ISSN No:-2456 –2165

The Relationship Between Pre-School Teacher Training and Preparation Time of Media Materials: the Case of Selected Pre-Schools in Nairobi County and Limuru Sub-County, Limuru County

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Abstract:-One of the challenging tasks among pre-school teachers is preparation of self-made teaching media. Using ready-made materials or purchasing media materials quite often does not avail appropriate materials to teachers. This paper aims at pointing out the relationship between pre-school teacher training and preparation time of media materials. Cross-sectional survey design was used for this study targeting pre-school teachers in Nairobi County and Limuru Sub-County, Limuru County. The teachers' training status included 14 untrained, 22 trainees and 87 trained teachers. Teachers' systems of training encompassed 91 teachers trained by National Center for Early Childhood Education (NACECE) and 18 teachers from Other Training Agencies (OTA). Teachers were grouped according to their length of training as follows;0.5-1.50 years (13 teachers), and 2.00-3.00 years (96 teachers).Data was analysed quantitatively using the chi-square inferential statistics. The findings revealed that training impacted pre-school teachers in the manner in which they allocated preparation time for media materials. It was concluded that depending on the training status of a teacher, the training system they had undergone and the length of time taken to train the teacher, there were variations in the preparation time of media materials. The researchers recommended that the Ministry of Education should institute a policy requiring that all pre-school school teachers must be trained as a precondition for them to be given placement to any working station. The researchers also recommended that the Ministry of Education should harmonize all the pre-school teacher training systems, soliciting the best practices of media production from each, in a bid to come up with the ideal system of teacher training that would be considered to give appropriate emphasis to preparation of media materials. Further, the researchers recommended that the Ministry of Education should initiate surveillance of pre-school teacher training institutions in order to disqualify overly short courses that do not instil proper practice of media production among teachers.

Keywords:-Pre-School Teachers, Training, Media Materials.

I. INTRODUCTION

For a pre-school teacher, media materials are best when self made. This gives the teacher the advantage of customising the materials to their pupils' needs as opposed to ready-made commercial materials. Pre-school pupils are so cognitively oriented that any media must be precisely customized to their areas and levels of learning and this factor renders most ready-made materials irrelevant to pre-school pupils.In supporting this view, "Multisensory Teaching Ideas and Materials for LD Students,"(n.d.)stressed that teacher self-made materials are convenient to customize to pupils' needs in such a way that they capture a multiple of senses among pre-school children. Since every stage of pre-school learning requires concrete material for recognition and learning in establishing a strong foundation(Anini, Frank, 2011; Ayoti, Simiyu, Ongeti, & Poipoi, 2013), teaching and learning materials are required in bulk. Purchasing sufficient teaching and learning materials in bulk is expensive and not practical. "Montessori Language Activities," (2010) observed that purchasing pre-school materials as compared to teacher-made materials was not cost effective. Making one's own materials usually lowers the cost of production ("Homemade Resources - Save Money," n.d.; Quist, 2001).Moreover, when most teachers make their own materials, they tend to engage their pupils in the exercise, an experience which turns out to be exciting and motivating to the young ones(Ayoti et al., 2013; "Kids Craft Projects Out of Household Recycled Materials," 2009), giving them a sense of ownership to the materials when they are used in class. It is therefore of paramount importance that a pre-school teacher spares sufficient time on weekly bases to prepare teaching and learning materials or media for effective teaching and learning interactions in the class.Despite the benefitsof self-made materials, majority of teachers always opt for ready-made commercial media materials (Rajapaksha & Chathurika, 2015).

The first barrier in preparing teaching resources or media is lack of time(Totter, Stütz, & Grote, 2006).If a teacher beats this challenge, they will have won the greatest portion of the media preparation battle.This article was therefore a productofa research on the relationship between pre-school

teacher training and the hours teachers spent on preparing the media materials. The pre-school teacher training was viewed in three perspectives, namely, the training status of teachers, the training systems the teachers went through and, the length of training a teacher went through. No study has yet delved into investigating whether pre-school teacher training had any relationship with the length of time a teacher would spend to make media materials.

