Parental Involvement and Family Support in Creating Conducive Preschool Physical Environments in Kiambu County, Kenya

Mary N. Ndani
Kenyatta University
Department of Early Childhood Studies

Abstract

Suitable preschool physical environments (including classrooms, outdoor area, equipments and learning materials) support children's learning and development. Appreciably, some early childhood educationists term the physical environments as the third teacher; after adults and peers. This study was prompted by earlier research in Kenya that had found unsupportive physical environments in most preschools, and very low parental involvement in collaborating with preschools. The researcher endeavoured to establish whether the level of suitability of preschool physical environments was related to the levels of parental involvement in collaborating, but the relationship was found to be insignificant. An investigation on what may account for the differences in the levels of the suitability of environments revealed that different family members play different roles in this regard, particularly in rural areas. The study recommended that parents and other family members should be sensitised on the value of preschool physical facilities in order to raise their levels of involvement. Further, suggestions on local strategies of raising levels of involvement were made.

Keywords: parental involvement, family roles, preschool physical environments, collaborating

Introduction

The environments in which young children spend most of their time awake should be suitable for their social, emotional, physical and intellectual development. As such, in addition to having teachers who are trained, caring, and responsive to children, preschools should have developmentally appropriate and safe physical environments. Classroom lighting, Indoor Air Quality (IAQ), and class size relative to the number of children using it have been found to play a role in determining children's health and educational outcomes. According to Buckley, Schneider, & Shang (2004) for example, C*lassroom Lighting* influences children's performance. Based on the findings of seventeen studies (from the mid 1930s to 1997), Buckley, et al (2004) reported that appropriate lighting improves test scores, reduces off-task behaviour and plays a significant role in the achievement of learners. Their review of a study by the Heschong Mahond Group (1999) covering more than 2000 classrooms also showed that learners with the most classroom natural daylight progressed 20% faster in one year on math tests and 26% faster on reading tests than those who learned in environments with the least amount of natural light. Buckley et al (2004) also found that many learners suffer from "sick building syndrome" due to poor *Indoor Air Quality* (IAQ). This leads to frequent absenteeism and consequently performance particularly due to asthma. In addition, according to Ismail, Darus, Salleh, Sumari, and Harun, (2012) *Thermal comfort* in preschool buildings affects pupil's physical and psychological health and influences their distraction levels, and therefore their performance.

Their finding is consistent with that of Harner (1974, cited in Schneider 2002) that established the best temperature range for learning reading and math to be sixty-eight to seventy-four degrees Fahrenheit. Harner's study reported that the ability to learn the subjects is adversely affected by temperatures above seventy-four degrees Fahrenheit. Similarly, Wyon (1991) demonstrated that student performance at mental tasks is affected by changes in temperature. Wyon's report confirmed King and Marans' (1979) findings that learners' achievement and task-performance deteriorate with increase in temperature and humidity. This happens because high temperatures decrease children's attention span. In recognition of the important contribution physical environments make towards children's development and learning, the Kenya Ministry of Education Science and Technology (MOEST, 1984) set standards for each of the aspects of the environment. These standards were used in assessing the suitability of preschool environments. According to the Ministry, preschool out-door space should be at least 3m squared per child, and should be leveled out, clear of sharp objects and harmful plants in order to ensure safety.

It should be immediately adjacent to the building so that children do not have to walk far in order to play. For security reasons, the standard guidelines also recommend a fence or a hedge that is high enough to prevent children from climbing on it. Sanitary facilities should include at least two toilets or latrines, one for boys and one for girls for a preschool with 50 children, and an additional one for any extra 15 children. There should also be one for teachers. The facilities should be constructed a distance away from the classrooms and in the direction towards which the wind blows. They are best if made of washable floors, but if not, ash should be poured on earth floors before sweeping to kill germs. Classrooms should be well lighted and ventilated, and allow space of at least 1m square per child. They should have space to store equipment and supplies, and the wall should be suitable for displaying pictures and charts or else soft boards or hessian be fixed to the walls. Furniture on the other hand should be appropriate to the size and developmental needs of children. Chairs are preferred to benches because they support the child's back. However, whether they use benches or chairs the height should be between 25.4 cm to 35.5 cm to prevent children's legs from hanging. The tables should be flat topped. Cupboards and shelves should be low enough for children to learn to take out and put back materials by themselves. Chalkboards or walls too should be low enough for children to reach and use. Learning Materials and equipment such as books, puzzles, paints, boxes, and blocks should be organized into learning areas on the basis of similarity. The Ministry recommends that outdoor large equipment be permanently fixed, and foundations sunk and strengthened with concrete. The base of such equipment as slides and swings should be softened with sand, grass or sawdust for safety. Swings should allow free movement. As a safety measure, the swing area should be fenced to allow only the child using it into the enclosure. The fence should be low enough to allow spectators to see clearly, and also free from sharp objects to allow children to lean on it.

