, 2026b). Additionally, teacher competence and professional training have been found to influence the use of instructional strategies to enhance pupils' literacy skills (Otuate, Begi, & Mwangi, 2021a, 2021b). These findings underscore the critical role of caregiver preparedness and ongoing professional development in achieving quality early learning outcomes. Furthermore, studies have established that school-related factors, including class size and physical facilities, significantly influence children's acquisition of early mathematics competencies and overall satisfaction with the quality of education (Rono, Begi, & Mwoma, 2020; Rono, Mwoma, & Begi, 2020; Njiru, Begi, & Mwoma, 2018). However, the current literature provides limited empirical evidence on caregiver-specific challenges and their influence on early learning opportunities in Kiambaa sub-county, Kiambu County.

1.1 Problem Statement

The success of early learning depends heavily on caregivers, who directly implement the curriculum and facilitate activities that promote holistic growth. Current evidence from Kiambu County indicates that the local administration has made substantial efforts, especially in terms of the construction of ECDE centres and the implementation of a school feeding program (Mwangi, 2023). Mwangi (2023) also notes that the feeding programs have increased enrolment, forcing educators and caregivers in the area to manage crowded classrooms. Other scholars, such as Mwaniki et al. (2020), have identified challenges such as limited infrastructure and low funding, making it difficult for caregivers to fulfill their roles efficiently.

Research has also shown that school-related factors, including remuneration and working conditions, influence teacher attrition in pre-primary schools (Ngala & Begi, 2017), while pupil absenteeism and transition challenges affect the achievement of literacy competencies (Matage & Begi, 2017; Kigadi & Begi, 2021). These challenges are compounded by the fact that many caregivers operate in environments with limited professional development opportunities and inadequate technological competencies (Mwololo & Begi, 2019; Mwololo, Begi, & Mweru, 2019). However, in Kiambaa sub-county, Kiambu County, empirical evidence on caregiver-specific challenges and their influence on early learning opportunities remains limited. This study therefore sought to fill this gap by examining the caregiver-related challenges affecting the provision of early learning opportunities in ECDE centres in Kiambaa sub-county.

1.2 Research Objective

Explore the caregiver-related challenges in providing early learning opportunities in early childhood development Centres in Kiambaa Sub-County, Kiambu County.

2. LITERATURE REVIEW

The study was anchored in Bronfenbrenner's Ecological Systems Theory, particularly because it posits that learning outcomes for children in ECDE settings are likely products of external learning environments (Feriver et al., 2022). At the same time, the theory also helps show that caregivers' challenges are not necessarily the result of their own actions but rather the interaction of different elements within the external environment. Research has consistently shown that the quality of physical environments in preschools significantly affects children's development and educational outcomes (Begi, Mwoma, & Murungi, 2023; Begi, 2023).

At the microsystem level, in the immediate school environment, one of the main challenges caregivers face is overcrowding, which makes it difficult to provide individualized attention. Similarly, at this level, caregivers often face insufficient learning materials, which can affect their ability to implement the curriculum effectively, as Tudge et al. (2022) observed. Research on safety and security in preschools has further revealed that inadequate physical facilities and overcrowding compromise children's safety and learning outcomes (Mwoma, Begi, & Murungi, 2018; Murungi, Begi, & Mwoma, 2021).

At the mesosystem level, the focus would be on the linkages between caregivers and the home and school environments (Banda et al., 2025). As Gitonga et al. (2025) observed, the curriculum adopted in ECDE settings requires substantial parental engagement. Studies have established significant relationships between parental engagement and children's early language competencies (Onyango, Begi, & Mugo, 2024a, 2024b), as well as the influence of parents' socioeconomic status on satisfaction with quality of services in pre-primary schools (Kaminju & Begi, 2017). In some cases, a lack of alignment between parents and the school can affect the likelihood of caregivers achieving their desired impacts.

At the exo-level, county government policies on funding and capitation affect access to required resources, which ultimately affects the ability to achieve the desired change. For instance, delayed salaries affect caregivers' motivation and ability to deliver. Research has shown that school climate and administrative support significantly influence parents' involvement in early years education (Mariba & Begi, 2020), and that parents' perceptions of teacher roles are influenced by demographic factors (Avoga, Wambiri, & Begi, 2020).