II. RESEARCH DESIGN AND METHODOLOGY

The researchers used cross-sectional survey design for this study. This study was considered for use because it enabled the researchers to collect data from many respondents within a short time. Cross-sectional survey was also preferred because of its characteristics that lend it to obtaining quantitative data that were needed in order to qualify the use of inferential statistics for credible analysis and conclusions.

The target population for the study included all the pre-school teachers in Nairobi County and Limuru Sub-County, Limuru County. These teachers were sampled using stratified sampling. The strata included the teachers training status, teachers' system of training and teachers length of training. The teachers' training status included14 untrained, 22 trainees and 87 trained teachers. Teachers' systems of training encompassed91 teachers trained by National Center for Early Childhood Education (NACECE) and 18 teachers from Other Training Agencies (OTA). Teachers were grouped according to their length of training as follows;0.5-1.50 years (13 teachers), and 2.00-3.00 years (96 teachers).

As a result of the unequal numbers in the strata, proportionate sampling was used to obtain a proportionate number of respondents for each stratum.Proportionate sampling strategies begin by stratifying the population into relevant subgroups and then random sampling within each subgroup. The number of participants that are recruited from each subgroup is equal to their proportion in the population.

Data was collected using a questionnaire that included both closed-ended and open-ended items. In order to establish relationships or lack of relationships in the variables under study, data was analysed using inferential statistics and specifically the chi-square.

III. HYPOTHESIS

The following null hypothesis wastested in the research:

H_0: There is no significant relationship between pre-school teachers' training and the preparation time of media materials
H_1: There is significant relationship between pre-school teachers' training and the preparation time of media materials

IV. RESULTS AND DISCUSSION

A. Time Spent by Pre-School Teachers on Making Media Materials on the Basis of the Teachers' Training Status

The respondents were requested to state the number of hours they spent per week in making media materials. Table 1 below presents the data obtained from the respondents on the basis of training status.

The percentages in this phase are based on the number of respondents from each respective training status. These training status are as follows: Untrained Teachers (UT's)-14 respondents, Trainees (TE)-22 respondents, and Trained teachers (TD)-87 respondents.