In Kenya, parents are aware of the required facilities, equipment and materials, and that, it is their responsibility to provide the same (KIE, 1992). Although in the Kenyan context parents are entrusted with the responsibility of providing structures, equipment and materials, reviewed studies reported very low parental involvement in this respect (Ngome, 2002; Ndani, 2008, Koech, 2009 & Manasi, Ndiku, Sang & Ejakait, 2014). Research also reported poor physical environments as a predominant feature in Kenyan preschools. A baseline survey by the MOEST (1999), for instance reported inadequate equipment and materials in most preschools. These findings were corroborated by Wawire, (2006) who found inadequate physical environments, play equipment, learning materials and sanitation in Machakos District of Kenya. In addition, studies by Gakii, 2003 and Ngasike, 2004 reported congestion in preschool classrooms. In another study, Ngome, 2002 found most of the public preschools in the sample to be characterized by windowless, rough mud walled and floored classrooms, and others that are iron-sheet walled and roofed. In such classrooms, temperatures can go very high or very low, ventilation is inadequate, dust is a problem and children are easily distracted. Ngome (2002) also found inappropriate and inadequate desks and chairs in some public schools, while in others they were unavailable and children sat on floors. In Ngome's study, 26% of the schools had no teaching-learning materials other than chalk and writing materials, a pattern consistent with Aila's (2004) study in Homa Bay preschools.

The low parental involvement is prevalent despite its expected benefits to children. Numerous study reports show that parents' involvement in their children's learning has positive child outcomes. Parental involvement in their children's learning at home for example has been associated with a positive influence on their educational achievement (Duckworth, 2008, Evangelou & Sylvis, 2003; Harris and Goodall, 2007; Manasi, Ndiku, Sang, & Ejakait, 2014, and Kimathi, 2014). In addition Evangelou & Sylvis (2003) reported that these benefits are not limited to development of literacy and numeracy skills, but include development of higher self esteem. Positive attitudes towards school, better attendance and behaviour, and low rates of class repetition are among other reported gains of high parental involvement in their children's learning (Zins et al., 2004). These benefits have been found to extend to adolescence and beyond (Flouri & Bachan, 2004). Studies on parental involvement have mostly focused on the direct relationship between parenting, involvement with children's learning activities at home and volunteering in school. Collaboration, which entails mostly financial and material support rather than direct involvement in children's learning had, however, not received much attention. The reported unsuitable preschool environments were also widespread despite Kenyan parents being aware of the required facilities, equipment and materials and, that it is their responsibility to provide the same (KIE, 1992). Further, the condition of preschool physical learning environments was perplexing because reportedly parents provide better facilities for children in primary schools and beyond (MOEST, 1999).

This study was therefore designed to find out whether the level of parental collaboration is related to the level of suitability of the physical environments that are expected to have an influence on children's learning and development. The findings of the study were expected to inform policy and practice in this regard. The study therefore set out to answer four questions:

1. What is the level of parents' involvement in collaborating in their children's preschools in Kiambu County?
2. Are the preschool physical environments in the County suitable to support children's development and learning?
3. Are the levels of parental collaborating related to the suitability of preschool physical environments?
4. Do other family members contribute towards the suitability of preschool physical environments?