The macrosystems in this case include broader policies adopted by the national government and the Ministry of Education that guide and direct efforts to achieve early learning goals. In some cases, these policies and standards may pressure caregivers to focus on academic performance, which may affect their ability to achieve other goals related to holistic learner development. Research has demonstrated that instructional leadership and teachers' professional training significantly influence the implementation of competency-based curriculum in early years education (Awili & Begi, 2021; Otuate, Begi, & Mwangi, 2021b).

The last element considers the changes over time (Banda et al., 2025). External changes such as rapid urbanization within Kiambu County, as well as the evolving nature of the competency-based curriculum and devolution systems, are likely to challenge caregivers, who will need to adapt to remain relevant. Research has emphasized the importance of continuous professional development and integration of information and communication technologies to address these evolving challenges (Begi, 2014; Mwololo, Begi, & Mweru, 2019).

3. METHODOLOGY

3.1 Study Design

The study used a mixed-methods design to collect data using a combination of techniques (Timans et al., 2019). The design adopted was descriptive and cross-sectional. The design was effective for understanding and describing the challenges caregivers face and their contributions to early learning within Kiambaa sub-county.

3.2 Study Settings

The study was conducted in Kiambaa sub-county, Kiambu County, Kenya. As noted by Mwangi (2023) and Mwaniki et al. (2020), the region has witnessed significant progress in ECDE facilities. Despite this, early education quality remains moderate. This justifies examining the challenges caregivers experience. Research on centre-related factors influencing curriculum implementation in similar contexts has highlighted the importance of understanding local dynamics (Ngirerea & Begi, 2018).

3.3 Target Population

The population under focus was the ECDE caregivers and centre managers from Kiambaa sub-county. The caregivers were selected because of their direct interaction with the learners, which implies they understand the challenges that hinder the quality of early education. The next group was managers, selected because of their roles as administrators, which implies they are likely to understand the challenges caregivers face.

3.4 Sampling Approaches

The study adopted a combination of various sampling techniques. First, the researcher purposively selected Kiambaa sub-county because of the developments and challenges experienced in ECDE. Next, the researcher used stratified sampling, with the nature of ECDE centers (public or private) as the stratum. At this stage, the researcher selected 18 centres, of which 14 were public and 4 were private. The final stage was a simple random sample of caregivers and center managers, as shown in Table 1.

Table 1: Simple Size

	ECD Centre		Caregivers & Administrators	
	Population	15% Sample	Population	Sample
Public	92	14	92	28
Private	26	4	26	8
Total	118	18	118	36

3.5 Data Collection Process

The study applied a number of approaches in collecting data related to caregiver challenges within the ECDE centres at Kiambaa sub-county. First, the researchers administered questionnaires to caregivers because they could reach large groups of participants. Second, interviews were conducted with the managers to acquire detailed information. Third, the checklists were applied to enhance the overall credibility of the study. All instruments were pretested to evaluate their suitability before data collection. As a result, the researchers conducted a pilot test across two randomly selected ECDE centres in the study area. Data collection was conducted in person over a 12-week period, beginning with questionnaires, proceeding to interviews, and, lastly, observation checklists.

3.6 Data Analysis

The analysis was conducted across three main phases. The first was quantitative analysis, which was conducted in the form of mean and frequency distributions to identify the patterns and common attributes associated with caregiver-specific challenges within the centres. The second phase was qualitative analysis, where insights from the centre managers were evaluated thematically. The findings were further supported by the insights from observation checklists. The third phase was triangulation, where interview insights were used to support the challenge results from the questionnaires.

3.7 Logistical and Ethical Considerations

The first phase of this study was obtaining approval for the research from the institutional ethics board. After authorization, the researchers obtained a research permit from the National Commission for Science, Technology and Innovation and, later, institutional permission from the Department of Education within the County Government of Kiambu. Consistent with Hasan et al. (2021), the study included several ethical considerations. First, all participants received relevant information about the study and were required to provide consent. Participants were assured of confidentiality and informed that participation was voluntary. All information acquired was safely managed to prevent unauthorized access.