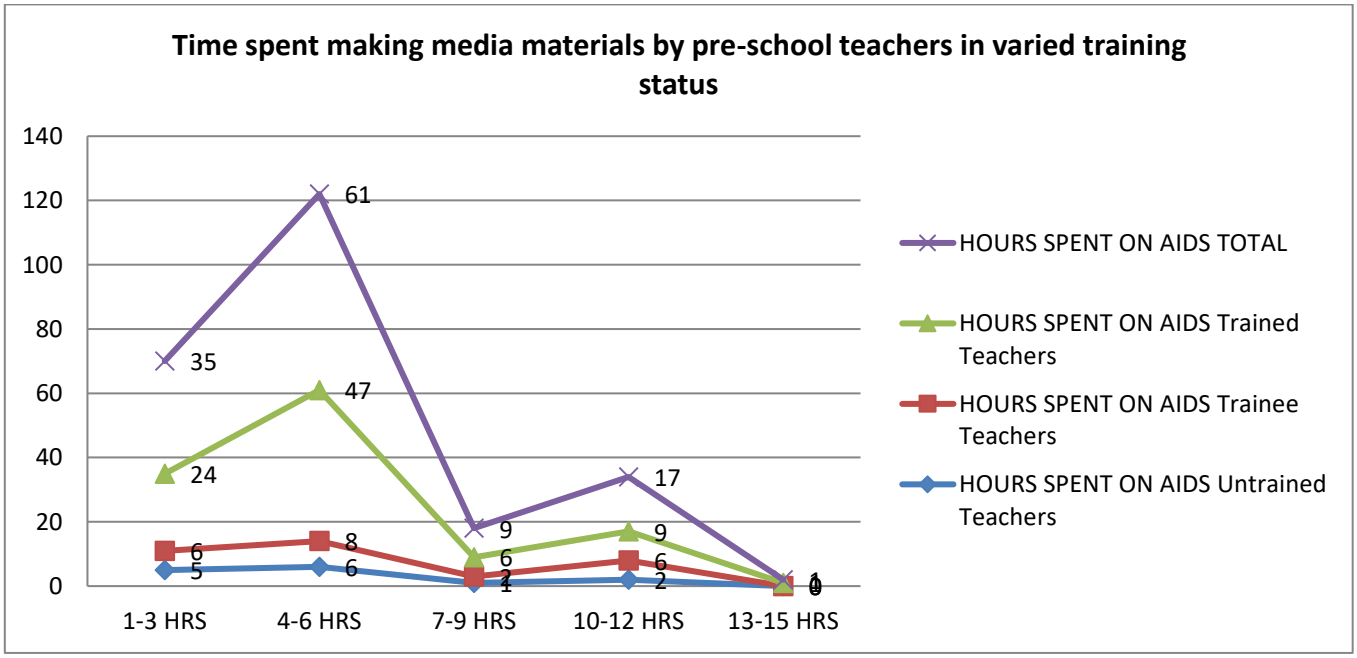

Figure 1: Time Spent by Pre-School Teachers on Making Media Materials on the Basis of the Teachers' Training Status

The information in figure 1 indicates that 5(35.7%) untrained respondents, 6(27.3%) trainees and 24(27.6%) trained respondents used 1-3 hours to make media materials. When the hours of making media materials become 4-6, the number of respondents making media in all training status increases. Six (42.9%) untrained respondents, 8(36.4%) trainees and 47(54.0%) trained respondents used this period of time to make media materials. A drastic drop in the number of respondents making media occurs in all training status when the hours increase to 7-9. This period of time is used by 1(7.1) untrained respondent, 2(9.1%) trainees and 6(6.9%) trained respondents to make media materials. There is a slight increase in the number of respondents making media materials in all training status when the period increases to 10-12 hours. Two (14.3) untrained respondents, 6(27.3%) trainees and 9(10.3%) trained respondents utilize this length of time to make media materials. Finally, when the hours of making media materials stretch to 13-15 only 1(1.1%) trained respondent is making media materials. There are no untrained respondents or trainees using this period of time to make media materials. The findings in figure one generally show that the best performing teachers in making media materials are the trained teachers, followed by trainees and lastly the untrained teachers, in that descending order. These findings also complement those of a study conducted in Lahore, Pakistan by Arshad, Naseem, & Muhammad, (2013)who observed that trained teachers were better placed than untrained teachers in using media materials. This is further emphasised by a comparative study conducted by(Hashemiannejad, Naseri, Naseri, & Oloumi, 2012) who found out that the mean deviation of the teachers' performance in use of media materials for Trained Teachers was 38.8 and for untrained Teachers it was 34.5. Further research has established that trained teachers embraced the use of media materials with more ease as compared to the untrained teachers (Ayoti et al., 2013).

There seems to be some form of uniformity in the way respondents from the three status of training treat time in making media materials. Where the numbers of respondents making media materials increase or reduce in one status, they do the same in the other two training status. Differences only occur in the percentages of those increases or reductions in the respective training status.

The period favoured most by all training status for making media materials appears to be 4-6 hours. Each training status registered its highest frequencies in this length of time. It also appears that the period least utilized by all training status in making media materials is 13-15 hours. Trained respondents had their lowest frequencies in this length of time whilst the other two status had no response for this length of time. The trend seems to suggest that the shorter the duration of making media materials, the larger the number of the varied pre-school teacher training status represented. The longer the hours, the less the representation of the varied status of training in making materials for that specified duration.

a). Chi-square Results

The Chi-square statistical test generated in this section yielded a probability of 0.042. This is such a small probability below the alpha of 0.05 that the null hypothesis that there are no differences among training status in the time spent making of media materials was rejected. The evidence indicates that there are significant differences among pre-school teacher training status in the time spentmaking andtherefore in using media materials.

B. Time Spent by Pre-School Teachers on Making Media Materials on the Basis of the Teachers' Training Systems

Figure 2 below presents the data obtained from the respondents on the basis of training status.

The percentages in this stage are based on the number of respondents from each respective training system. These systems include NACECE-91 respondents and other training systems (OTA)-18 respondents.