Methodology and Instrumentation

The study employed a descriptive research using an ex-post-facto design, because the variables could not be manipulated. The study respondents comprised of 221 parents and 15 preschool committees. Data were collected using a researcher constructed parents' interview schedule, ECDE committee Focus Group Discussion (FGD) guide and an observation checklist. The parents' interview schedule, in addition to their demographic information contained a four-point Likert scale used to score parents' reported frequencies of involvement in each of the 14 listed activities. The activities were derived from collaboration activities identified by Epstein (1995). The FGD guide was made up of open-ended questions and allowed for probing in search of clarity. Using the scores, frequencies and the mean Z-score were worked out. Z-score is a standard score with a mean of zero (0) and a standard deviation of one (1). Using this statistic, a raw score above the mean attains a positive Z-score and that below the mean a negative Z-score (Orodho, 2004). The level of involvement was thus classified as either high or low, based on this mean. Consequently, low participation constituted any score below the mean Z-score and high participation scores above it. The observation checklist on the other hand comprised of forty-five items that measured the suitability of preschool outdoor play space and equipment, sanitation facilities, classrooms, as well as learning and play materials based on MOEST standards. The suitability of the preschool physical environments were assessed using three criteria: availability, adequacy, and safety of facilities, equipment and materials. Each criterion was considered suitable if it had an above average Z-score and unsuitable if below the mean Z-score. Quantitative data were analyzed using descriptive statistics. Pearson's Chi-square was then used to establish whether there was a significant association between parents' level of involvement and suitability of preschool environment at the critical value of =0.05. Qualitative information was organized and summarized according to similarities and common themes and was used to explain and complement the quantitative information.

Findings

Although the invited 240 parents comprised an equal number of men and women, the 221(92%) who turned up constituted 162(73.3%) women and only 59(26.7%) men. Out of 221 only 83(37.6%) participated relatively highly. The rest 138(62.4%) recorded low participation. Precisely, 130(58.8%) said they had never taken part in any of the 14 activities under investigation shown in Table 1.

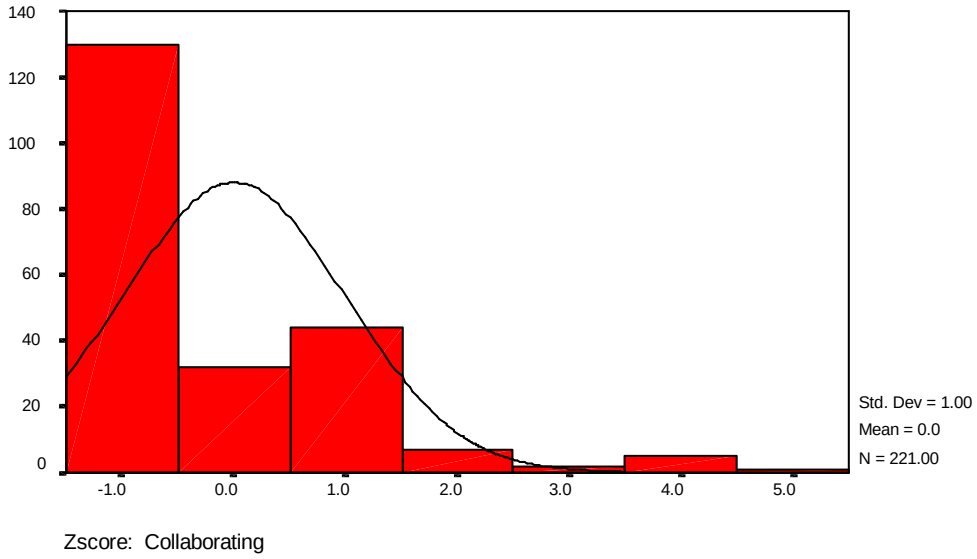
Table 1: Frequency of Community Participation in Collaborating Activities

Type of Collaborating Activity	Frequency	Percentage
Providing learning materials	71	32.1
Providing play materials	43	19.5
Donating funds	18	8.1
Providing building materials	9	4.1
Identifying educational sites for visits	9	4.1
Offering labour for money	8	3.7
Organizing fund raisers	6	2.7
Soliciting donations from individuals	5	2.3
Involvement in Income Generating Activities	3	1.4
Taking part in "jumbo sales"	2	0.9
Soliciting donations from Faith Based Organizations	2	0.9
Soliciting donations from Government	1	0.5
Soliciting for information that could benefit the school	1	0.5
Soliciting for funds from Non Governmental Organizations	0	0.0

N=221

As depicted in table 1, the 71% parents who collaborated highly did so by providing such learning materials as books, pencils, empty containers, plasticine and counters. Others (43%) provided play materials like balls and beanbags, and yet others donated money. Evidently, the activities they often engaged in are unlikely to make a noticeable contribution towards creating suitable preschool physical environments. The fact that parents' collaboration was too low to exact noticeable influence is further demonstrated in Figure 1. The figure shows that majority of those who were high in collaborating were within 1 standard deviation above the mean.