4. RESULTS AND DISCUSSION

The study aimed at evaluating the challenges experienced by caregivers in ECDE centres in Kiambaa Sub-county in Kiambu County. The questionnaire consisted of 10 challenges, and participants were required to indicate the most relevant ones. Table 2 summarizes the frequencies for each main challenge. This section uses qualitative findings from the themes to support the quantitative results and develop comprehensive findings on the challenges caregivers experience.

Table 2: Caregiver-Related Challenges

Challenge	Frequency	%
Low motivation	18	100
Heavy workload	16	88.9
Inadequate training opportunities	15	83.3
Limited technological competence	10	55.6
Psychological stress	9	50
Insufficient professional skills	8	44.4
Emotional strain	8	44.4
Inadequate qualifications	7	38.9
Limited digital literacy	6	33.3
Human resource limitations	5	27.8

From Table 2, the most significant challenge, evident across all participants, was low motivation. This suggests that teachers in ECDE centres in Kiambaa sub-county are not fully motivated to deliver quality learning. Scholars such as Barenthien et al. (2020) have found teacher motivation crucial to ECDE success. Interview findings point to low, often delayed salaries that affect teacher motivation. At the same time, the managers interviewed reported that some of the caregivers are employed on short-term and contractual bases, which affects their ability to commit and deliver quality instruction. Consistent with Mwangi (2023), the findings imply that caregivers continue to worry about salaries and job security, which affects their overall responsiveness to learners' needs. Research has similarly established that teacher attrition in pre-primary schools is significantly influenced by remuneration and employment terms (Ngala & Begi, 2017), reinforcing the critical nature of this challenge.

The next most common challenge was heavy workloads. In the interviews, participants reported large class sizes, which limited caregivers' ability to provide personalized attention. This challenge aligns with previous observations by Mwangi (2023) and Mwaniki et al. (2020) on ECDE in Kiambu County. As Gitonga et al. (2020) observed, the success of the current ECDE curriculum depends on providing tailored content that meets learners' specific needs. Research has demonstrated a significant correlation between class size and pupils' acquisition of early mathematics competencies (Rono, Begi, & Mwoma, 2020), suggesting that larger class sizes compromise learning outcomes. This means children in the care of overstressed caregivers are less likely to receive effective lessons and the close supervision needed to achieve the intended goals.

According to Table 2, 83.3% of participants reported limited access to training opportunities. As a result, participants also reported insufficient professional skills and inadequate qualifications. From the interviews, participants reported limited opportunities for professional growth and recertification, especially regarding implementing the competency-based curriculum in ECDE. Current changes in ECDE, especially the shift toward inclusion, holistic development, and digital learning methods, require caregivers to engage in continuous development to remain relevant, as Njiru and Odundo (2024) observed. Research has established that teachers' professional training significantly influences their use of instructional strategies to enhance pupils' literacy skills (Otwate, Begi, & Mwangi, 2021a, 2021b), while teacher preparedness and professional development are critical for successful competency-based curriculum adoption (Njiru, Begi, & Mwoma, 2018; Ngusa, Begi, & Ndani, 2026a). In this case, a lack of training opportunities would affect caregivers' ability to deliver confidently, especially in modern pedagogical approaches.

Study participants further reported limited technological competencies. Current evidence indicates that educational technologies have grown significantly in value within ECDE settings over time (Mwangi, 2023; Mwaniki et al., 2020). However, more than half of caregivers reported having limited digital literacy. Qualitative interviews support these findings, with some participants reporting an inability to integrate digital tools such as tablets and e-learning into their day-to-day activities. Research has demonstrated that lecturers' perceived usefulness and leadership support significantly influence the integration of information and communication technologies in instruction (Mwololo, Begi, & Mweru, 2019), while faculty-perceived ICT abilities influence the integration of technologies in instruction (Mwololo & Begi, 2019). Caregivers' limited technological competence reflects broader challenges in integrating ICT into early childhood education in Kenya (Begi, 2014).