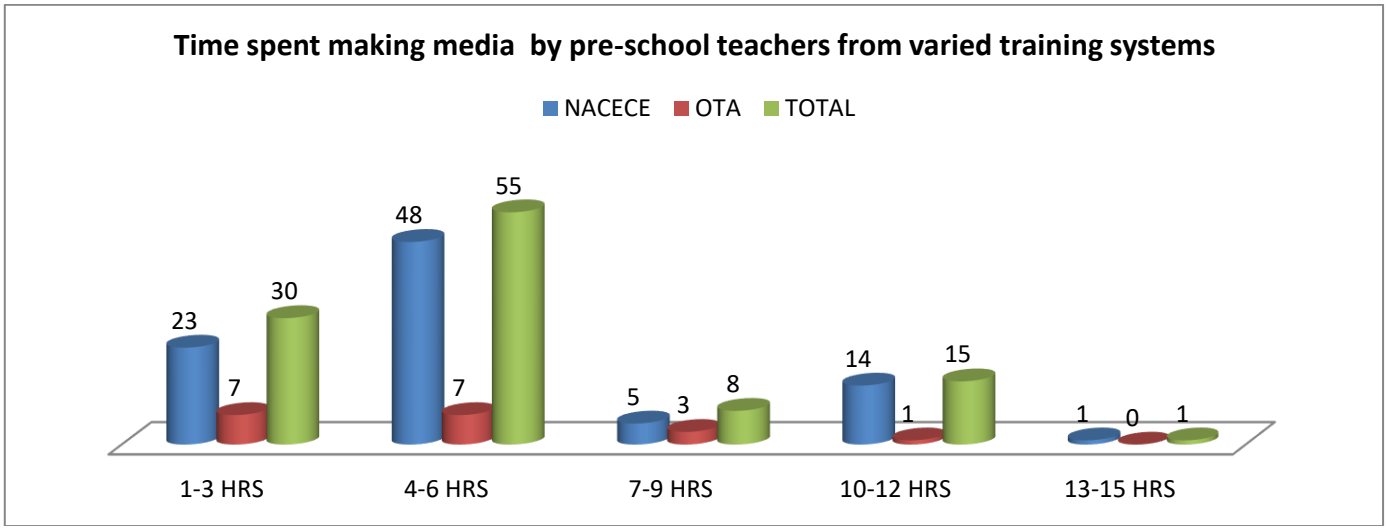

Figure 2: Time Spent by Pre-School Teachers on Making Media Materials on the Basis of the Teacher Training Systems

Data in figure 2 shows that 23(25.3%) respondents from NACECE and 7(38.9%) from OTA spent between 1 to 3 hours. Forty Eight (52.7%) respondents from NACECE, and 7(38.9%) from OTA spent 4 to 6 hours per week. Five(5.5%) respondents from NACECE and 3(16.7%) from OTA spent 7 to 9 hours per week. Fourteen (15.4%) respondents from NACECE and 1(5.6%) from OTA spent 10 to 12 hours per week. Only 1(1.1%) respondent from NACECE, spent 13 to 15 hours per week on media preparation. No respondent from OTA chose to take 13 to 15 hours per week making materials.

As the length of time for making media materials reduces to between 10 and 12 hours, NACECE has a frequency of 14 representing 15.4% of NACECE respondents. This is the highest percentage for that length of time. This means that NACECE is likely to have the largest number of respondents making and using media materials for this length of time. One respondent from the OTA used 10 to 12 hours to make media materials. This represented 5.6% of respondents from OTA being the lowest percentage for that length of time. This means that the OTA institutions are likely to have the smallest number of respondents making media materials for this length of time. The number of respondents making media materials in OTA increases to 3(16.7%) when the hours of making teaching aids diminish to between 7 and 9. The number of respondents making media materials in institutions OTA increases to 7(38.9%) as the hours reduce to between 4 and 6. NACECE remains leading with a frequency of 48(52.7%). When, at last, the hours reduce to between 1 and 3, NACECE has a frequency of 23(25.3) while OTA had 7(38.9). The variations in the time spent preparing materials among the varied systems of training may be dependent a lot on the type of training the teachers received. Richards, (2012)indicates that preparation of teaching materials requires adequate training and specialized skill. It is therefore important to note that the training system a pre-school teacher underwent may affect their efficiency in preparing materials for teaching.