Figure 1: Variation in Community Participation in the Collaborating mode



As illustrated in figure1, a simple majority of parents were below the mean level of participation. According to the Focus Groups, the low participation was not due to ignorance or complacency on the part of parents. Majority of the members of the Focus Groups, that is 13(86.7%) and 9 (60%) expressed dissatisfaction with facilities, equipment and materials respectively. These group members were discontented with unavailability, inadequacy and lack of safety of preschool physical environments. Specifically, they expressed dissatisfaction with the conditions of classrooms saying that most were few in numbers, incomplete and small for the numbers of children accommodated. They also cited inadequate numbers and varieties of play equipment and learning materials. Temporary shelter, poor ventilation and lighting, un-plastered walls and high seats on the other hand described unsuitability. Some respondents among those concerned with safety expressed such sentiments as:

"There is usually a scramble as children try to get a chance to play with the few available equipment, and children can easily hurt one another"

And;

"The school has no fence and a lockable gate, and therefore the committee cannot make a sand pit (at the base of the slide) for fear the sand will be stolen especially during school holidays". (Anonymous, personal communication, study FGD interviews, October, 24 2014)

Consistently, the aggregate physical environment was found to be 55% unsuitable. Thus, more than half, of the preschools had below average physical environments. Illustratively, only 17(42.5%) of the 40 preschools had most of the required facilities, although those available were found to be adequate relative to the number of children who used them in 27(67.5%) of the preschools. The rest 13(32.5%) preschools had inadequate facilities. On the aspect of safety, 22(55.0%) of the preschools were unsuitable. It is, however, worthy noting that the items evaluating the environment for safety were based strictly on the Ministry of Education Science and Technology (MOEST) recommendations, which could account for these findings. These findings in essence mean that many preschools had limited facilities, equipments and materials in terms of varieties, but those that were available were sufficient in the majority of the preschools. A substantial number of these available facilities, equipment and materials, however, were unsafe according to the MOEST standards. The existing level of suitability was, therefore short of what may be termed as ideal in such an important aspect of the preschool children's learning environment.

Since parents have the responsibility to provide for children conditions for optimal development, the study sought to establish whether the suitability of preschool physical learning environments was related to the levels of parents' involvement. A cross-tabulation between levels of parents' involvement and the suitability of preschool physical environment yielded the results shown on Table 2.

Table 2: Level of Total Participation*Level of Suitability of Preschool Environment Cross-tabulation

		Level of suitability of preschool environment.		**Total**
		Low (Z score < 0)	High (Z score > 0)	
Level of total participation	Low (mean Z score < 0)	15 55.6%	12 44.4%	27 100.0%
	High (mean Z score >0)	7 53.8%	6 46.2%	13 100.0%
Total		22 55.5%	18 45.0%	40 100.0%

The tabulation revealed that the preschool environment was unsuitable in spite of the level of parents' involvement. Out of the 27 preschools where the level of parental involvement was low, 15(55.6%) had unsuitable and 12(44.4%) suitable environments. Further, in the 13 preschools where parents were highly involved 7(53.8%) had unsuitable, while 6(46.2%) had suitable environments. These results suggest show no relationship between the levels of involvement and the suitability of the environment. To corroborate these findings, Chi-Square was used to test for the following null hypothesis:

Ho1: The level of parental involvement is not significantly associated with the suitability of preschool physical environments at 0.05 levels of significance.

Table 3 illustrates the results of the chi-square test.

Table 3: Level of Participation* Level of Suitability of Preschool Environment Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.010(b)	1	.919		
Continuity Correction(a)	.000	1	1.000		
Likelihood Ratio	.010	1	.919		
Fisher's Exact Test				1.000	.592
Linear-by-Linear Association	.010	1	.920		
N of Valid Cases	40				

a Computed only for a 2x2 table

b 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.85.

The results of the test demonstrate that the relationship between parents' involvement and the suitability of preschool environment was not significant (.919 > p > 0.05; 2-tailed). The null hypothesis was, therefore, accepted. The insignificant relationship meant that preschools with high parental involvement did not necessarily have suitable physical environments, and neither did those with low involvement necessarily have unsuitable environments. These findings mean that the level of parental involvement does not explain the differences in the level of suitability of preschool physical environments. Focus group discussions however gave some insights on the possible explanation of the missing link between the level of suitability of preschool physical environments and parents' contribution on the same. The discussions revealed that some of the respondents in late adulthood and the elderly (aged 55years and over) were involved grandparents. This means that they were grandparents playing parental roles. The involvement of grandparents in children's learning demonstrates that the Kenyan family strength of fosterage and extended family support is still present although to a lesser extent than in the past. Unfortunately, while some of the grandparents were looking after their grandchildren because the children's parents are engaged in employed labour, some did so because of the contemporary realities of raising single parenthood, teenage births and deaths resulting from prevalence of HIV/AIDS among the young generation. In addition, it emerged from the discussions that the recorded low participation did not include the contributions of absent parents whose children were under the care of grandparents. Some of these parents were said to pay development funds directly to schools. Some also participated in organizing the fund raisers, soliciting money from friends for the same and donating materials for construction.

