# INFLUENCE OF TEACHERS' INSTRUCTIONAL PRACTICES: Collaborative activities in teaching and learning of preschool children in Kiambu West Sub-County; Kenya

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#### **Abstract**

Learning of preschool children has faced numerous challenges which have raised concerns among preschool education stakeholders. Preschool learners have registered and continued to register dismal grades in basic numeracy, language and creativity skills. Thus, the study examined the influence of teachers' instructional practices on preschool learning in Kiambu West Sub-county, Kiambu County, Kenya. The objective, of the study was to determine the influence of teachers' instructional practices for collaboration on learning of preschool children in Kiambu West Subcounty; Thestudy wasbased on instructional, learning andskills acquisition theories. The study adopted mixed methods approach, concurrent triangulation design. Target population comprised of 80 head teachers, 187 preschool teachers and 240 parents' representatives and 2400 preschool learners all totaling to 2907. Using the Central Limit Theorem, a sample of 10 preschools and 326 respondents were selected. Stratified sampling was applied to create five strata based on number of zones. From each zone, two head teachers and 11 preschool teachers were selected using purposive sampling. 4 parents' representatives and 48 preschool learnerswere selected using simple random sampling. Questionnaires were used to collect data from preschool teachers, interview schedules were used to collect data from head teachers, whereas focus group discussion was used to collect data fromparents' representatives and observation checklists were used for collection of data from preschool learners. Qualitative data was analyzed thematically along the objectives and presented in narrative form whereas quantitative data was analyzed descriptively and inferentially using statistical package for social science (SPSS 23) and presented using statistical tables. The study established that preschool teachers who are prepared for collaboration with other education stakeholders enhance learning in preschools. The study established that preschool teachers do not plan lessons together with colleagues which do not enable them to promote preschool learners' language skills, numeracy skills and learners' acquisition of creativity skills.

# **Key words:**Collaboration, Preschool Learners, Learning of Preschool Children, Instructional practices,Preschools

### I. Introduction

This study was guided by the Instructional Theory by Robert Gagne (1999). This theory prescribes how to better help and influence people to learn. It is premised on three general theoretical stances which take part in this influence, that is, behaviorism, cognitivist and constructivism. Instructional theory helps educators, in this case teacher, create conditions that increases the probability of learning. This study was also directed by the Skills Acquisition postulated by Dekesyer (2007).

The theory holds the view learning of a wide variety of skills shows a remarkable similarity in development from initial representation of knowledge through initial changes in behavior to eventual fluent, spontaneous, largely effortless, and highly skilled behavior, and that this set of phenomena can be accounted for by a set of basic principles common to acquisition of all skills.

The rationale of adopting these theories is that they encompass different instructional models, instructional strategies and instructional methods. The theories carry out four tasks, that is, knowledge selection, knowledge sequence, interaction management and setting of interaction environment, which are the ingredients of quality instructional practice. In Kenya, developing teacher effectiveness is as important as measuring it (Eshiwani, 2003). A studyconducted in Busia, Ajuoga, Indoshi&Agak (2010) concluded that teachers' participation in standards-basedperformance assessments help teachers improve their practice.

In Kiambu West Sub-county, teachers who have gone through National Board Certification, for example, note that the process of analyzing their own and their learners' work in light of professional standards helps them better assess children's learning and evaluate the effects of their own actions (Asembo, 2003). Asembo (2003) further indicated that teachers also have to adopt new practices that are called for in the standards and assessments, such as engaging learners in learning process. Most studies have indicated that collaboration aspect and being mentored may not necessarily contribute to teachers feeling better prepared for classroom demands. The findings may also be clouded by the influence of teaching experience and whether or not teachers were mentored. In addition these patterns may be clouded by the influence of teaching experience, since experienced teachers were more likely than newer teachers to serve as mentors. Although establishing a regular time and space to meet is important, other conditions are required for individuals to work effectively. One roadblock relates to teacher perceptions. Some teachers prefer working alone; they might feel mistrustful of other staff members, want to protect their territory or resist what they perceive as interference from outsiders. At the same time, although collaboration can thrive in a climate of continuous, positive, and respectful critical inquiry, some teachers mistake critical for criticism and fear that others will point out their instructional shortcomings. These were the research gaps which this study sought to address.