Half of the participants in this study also reported psychological stress, affecting their ability to deliver quality ECDE. From the interviews, psychological stress and emotional strain may have resulted from heavy workloads, low salaries, and unsupportive working environments. According to Njiru and Odundo (2024), psychological stress and emotional strain reduce caregivers' patience, responsiveness, and capacity to manage young children, thereby negatively impacting classroom interactions and learning. Research has shown that school-related factors significantly influence teacher well-being and retention (Ngala & Begi, 2017), while the quality of the physical environment in preschools affects children's development and education (Begi, Mwoma, & Murungi, 2023). Additionally, studies have shown that safety and security concerns in preschools create stressful working environments for caregivers (Mwoma, Begi, & Murungi, 2018; Murungi, Begi, & Mwoma, 2021).

Lastly, human resource limitations were the least frequent challenge. In this case, 27.8% of the participants reported experiencing staff shortages, which affect caregivers' ability to provide quality supervision and individualized learning opportunities. Research on centre-related factors influencing curriculum implementation has similarly identified staffing shortages as a significant challenge (Ngirerea & Begi, 2018), while studies on transition challenges have highlighted the importance of adequate human resources in supporting children's achievement of literacy competencies (Kigadi & Begi, 2021; Macharia, Mugo, & Begi, 2025).

5. CONCLUSION

The study identified a number of challenges faced by caregivers in ECDE centres within Kiambaa sub-county. The main challenge identified was a lack of motivation, driven by heavy workloads and low salaries. The study found that most caregivers were on contract, which affected their ability to commit and deliver quality instruction. The study also found that caregivers have limited access to training opportunities, resulting in insufficient professional skills and inadequate qualifications, making it difficult to apply modern pedagogical approaches. Participants also identified challenges related to limited technological competencies and digital literacy that affect their ability to apply digital tools in early learning. Lastly, participants reported that they frequently experience psychological stress and emotional strain, which were found to decrease the responsiveness of caregivers to the needs of learners. Collectively, the identified challenges affect caregivers' ability to provide consistent, holistic, and developmentally appropriate early learning opportunities. Research has consistently demonstrated that addressing these challenges requires systemic interventions including improved remuneration, professional development opportunities, and supportive working environments (Begi, 2023; Otuate, Begi, & Mwangi, 2021a; Ngusa, Begi, & Ndani, 2026b). Therefore, strategies are needed to address these challenges.

6. RECOMMENDATIONS

6.1 County Government

- (i) County governments should improve remuneration and ensure prompt payment of the ECDE caregivers. The findings indicate that caregivers are not uniformly permanent, so county governments should provide permanent, pensionable contracts to minimize job insecurity and improve caregiver motivation. This recommendation is supported by research demonstrating the significant influence of remuneration and employment terms on teacher retention and satisfaction (Ngala & Begi, 2017; Kaminju & Begi, 2017).

- (ii) The county government and relevant stakeholders should institutionalize continuous professional development programmes among the caregivers. The programs could be offered annually to help caregivers continuously align their methods with required national and international standards. Research has demonstrated that professional development significantly influences teachers' competence and use of instructional strategies (Otware, Begi, & Mwangi, 2021a, 2021b; Awili & Begi, 2021), and is critical for successful implementation of competency-based curriculum (Ngusa, Begi, & Ndani, 2026a, 2026b; Njiru, Begi, & Mwoma, 2018).
- (iii) The County government should provide for more ICT training in order to improve the technological competencies and digital literacy of the caregivers. Research shows that integrating information and communication technologies into instruction requires perceived usefulness and leadership support (Mwololo, Begi, & Mweru, 2019), as well as adequate faculty ICT skills (Mwololo & Begi, 2019). County governments should invest in ICT infrastructure and training programs to enhance caregivers' digital literacy.