The trend seems to suggest that the shorter the duration of making media materials, the larger the number of the varied pre-school teacher training systems represented. The longer the hours, the less the representation of the varied systems.

a). Chi-square Results

The Chi-square test generated in this section yielded a probability of 0.0 which is far below the alpha of 0.05. The null hypothesis thatthere are no significant differences among pre-school teachers' systems of training in the time spent by the teachers in making media materials was therefore rejected. The evidence therefore indicates that there are significant differences among pre-school teachers' system of training in the time spent making and therefore using media materials.

C. Time Spent by Pre-School Teachers on Making Media Materials on the Basis of the Teachers' Training Length

Table 3 presents the data obtained from the respondents on the basis of training length. The percentages in this stage are based on the number of respondents from each respective training length. These lengths are as follows: 0.5-1.50 years-13 respondents and 2.00-3.00 years-96 respondents.

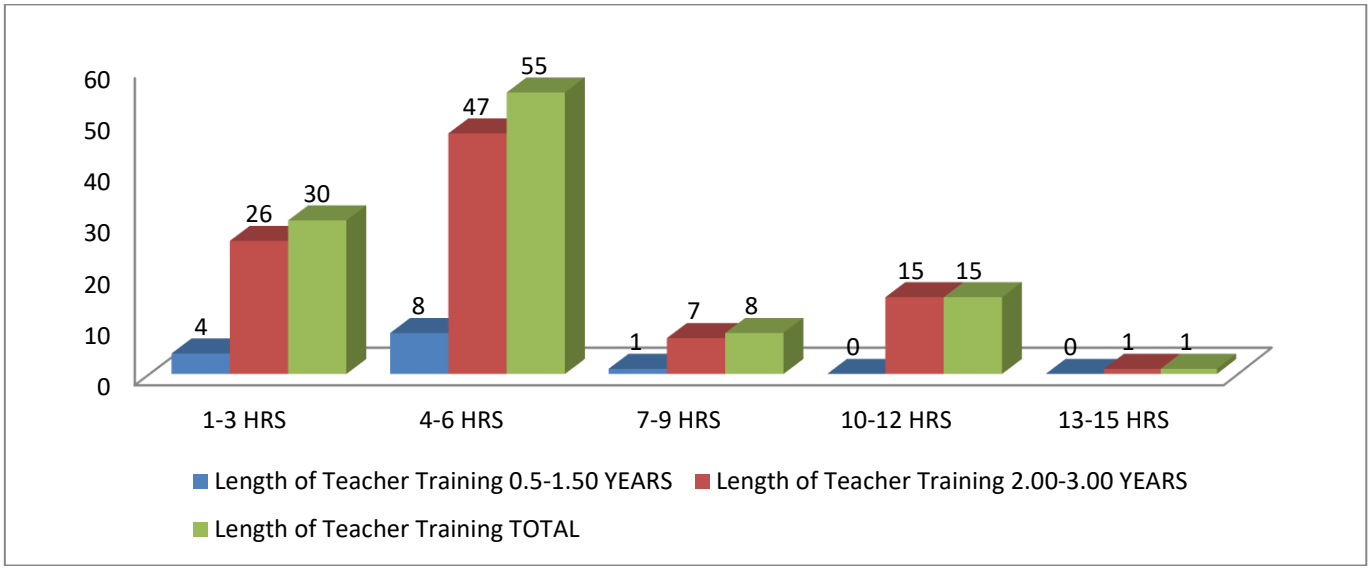

Figure 3: Time Spent by Pre-School Teachers on Making Media Materials on the Basis of the Teacher Training Length

Figure3 indicates that those who used 1-3 hours to make media materials were 4(30.8%) respondents trained for between half a year and one and half a year, and 26(27.1%) respondents trained for between two and three years. When the period of making media materials increases to between 4-6 hours, the number of respondents making media in all training status increases. Eight (61.5%) respondents trained for between half a year and one and half a year as well as 47(49.0%) respondents trained for between two and three years, used this period of time to make media materials. A drastic drop in the number of respondents making media occurs in all training lengths when the hours increase to 7-9.