# **Objective**

To determine the influence of teachers' instructional practices in collaborative activities in teaching and learning of preschool children in Kiambu West Sub-county

# **Research Hypothesis**

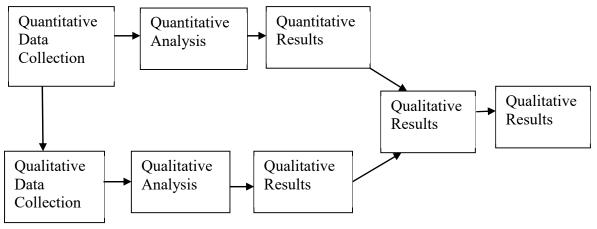
**H**<sub>0</sub>: There is no significant influence of teachers' instructional practices for collaboration on learning of preschool children in Kiambu West Sub-county;

### II. Methodology

The study applied mixed methods approach, where, both qualitative and quantitative approaches

wereapplied. According to Creswell (2009), in qualitative approach, the researcher relies on the views of participants, asks broad, general questions and collects data consisting largely of statements from the participants (Creswell,2009). In this case, the researcher described and analyzed these statements based on the objectives of the study. This kind of data was collected using an interview schedule guide, focus group discussion and an observation schedule. At the same time, the researcher adopted quantitative approach. Concurrent triangulation design was applied in this study since it is single-phase design in which the researcher implements the quantitative and qualitative methods during the same timeframe and with equal weight (Creswell, 2009). This design generally involved the concurrent, but separate, collection and analysis of quantitative and qualitative data so that the researcher may best understand the research problem. The researcher merged the two data sets by bringing the separate results together in the interpretation during the analysis.

Figure 2. Concurrent triangulation design



Source: Adapted from Creswell (2009)

Using The Central Limit Theorem of sample size determination, a sample of 10 Preschools, that is, 12.5% of the targeted 80 Preschools, was selected. The Central Limit Theorem states that, for any sample size, N≥30 (N is the sample size), sampling distribution of means is approximately a normal distribution irrespective of the parent population. It thus allows the researcher to select, N≥30 from the target population (Kothari, 2005). Thus, from The Central Limit Theorem, the researcher sampled 326 respondents, that is, 11.2% of 2907. Stratified sampling was applied to tocreate 5 strata based on the number of zones inKiambu West Sub-county. From each stratum, 2 head teachers and 11 preschool teachers were selected using purposive sampling. The inclusion criterion was based on the Preschoolswhich have registered low learning outcomes in basic numeracy, language and creativity skills. Purposive sampling was appropriate due to the fact that the sampled respondents hold responsibilities as implementers of ECD policies.

Four parents' representatives and 48 preschool learners were selected using simple random sampling. This was appropriate since it eliminated bias and favoritism since there were equal chances of inclusion in the sample. This sampling procedure enabled the researcher to realize a sample of 10 head teachers, 56 Preschool teachers and 20 parents' representatives and 240 preschool learners. Piloting of research instruments was conducted amongst 33 respondents (head teachers, preschool teachers, parents' representatives and preschool children) from preschools in the neighboring Kiambu East Sub-countysince it has members of the relevant population, but not on those who formed part of the final sample.

The purpose of piloting was to check on suitability and the clarity of the questions on the instruments designed, relevance of the information being sought and the language used and to test the reliabilityand validity of the instruments. The respondents who participated in the piloting of instruments were not included during the actual data collection. Questionnaires were used for collection of data from preschool teachers. This was relevant since according to Morse (2000), a questionnaire consists of a series of questions and other prompts for the purpose of gathering information from respondents and is often designed for statistical analysis of the response. Nominal, ordinal and ratio data were also collected. The questionnaire had three sections designed to acquire information on the different variables of the study. Section A of the questionnaire gathered demographic information about preschool teachers' gender and level of education. Sections B, C, D, E and F of the questionnaire contained test items drawn from the study objectives. The test items containing 5-point Likert type of questions based on the research objectives were relevant since according to Creswell (2009), the Likert scale illustrates a scale with theoretically equal interval among responses.