6.2 ECDE Centres

- (i) The ECDE centres should create psychosocial support systems aimed at addressing the challenges of emotional exhaustion identified in the study. Given the established relationship between school climate and teacher well-being (Mariba & Begi, 2020; Begi, Mwoma, & Murungi, 2023), centres should implement wellness programmes, counselling services, and supportive supervision to mitigate psychological stress and emotional strain among caregivers.
- (ii) There is a need for policy interventions addressing the human resource limitations in ECDE centers. County governments should develop comprehensive staffing norms that account for actual pupil-to-caregiver ratios and ensure adequate staffing to enable individualized attention and high-quality learning opportunities. Research has demonstrated that class size significantly influences children's acquisition of competencies (Rono, Begi, & Mwoma, 2020; Rono, Mwoma, & Begi, 2020), underscoring the importance of adequate staffing.

REFERENCES

- Avoga, E., Wambiri, G., & Begi, N. (2020). Influence of Parents' Age on Perceptions of the Role of Male Teachers in Preschools in Vihiga Sub-County, Kenya. *Journal of Education and Cultural Studies*, 4(4), 95-103.
- Awili, R. & Begi, N. (2021). Relationship between instructional leadership and implementation of competency-based curriculum in early years education in Nairobi County, Kenya. *Riel Journal*, 2(3), 476-478.
- Banda, L. O. L., Banda, C. V., & Banda, J. T. (2025). Challenges and realities of early childhood development centers in Malawi: A critical examination. *Plos one*, 20(2), e0314530.
- Barenthien, J., Oppermann, E., Anders, Y., & Steffensky, M. (2020). Preschool teachers' learning opportunities in their initial teacher education and in-service professional development—do they have an influence on preschool teachers' science-specific professional knowledge and motivation? *International Journal of Science Education*, 42(5), 744-763.

- Bawani, E. L., & Mphahlele, R. S. (2021). Investigating the role of teacher training of reception teachers in implementing the pre-primary curriculum in Francistown, Botswana. *South African Journal of Childhood Education*, 11(1), 1-14.
- Begi, N. (2005). Instructional Computing in Kenyan Pre-schools. *African Journal of Education Studies*, 1(1), 87-92.
- Begi, N. (2014). Critical factors in the integration of information and communication technologies in early childhood education in Kenya: A case of Nairobi County. *Journal of Information Technology Applications and Management (JITAM)*, 21(3), 80-96.
- Begi, N. (2014). Use of the mother tongue as a language of instruction in the early years of school to preserve Kenyan culture. *Journal of Education and Practice*, 5(3), 37-49.
- Begi, N. (2023). Research in the economics of early childhood education. *ISPEC International Journal of Social Sciences & Humanities*, 7(3), 807-819.
- Begi, N., Mwoma, T., & Murungi, C. (2023). Quality of the Physical Environment in Preschools in Informal Settlements in Nairobi City County, Kenya: Implications for Children's Development and Education. *Magistra Ladertina*, 18(1), 72-92.
- Chenane, Y. N., Kimengi, I. N., & Omachar, B. S. (2025). ECDE Teachers' Social Concerns on Administrative Support in the Competency-Based Education: A Case of Bungoma County, Kenya. *J Adv Educ Philos*, 9(10), 459-475.
- Davis, J., & Elliott, S. (Eds.). (2023). *Young children and the environment: Early education for sustainability*. Cambridge University Press.
- Feriver, Ş., Olgan, R., Teksöz, G., & Barth, M. (2022). Impact of early childhood education settings on preschool children's systems-thinking skills through the lens of Bronfenbrenner's theory. *Systems research and behavioral science*, 39(1), 85-103.
- Gao, Y., Zhang, L., Kc, A., Wang, Y., Zou, S., Chen, C., ... & Zhou, H. (2021). Housing environment and early childhood development in sub-Saharan Africa: A cross-sectional analysis. *Plos medicine*, 18(4), e1003578.
- Gitonga, C. M., Karuku, S., Asweto, C. O., Rugano, P., Saoke, V. O., Mulonzi, B. M., ... & Ngichio, D. O. (2025). Determinants of parental engagement in early childhood education in Kenya. *Discover Education*.
- Hasan, N., Rana, R. U., Chowdhury, S., Dola, A. J., & Rony, M. K. K. (2021). Ethical considerations in research. *Journal of Nursing Research, Patient Safety and Practice*, 1(1), 1-4.
- Ileri, J. W. and Begi, N. (2019). Role of parents in school management: A focus on decision making and accountability in resource provision in pre-primary schools in Embu County, Kenya. *African Journal of Teacher Education*, 7(8), 344-360.
- Kaminju, E. W. & Begi, N. (2017). Relationship between parents' socioeconomic status and satisfaction with quality of services offered in pre-primary schools in Makadara Sub-County, Kenya. *European Journal of Education Studies*, 3(7), 731-743.
- Kigadi, M. & Begi, N. (2021). Transition challenges affecting pupils' achievement of literacy competencies in early years education curriculum in Vihiga County, Kenya. *Researchjournalis Journal of Education*, 9(5), 1-17.