These parental contributions were unaccounted for in the data since participants only reported their own actions. Further, while the young single and teenage mothers who participated in the study reported low levels of collaborating, the FDGs reported that their families and community members played some roles on their behalf. Voicing this message, one of the members said:

"*How would they manage if left alone? They are not able. Some are only children. They can hardly feed themselves."* Anonymous, personal communication, study FGD interviews, October, 21 2014)

Consequently, Early Childhood Development centre committees were mainly made up of mature and experienced individuals, most of them being involved grandparents. The strength in the African families' support, whereby young parents are assisted by the older generations until they have matured enough to shoulder community responsibility was evident in this practice. The over representation of women (73.3%) to men (26.7%) also symbolizes the support that African women provide to their families, despite many being limited by low economic and social power. In this respect, majority cited poverty as hindering their participation. Many women were, therefore, said to provide easily accessible and developed play and learning materials including bean bags, home-made balls, counters and containers. In addition, many women were said to attend meetings and conferences in preschools but could not do anything regarding decisions that are made, voiced as follows:

"*They cannot give what they don't have."* Anonymous, personal communication, study FGD interviews, October, 21 2014).

Further, some women reportedly disown decisions made in the meetings they attend when challenged by their husbands. One member of a focus group said this in the following words:

"*They (referring to women) are told by their husbands that if they agreed to pay money they will pay it themselves."* Consequently, *"They (women) turn around and say it was others that said it, and that they did not talk"* Anonymous, personal communication, study FGD interviews, October, 21 2014).

The discussions also revealed that despite their low representation among the respondents, men were willing to get involved in their children's learning. They however viewed themselves first and foremost as breadwinners. This was inferred from the FGDs' information that men turned up in greater numbers when invited to the preschools over the weekend. The following statements serve to show one of the FGD's appreciation of the role men play in preschools.

"*They are the pillars of families. They come when they are not going to work. Without them women are not able to do anything."*Anonymous, personal communication, Study FGD interviews, October, 24 2014)

Rural parents were also found to engage primary school children in clearing preschool compounds and doing simple repairs in their classrooms. This was also said to teach them responsibility which are greatly valued in the Kenyan family. Involving siblings in the schooling of younger children also demonstrates strength in the Kenyan family; that of cooperating in all matters concerning its members.

Discussion

This study found low parental involvement in collaborating with preschools. The findings were consistent with other research (Ngome, 2002; Koech, 2009 & Manasi, Ndiku, Sang & Ejakait, 2014) on this aspect of parental involvement. More than half of the parents even admitted that they had not been involved in any of the activities under investigation in the last one year. The contributions made by those who participated were also found to be minimal and therefore unlikely to impact much on the preschool physical environment. Further, consistent with earlier research reports by Gakii, (2003) and Ngasike, (2004) the suitability of physical environments was found to be below average in most of the preschools. The inadequate and unsafe environments found were similar to those reported by Ngome (2002). Such environments are likely to limit children's academic achievements as research has shown (Buckley, et al., 2004; Heschong Mahond Group, 1999; Ismail et al 2012 Wyon, 1991). The finding that the level of parental involvement was unrelated to the suitability of the preschool environment seemed inconsistent with practice and research. In the study by KIE (1992) parents admitted that they were aware of the required facilities, equipment and materials, and, that it is their responsibility to provide the same. The finding also contradicts research that shows that parental involvement has positive implications on children's development and learning. The benefit that have been associated with parental involvement include higher educational achievement (Duckworth, 2008, Evangelou & Sylvis, 2003; Harris and Goodall, 2007; Manasi, Ndiku, Sang, & Ejakait, 2014, and Kimathi, 2014). Positive attitudes towards school, better attendance and

behaviour, and low rates of class repetition have also been associated with parental involvement in their children's learning (Zins et al., 2004). Since this study recoded very low levels of parental involvement it is likely that the impression created by the statistical analysis of data does not provide a clear picture of what would be the case if a significant number of parents was found to collaborate with their children's schools. The possibility of an inaccurate impression is also implied by the explanations given in the discussion groups. According to the panelists, "parental" involvement in preschools is a responsibility shared among different family members. The members identified in the research include involved grandparents, fathers, mothers and older siblings. In essence, the discussions revealed that studying any one of these entities in the Kenyan context may not give a complete picture of the roles played by families in this regard. The unsuitability of the physical environments were also attributed in part to teachers and managers' failure to invite parents to engage with schools. Another reason why the environments were unsuitable according to the committees participating in discussion groups was lack of awareness on the part of some parents on the roles they were expected to play.