The researcher also used structured interviews with open-ended test items to collect qualitative data from head teachers where the researcher developed an interview guide with a set of questions on the research objectives. Interviews were important for this study since it enabled the researcher to ask probing and supplementary questions and develop a good rapport with the respondents and a goal-directed attempt by the interviewer to obtain reliable and valid measures in the form of verbal responses from one or more interviewees. A focus group discussion was used to collect information on perceptions, opinions, beliefs, and attitudes towards a product, service, concept, advertisement, idea, or packaging of parents' representatives. Questions are asked in an interactive group setting where participants are free to talk with other group members. The researcher divided the sampled parents' representatives (20) into 4 groups each consisting of 5 members.

The questions for discussions were drawn from the objectives of the study. Observation Checklist for Preschool Learners was also used in data collection from the learners. This is a data collection instrument where systematicobservations are made and results of such observations are recorded (Creswell, 2009). In this study, use of observation checklist was appropriate for gathering information from preschool children based on the objectives of the study. The researcher observed live lessons conducted by the preschool teacher and then assess the ability of preschool learners in

basic numeracy, language and creativity. Inorder to improve the validity of the instrument, the researcher, with the help of her supervisors, critically assessed the consistency of the responses on the piloted instruments to make a judgment on their reliability. The reliability of the instruments was established using split-half method where the researcher administered a set of test items to a group of respondents once and then divided the results into two categories, that is, halves, in odd and even patterns. Computation of the reliability coefficient between the scores of the twohalves was carried out using Pearson's Product Moment Correlation Formula. A reliability coefficient, r = 0.7was obtained which indicated that there was high internal reliability.

# **Data Analysis**

Data was analyzed quantitatively and qualitatively and then merged into one overall interpretation inwhich the researcher related the quantitative results to the qualitative findings. Frequency counts of the responses were then obtained so as to generate descriptive information about the respondents and to illustrate the general trend of findings on the various variables that were under investigation. Qualitative data was analyzed thematically along the research objectives and the basic quantitative data was analyzed descriptively using frequencies and percentages and inferentially analyzed using Pearson's Product Moment Correlation Test Analysis in Statistical Package for Social Science (SPSS V23). Since the study involved concurrent triangulation design, the separately, but concurrently, collected data was analyzed quantitatively and qualitatively and then merged into one overall interpretation in which the researcher related the quantitative results to the qualitative findings.

Frequency counts of the responses were then obtained so as to generate descriptive information about the respondents and to illustrate the general trend of findings on the various variables that were under investigation. Qualitative data was analyzed thematically along the research objectives and the basic quantitative data was analyzed descriptively using frequencies and percentages and inferentially analyzed using Pearson's product moment correlation test analysis by use of Statistical Packages for Social Science (SPSS Version 23). The quantitative findings of the study were presented using tables whereas qualitative findings were presented thematically and in narrative forms.

# III. Findings and Discussion

Descriptive Findings on the Influence of Teachers' Instructional Practices for Collaboration and Learning of Preschool Children.

The study intended to find out whether teachers are prepared for collaboration with other education stakeholders and how such forms of collaboration enhance learning in preschool. Data was collected from preschool teachers and organized into specific thoughts and results are indicated as shown in the Table below;