- Mabagala, D. L. & Begi, N. (2020). Influence of Demographic Factors and Type of School on Parents' Satisfaction with the Quality of Pre-Primary Education in Dar es Salaam, Tanzania. *European Journal of Education Studies*, 7(5), 147-162.
- Macharia, G. W., Mugo, J. W., & Begi, N. (2025). Age and gender as determinants of school dropout among Grade 3 pupils in Korogocho slums, Ruaraka Sub-County, Kenya. *Rwandan Journal of Education*, 7(1), 1–10.
- Mariba, J. R. & Begi, N. (2020). Relationship between School Climate and Parents' Involvement in Early Years Education: A Case of Military Sponsored Schools in Nairobi City County, Kenya. *International Journal of Research and Scientific Innovation (IJRSI)*, 7(4), 144-151.
- Matage, M. J. & Begi, N. (2017). Socioeconomic and school factors causing pupils' absenteeism in lower primary schools in Masaba Sub-County, Kenya. *European Journal of Education Studies*, 3(7), 451-463.
- Murungi, C. G., Begi, N., & Mwoma, T. (2021). Children's safety and security in non-formal pre-primary schools: The interventional measures. *Journal of Education and Learning*, 15(4), 505-510.
- Mwangi, C. W. (2023). *Influence of devolution support to early childhood development education on retention of pupils in public pre-primary schools in Wareng sub-county, Kenya* (Doctoral dissertation, University of Eldoret).
- Mwaniki, C. N., Kigwilu, P. C., & Mwalw'a, S. (2020). Preparation of daycare children for primary school enrolment and schooling in Kiambu County, Kenya. *Journal of African Interdisciplinary Studies*, 4(7), 77–88.
- Mwololo, J. N. & Begi, N. (2019). Does faculty perceived ICT abilities influence integration of information and communication technologies in instruction? A case of university early childhood education programmes in Kenya. *Journal of Education and Cultural Studies*, 3(4), 388-402.
- Mwololo, J. N., Begi, N. & Mweru, M. (2019). Impact of Lecturers' Perceived Usefulness and Leadership Support on Integration of Information and Communication Technologies in Instruction in Early Childhood Education Programmes in Universities in Kenya. *The International Journal of Humanities & Social Studies*, 7(6), 142-149.
- Mwololo, J. N., Barbara, G. K., Begi, N., & Mutweleli, S. M. (2010). Pre-school teachers' Knowledge and attitude towards use of Visual Media in Instructional Delivery in Kibwezi District, Kenya. *Journal of Research in Education and Society*, 2(1), 97-104.
- Mwoma, T., Begi, N. & Murungi, C.G. (2018). Safety and security in preschools: A challenge in informal settlements. *Issues in Educational Research*, 28(3), 720-736.
- Ngala, G. M. & Begi, N. (2017). School-related factors causing teacher attrition in preprimary schools in Mombasa County, Kenya. *European Journal of Education Studies*, 3(7), 555-568.
- Ngirireea, P. & Begi, N. (2018). Centre related factors influencing implementation of curriculum in early childhood development programmes in Turkana County, Kenya. *IOSR Journal of Research and Methods in Education*, 8(3).
- Ngure, G., Begi, N., Kimani, E. & Mweru, M. (2014). Utilization of Instructional media for quality training in pre-primary school teacher training colleges in Nairobi County, Kenya. *Researchjournal's Journal of Education*, 2(7), 1-22.