This period of time is used by 1(7.7%) respondent trained for between half a year and one and half a year as well as 7(7.3%) respondents trained for between two and three years. When the period increases to 10-12 hours 15(15.6%) respondents trained for between two and three years are noted using that duration to make media materials. No respondents trained for between half a year and one and half a year used this length of time to make media materials. Finally, when the hours of making media materials stretch to 13-15 only 1(1.0%) respondents trained for between two and three years registered to have used that length of time to make media materials. There are no respondents trained for between half a year and one and half a year using this period of time to make media materials.

It is evident from the registered figures that respondents trained for between two and three years had higher percentages than those trained for between half a year and one and half a year for each length of time used in making materials.

The time most favoured in making materials was 4-6 hours. The least number of responses occurred in 13-15 hours. This indicates that pre-school teachers are able to strike an optimum length of time in making media materials while shunning an exaggerated length of time. This is sensible time distribution bearing in mind that the pre-school teachers also need time with the children in order to use the media materials they make.

It seems that the shorter the duration of making media materials, the larger the number of the varied pre-school teacher training lengths represented. The longer the hours, the less the representation of the varied training lengths.This is especially so with those trained for between half a year and one and half a year.The longer the training, the better the teacher's use of media materials as reflected in earlier research which revealed that longer training of a teacher changes the teacher's pedagogical approach from being teacher-centered to being student-centered (Postareff, Lindblom-Ylänne, & Nevgi, 2007).According to the "Teachers' Education, Classroom Quality, and Young Children's Academic Skills," (n.d.)the higher the level of training a pre-school teacher takes the better they are in making teaching materials. The implication here is that the higher the training, the longer the time taken to train the teacher.

a). Chi-square (χ^2) Results

The chi square test gave a probability of 0.001 far below the alpha of 0.05 and therefore the null hypothesis that there are no significant differences among pre-school teacher training lengths in the time spent by the teachers in making media materials was rejected. Evidence from the test indicated that there was a significant difference among pre-school teacher training lengths in the time spent making and therefore using of media materials.

V. CONCLUSIONS

The researchers concluded that making media materials requires training and that only skilled teachers have a wealth of innovation in making and using materials.This conclusion was prompted by the fact that the Chi-square statistical test generated ondifferences between pre-school teacher training status in the making and use of media materials yielded such a small probability being evidence that there are significant differences between pre-school teacher training status in the making and use of media materials.

It was also concluded that some pre-school teacher training agencies put more emphasis on creativity in making and using media materials than other agencies. The Chi-square test generated ondifferences between pre-school teachers' systems of training in their making and use of media materials yielded a very small probability. The evidence therefore indicates that there are significant differences between pre-school teachers' systems of training in their making and use of media materials.

The study further concluded that pre-school teachers trained for a longer period of time demonstrate more efficiency in making and using media materials than those trained for a shorter period. The chi square test on differences among pre-school teacher training lengths in the making and use of media materials gave a probability alluding that there are significant differences among pre-school teacher training lengths in the making and use of media materials.

VI. RECOMMENDATIONS

Based on the findings from the study, several recommendations were made. The researchers recommended that the Ministry of Education should institute a policy requiring that all pre-school teachers must be trained as a precondition for them to be given placement to any working station. This recommendation was arrived at after the findings revealed that teachers who persevered the longest hours in preparing media materials were the trained category. This recommendation is critical bearing in mind that visuals and other media materials at the pre-school level are the most effective source of learning.

The researchers also recommended that the Ministry of Education should harmonize all the pre-school teacher training systems, soliciting the best practices of media production from each, in a bid to come up with the ideal system of teacher training that would be considered to give appropriate emphasis to preparation of media materials.This recommendation was made resulting from the finding that from all the training systems, the number of teachers progressively reduced as the number of hours used in preparing media materials increased.

Further, the researchers recommended that the Ministry of Education should initiate surveillance of pre-school teacher training institutions in order to disqualify overly short courses that do not instil proper practice of media production among teachers. This recommendation is a

follow up of the finding from this study revealing that the longer the training of a teacher the more the hours the teacher utilizes in making media materials.

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