Key: N--Never R--Rarely S--Sometimes O--Often VF—Very Frequently

Summary of Test Items	N %	R %	S %	O %	VF %
Teachers plan lessons together with colleagues which enables me promote preschool learners' language skills	58.8	21.6	4.1	10.4	5.1
Teachers plan lessons together with colleagues which enables them promote preschool learners' numeracy skills	61.6	17.7	3.9	10.5	6.3
Teachers plan lessons together with colleagues to enhance preschool learners' acquisition of creativity skills	59.9	19.8	2.5	12.2	5.6
Teachers engage my colleagues in peer teaching to enhance preschool learners' language skills	65.9	13.4	3.7	10.3	6.7
Teachers engage my colleagues in peer teaching to enhance learners' acquisition of basic numeracy	69.1	18.1	2.8	7.0	3.0
Teachers engage colleagues in peer teaching to enhance preschool learners' creativity skills	70.1	11.9	1.9	8.3	7.8
Teachers visit community resource sites to enhance my preschool learners' language skills	55.2	15.3	3.5	20.8	5.2
Teachers visit community resource sites to enhance my preschool learners' basic numeracy	51.3	11.9	3.7	21.9	11.2
Teachers visit community resource sites to enhance my preschool learners' creativity skills	68.8	13.8	2.7	6.9	7.7
Teachers do engage community resource persons to enhance preschool learners' language skills	59.1	23.5	2.7	5.9	8.8
Teachers do engage community resource persons to enhance preschool learners' numeracy skills	58.9	17.2	2.0	19.3	2.6
Teachers do engage community resource persons to enhance preschool learners' creativity skills	79.2	10.1	2.9	5.1	2.7
Teachers participate in community cultural and recreational activities to enhance preschool learners' acquisition of language skills	77.1	10.4	1.3	6.3	4.9
Teachers participate in community cultural and recreational activities to enhance preschool learners' acquisition of basic numeracy skills	58.9	17.2	2.0	19.3	2.6
Teachers participate in community cultural and recreational activities to enhance preschool learners' acquisition of creativity skills	78.4	11.1	2.1	3.9	4.5

The study established that slightly more than half (58.8%) of the sampled preschool teachers Kiambu West Sub-county do not plan lessons together with colleagues to enables them promote preschool learners' language skills. At the same time, 21.6% indicated that they rarely plan lessons with their colleagues. On the contrary, only a small proportion of 4.1% of the sampled

preschool teachers indicated that they sometimes do, 10.4% often plans together whereas 5.1% very frequently plan their lessons together with their colleagues. The study also revealed that a fair majority (61.6%) of the sampled preschool teachers indicated that they never plan lessons together with colleagues to promote preschool learners' numeracy skills as did 17.7% of the teachers who rarely do.

However, 3.9% of the sampled preschool teachers sometimes plan with colleagues, 10.5% often plans whereas 6.3% very frequently plan their lessons together with their colleagues. Similarly, slightly more than half (59.9%) of the sampled preschool teachers responded in favor of the view that they do not plan lessons together with colleagues to enhance preschool learners' acquisition of creativity skills. However, 2.5% of the sampled preschool teachers rarely do, 12.2% sometimes engage whereas 5.6% very frequently engage. The study also revealed that majority (65.9%) of the sampled preschool teachers indicated that they do not engage their colleagues in peer teaching to enhance preschool learners' acquisition of language skills as did 13.4% of the teachers who rarely engage their colleagues. However, 3.7% of the sampled preschool teachers indicated that they sometimes engage, 10.3% often engage whereas 6.7% very frequently engage their colleagues. Majority (69.1%) of the sampled preschool teachers were in favor of the view that teachers never engage their colleagues in peer teaching to enhance learners' acquisition of basic numeracy skills.

At the same time, 18.1% indicated that they rarely engage their colleagues. However, 2.8% sometimes engage, 7.0% often engage whereas 3.0% of the sampled preschool teachers very frequently engage their colleagues in peer teaching. An impressive majority (70.1%) of the sampled preschool teachers responded in favor of the view that they engage colleagues in peer teaching to enhance preschool learners' acquisition of creativity skills. At the same time, 11.9% indicated that they rarely do. However, 7.8% of the sampled preschool teachers indicated that they sometimes engage, 8.3% often engage whereas 3.0% engage colleagues very frequently.

The study also revealed that more than half (55.2%) of the sampled preschool teachers were in favor of the view that they never visit community resource sites to enhance my preschool learners' acquisition of language skills as did 15.3% who rarely do. 3.5% of the preschool teachers sometimes visit, 20.8% often do whereas 5.2% visit very frequently. The study also revealed that more than half (51.3%) of the sampled preschool teachers never visit community resource sites to enhance preschool learners' acquisition of basic numeracy skills as did 11.9% who rarely do. 3.7% of the sampled preschool teachers sometimes visit, 21.9% often visit whereas 11.2% visit very frequently. Majority (68.8%) of the sampled preschool teachers were in favor of the view that they never visit community resource sites to enhance preschool learners' acquisition of creativity skills as did 13.8% of the teachers who indicated that they rarely visit. On the other hand, 2.7% of the sampled preschool teachers indicated that they sometimes visit community resource sites 6.9% often visit whereas 7.7% visit community resource sites very frequently.