- Ngusa, J., Begi, N., & Ndani, M. (2018). Relationship between school learning environment and pupils' performance in mathematics in Nairobi County, Kenya. *European Journal of Education Studies*, 4(5), 148-164.
- Ngusa, J., Begi, N., & Ndani, M. (2026a). Teacher-related challenges affecting the application of competency-based assessment in pre-primary schools in Kibwezi West Sub-County, Makueni County, Kenya. *European Journal of Special Education Research*, 12(2).
- Ngusa, J., Begi, N., & Ndani, M. (2026b). Use of competency-based assessment in pre-primary schools: A study of teacher practices in Makueni County, Kenya. *European Journal of Special Education Research*, 12(2).
- Njiru, J. I., Begi, N. & Mwoma, T. B. (2018). Physical Facilities and Teacher Trainees' Satisfaction with the Quality of Education in Early Childhood Training Colleges in Kiambu County, Kenya. *IOSR Journal of Research & Method in Education*, 8(3), 61-67.
- Njiru, J. I., & Odundo, P. (2024). ECDE teacher preparedness and professional development for Competency-Based Curriculum (CBC) adoption in Kenyan higher education institutions. *International Academic Journal of Social Sciences and Education (IAJSSE)*, 2(3), 327-344.
- Nyakundi, K. M., Begi, N., & Kang'ethe, W. K. R. (2017). Determinants of parents' perception on school readiness among pre-primary school pupils in Kasarani Division, Nairobi City County, Kenya. *European Journal of Education Studies*, 3(6), 742-757.
- Onyango, C. N., Begi, N., & Mugo, J. W. (2024a). The relationship between children's early language competencies and parental engagement in learning activities in pre-primary schools in Busia County, Kenya. *European Journal of Special Education Research*, 10(4), 99-116.
- Onyango, C. N., Begi, N., & Mugo, J. W. (2024b). A comparative analysis of early language competencies between boys and girls in pre-primary schools in Busia County, Kenya. *European Journal of Special Education Research*, 10(4), 163-176.
- Otwate, P., Begi, N. & Mwangi, M. (2021a). Influence of teachers' subject competence and teaching experience on use of instructional strategies to enhance pupils' literacy skills in Busia County, Kenya. *Riel Journal*, 2(3), 315-324.
- Otwate, P., Begi, N. & Mwangi, M. (2021b). Relationship between teachers' professional training and use of instructional strategies to enhance pupils' literacy skills in Busia County, Kenya. *Riel Journal*, 2(3), 275-283.
- Rono, J.K., Begi, N., & Mwoma, T. (2020). Correlation between Class Size and Pupils' Acquisition of Early Mathematics Competencies: A Case of Kericho County, Kenya. *Journal of Education and Practice*, 11(21), 212-222.
- Rono, J.K., Mwoma, T., & Begi, N. (2020). Strategies used in the teaching of Mathematics: An implication of Grade Three Pupils' acquisition of early learning Mathematics competencies. *European Journal of Education Studies*, 7(6), 247-258.
- Timans, R., Wouters, P., & Heilbron, J. (2019). Mixed methods research: what it is and what it could be. *Theory and Society*, 48(2), 193-216.
- Tudge, J. R., Merçon-Vargas, E. A., Liang, Y., & Payir, A. (2022). The importance of Urie Bronfenbrenner's bioecological theory for early childhood education. In *Theories of early childhood education* (pp. 50-61). Routledge.

- Umar, F. A., Begi, N. & Waithaka, E. (2017). Use of mother tongue in teaching mathematics in lower primary school classes in Yola Metropolis: An empirical survey, 9(4), 1-9.
- Wafula, R., Kang'ethe, R., & Begi, N. (2020). Impact of Inclusive Remedial teaching on performance of pupils with Mathematics Difficulties in Lower Primary Schools in Butere District, Kenya. *The International Journal of Business & Management*, 8(8), 1-25.
- Wafula, R.W, Begi, N., Moses, W. P., & Wanyama, R. (2012). Early Identification of Learning Disabilities among Standard Three pupils in public primary schools in Butere District, Kenya. *Journal of Emerging Trends in Educational Research and Policy Studies*, 3(4), 389-394.