Study Recommendations

The study recommended that parents and other family should be sensitised on the value of preschool physical facilities and the need to participate in their provision and development, in order to raise their levels of suitability. Further, preschool management and teachers may need to schedule activities during weekends in order to raise levels of parental involvement in collaborating. On their part, community members should impress upon preschools on the nature of their work and other social commitments to enable them plan for activities when a majority can avail themselves. HIV/AIDS programmes need also to be intensified in order to ease the challenges that grandparents who care for grandchildren face. Lastly, Policy makers need to design strategies to empower women economically in order to strengthen their decision-making and collaborative abilities.

References

Aila, H.P. (2005). Factors influencing the use of visual aids in preschools in Asego Division of Homa Bay district. Unpublished M.Ed thesis, Kenyatta University

Buckley, J., Schneider, M., & Shang, Y. (2004). Organizing for effective early childhood programs and practices. Critical Issue, Cambridge: Harvard Family Research Project Posted by the National Clearinghouse for Educational Facilities. Retrieved on July 15 2015 from www.edfacilities.org.

Duckworth, K. (2008). Influences o attainment in primary school and interactions between child, family and school contexts. DCSF Research Brief RB)

Epstein, J.L. (1995). School/Family/Community partnerships caring for the children we share. Parent Involvement Model, May 1995, Phi Delta Kappan (p.701-712).Retrieved on 4/30/04 from http://departments web.edu/chfam/3640/parentInv.htm

Evangelou, M. & Sylvia, K. (2003). The Effects of the Peers Early Education Partnership (PEEP) on Childen's Developmental Progress. Department of Educational Studies. University of Oxford.

Farrel (2003). C. et al. Low income families and household spending, DWP Research Report Series No. 192.

Flouri, E. and Bachan, A. (2004). Early father's and mothr's involvement and child's later educational outcomes. British Journal of Educational Psychology, 74. 141-153

Harner, David P. 1974. Effects of thermal environment on learning skills. The Educational Facility Planner 12(2): 4–6.

Harris, A. and Goodall, J (2007). Engaging Parents in Raising Achievement- Do Parents Know they Matter? DCSF report, TW004

Holloway,S. D., Yamamoto, Y., Sizuki, S. & Mindnich, J. D. (2008). Determinants of parent involvement in early schooling: Evidence from Japan. Journal of …?

Ismail, Z. S., Darus, F. M., Salleh, N. M., Sumari, S. M.and Harun, N.K.N.C. (2012). Thermal Environment of Natural Ventilated Pre-school Buildings in Warm-Humid Climates. IEEE Symposium on Business, Engineering and Industrial Applications

King, J., and R. W. Marans. 1979. The physical environment and the learning process. Report number 320-ST2. Ann Arbor: University of Michigan Architectural Research Laboratory. (ED177739)

Manasi, E., Ndiku, J. M., Sang, A., & Ejakait, E. (2014). The influence of parental involvement in provision of teaching-learning resources on educational outcomes: an empirical study of Teso north sub-county primary schools

Ndani, M.N. (2008). Impact of Community Participation on preschool teacher motivation and physical learning environments in Thika district, Kenya.

Ngome, C.K. (2002). Quality of training and attrition of early childhood development teachers in Kenya. Unpublished Report

Peters, M., Seeds, K., Goldstein, A. and Coleman, N. (2008). Parental involvement in children's education 2007. Research report. RW004.

Schneider, M. (2002).Do School Facilities Affect Academic Outcomes? National Clearinghouse for Educational Facilities. November

Wyon, D. P., I. B. Andersen, and G. R. Lundqvist. 1979.The effects of moderate heat stress on mental performance. Scandinavian Journal of Work, Environment, and Health5, pp. 352–61

Zins, J. E., Weissberg, R. P., Wang, M. C., & Walberg, H. J. (Eds.). (2004). Building school success on social and emotional learning. What does the research say? New York: Teachers College Press.