Inferential Findings on the Influence of Teachers' Instructional Practices for Collaboration and Learning of Preschool Children. To verify the possibility of relationship between teachers' instructional

practices for collaboration and learning of preschool children, data was collected on how often teachers' partner with other stakeholders such as parents and larger community in preschool children's performance in basic numeracy, language and creativity. The results are shown in the Table below;

	Academic Performance (Mean score, %)				
Term	Basic Numeracy	Language	Creativity		
5	43	27	26		
10	58	42	45		
15	66	63	56		
20	60	55	65		
25	63	62	60		
30	70	69	59		

The results indicate that how often teachers collaborate with stakeholders has a direct relationship with preschool learners' academic performance. The results indicate that the more often teachers collaborate with stakeholders, the higher the academic performance of their learners in basic numeracy, language and creativity. These results lend credence to the assertions of Haycock (2003) that collaboration between teachers is powerful tool for professional development and a driver for school improvement by providing opportunities for adults across a school system to learn and think together about how to improve their practice in ways that lead to improved learner achievement.

These results were further subjected to Pearson's product Moment Correlation Test Analysis and results were as shown in the Table below:

			Frequency o Collaboration		Basic Numeracy	Language	Creativity
Frequency of	of	Pearson Correlation	1	(	0.822*	0.890*	0.849*
Collaboration		Sig. (2-tailed)		(	0.045	0.017	0.033
		N	6	(	6	6	6
Basic Numeracy		Pearson Correlation	0.822*		1	.966**	0.831*
		Sig. (2-tailed)	0.045			.002	0.040
		N	6	(	6	6	6
Language		Pearson Correlation	0.890*	(	0.966**	1	0.770

	Sig. (2-tailed) N	0.017 6	0.002 6	6	0.073 6
Creativity	Pearson Correlation	0.849*	.831*	0.770	1
	Sig. (2-tailed) N	0.033 6	0.040 6	0.073 6	6

<sup>\*.</sup> Correlation is significant at the 0.05 level (2-tailed).

The results are presented in a matrix form such that the correlations are replicated. A Pearson Product-Moment Correlation was run to determine the relationship between frequency of teachers' collaboration with stakeholders and preschool children's academic performance in basic numeracy, language and creativity skills. The test generated which generated correlation coefficients of r=0.822, 0.890 and 0.849 respectively with corresponding and significant levels (pvalues) of 0.045, 0.017 and 0.033 respectively which were less than the predetermined level of significance, 0.05, that is, p-value =0.045, 0.017, 0.033<0.05. These findings were statistically significant and thus indicate that there is significant relationship between how often teachers collaborate with stakeholders and preschool children's academic performance. Hence, the Null Hypothesis,  $H_03$ , is rejected. These results were consistent with the findings of a study conducted in Kenya by Shachar&Shmuelevitz (2007) which generated a p-value of 0.011<0.05. Shachar and Shmuelevitz (2007) posit that networking with teachers outside the school is related to teachers' instructional practices for most classroom requirements, with teachers who participate in collaborative activities are more likely to report feeling very well prepared for the classroom demand which, in turn, enhances academic performance of learners. These findings thus affirm the fact that teachers' participation in collaboration activities has been established to enhance learning of preschool children.

# Thematic Analysis of Qualitative Findings on the Influence of Teachers' Instructional Practices for Collaboration and Learning of Preschool Children

The interviewees and focus group discussants also echoed similar sentiments on the view that there exists a relationship between teacher collaboration and preschool learning. The head teachers and parents' representatives responded in favor of the view that preschool teachers do not plan lessons together with colleagues which enables me promote preschool learners' language, basic numeracy and acquisition of creativity skills. Just like in quantitative data, these views further corroborate the qualitative views expressed by Friend & Cook (2000) who indicated that many preschools have

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed).

adapted their schedules to ensure that teachers and other professionals have time to collaborate through team meetings; critical friends' groups; lesson study, in which teachers collaboratively plan, observe, and analyze classroom lessons; or other professional development. These views attest to the fact that collaboration between teachers is powerful tool for professional development and a driver for school improvement by providing opportunities for adults across a school system to learn and think together about how to improve their practice in ways that lead to improved learner achievement. One head teacher remarked, 'Preschool teachers in my school do not engage their colleagues in peer teaching to enhance preschool learners' acquisition of language, basic numeracy and creativity skills'. These views were also consistent with the findings of a study conducted in South Africa in which Donham (2009) identified teacher collaboration as a second major mechanism of on-the-job learning.

To the extent that collaborative activities provide teachers with opportunities for on-going development, participation in peer activities should better prepare teachers for classroom demands. In other words, peer and common planning lessons for group and peer or team teaching and regularly scheduled collaboration with other teachers explicitly emphasize teacher exchange of pedagogical and subject matter knowledge. Just like in quantitative data, the interviewees and discussants also responded in favor of the view that preschool teachers never visit community resource sites to enhance my preschool learners' acquisition of language, basic numeracy and creativity skills. These views further lend credence to the views expressed by Shachar&Shmuelevitz (2007) who asserted that in Morocco and Kenya, networking with teachers outside the school is related to teachers' instructional practices for most classroom requirements, with teachers who participate in collaborative activities are more likely to report feeling very well prepared for the classroom demand.

These views therefore affirm the fact that teachers' participation in collaboration activities enhances preschool learning. In other words, collaboration with stakeholders and being mentored contribute to teachers feeling better prepared for classroom demands. These views indicate that there is relationship between teachers' instructional practices for collaboration and preschool learning. Besides, the interviewees and discussants indicated that how often teachers collaborate with stakeholders has a direct relationship with preschool learners' academic performance. Besides, the more often teachers collaborate with stakeholders, the higher the academic performance of their learners in basic numeracy, language and creativity.

#### V. Conclusion

The study established that teachers who are prepared for collaboration with other education stakeholders enhance learning in preschools. The study established that preschool teachers who do

not plan lessons together with colleagues hinder learners' acquisition oflanguage, numeracy and creativity skills. These findings affirm the fact that many preschools have not adapted their schedules to ensure that teachers and other professionals have time to collaborate through team meetings; critical friend's groups; lesson study, in which teachers collaboratively plan, observe, and analyze classroom lessons; or other professional development. Besides, collaboration between teachers is powerful tool for professional development and a driver for school improvement by providing opportunities for adults across a school system to learn and think together about how to improve their practice in ways that lead to improved learner achievement. It is also evident that most preschool teachers do not engage their colleagues in peer teaching to enhance preschool learners' acquisition of language, basic numeracy and acquisition of creativity skills.

To the extent that collaborative activities provide teachers with opportunities for on-going development, participation in peer activities should better prepare teachers for classroom demands. Peer and common planning lessons for group and peer or team teaching and regularly scheduled collaboration with other teachers explicitly emphasize teacher exchange of pedagogical and subject matter knowledge. It is also evident that preschool teachers do not visit community resource sites to enhance my preschool learners' acquisition of language, basic numeracy and creativity skills.

These findings affirm the fact that networking with teachers outside the school is related to teachers' instructional practices for most classroom requirements since teachers who participate in collaborative activities are more likely to report feelings of well instructional practices for the classroom demand. Collaboration and being mentored contribute to teachers feeling better prepared for classroom demands. This implies that the more often teachers collaborate with stakeholders, the higher the academic performance of their learners in basic numeracy, language and creativity.

#### VI. Recommendations

Teachers should understand the effectiveness of external collaboration with stakeholders in harnessing preschool learners' academic, disciplinary and behavioral skills. Preschool teachers need to understand they ought not to work in isolation in order to enhance learning of preschool children. On the same breath, parents need to be sensitized that they play critical roles on the education of their children and thus should avoid hands-off approach and stand-aloof attitude.

The Ministry of Education and Policymakers should ensure that preschool teachers adopt collaboration strategies which are learner-centered to improve basic numeracy, language and creativity skills amongst preschool learners. Policies should be formulated to ensure that teacher education programmes are enriched with relevant collaboration content to make teachers more interactive to deliver quality preschool teaching.

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