

# Teachers' exposure level to the use of assessment methods in kindergarten centres within the Effutu municipality

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**Abstract:** The purpose of the study was to examine teachers' exposure level to the use of assessment methods in kindergarten centres within the Effutu municipality. The mixed methods explanatory sequential design was used for the study. The study comprised 42 randomly sampled kindergarten teachers. Questionnaires were administered after which five kindergarten teachers were purposively selected and interviewed. Data were analyzed using percentages, mean, standard deviation, themes and One-way ANOVA. For all test, the level of significance was at 0.05. The study revealed that kindergarten teachers had low literacy level in early childhood assessment. They also used pencil-paper or exercises as the main means of collecting assessment data about children learning and development. Furthermore, they focused their assessment on numeracy, literacy, creative art and environmental studies. The study further revealed that majority of kindergarten teachers in the study were not professionally trained in early childhood education. It was recommended among others; capacity building workshop on early childhood assessment related issues (concepts, methods and uses) should be organized periodically for practicing kindergarten teachers. Besides, there is the need to conduct a research into teacher preparation programs in relation to early childhood assessment to establish the content of assessment, course that student teachers undertake; the duration and availability of opportunities for practice.

**Keywords:** exposure level, assessment, methods, kindergarten centres

## I. INTRODUCTION

### *Background*

The desire to understand what happens to children in terms of their development and learning in the early stage has been a concern for scholars over the years. Johnson (1988) noted that the Child Study Movement was formed as a result of this desire. Johnson further pointed out that the group was made up of developmental psychologist and early childhood practitioners. The aim of the group was to observe children to discover their ways of learning and development so they can help develop programs to help in the process (Blenkin & Kelly, 1992). Blenkin and Kelly (1992) reported that groups work became more influential on assessment and curriculum development for children. The work of the group resulted in the use of developmental approach to assessing children. In this approach curriculum and assessment of children was linked to their development.

McAfee, Leong and Bodrova (2004) have referred to assessment as the basic process of finding out what kindergarten children have learned or know or can do individually or as a group, in relation to their optimum development and goals set by programs and curriculum. According to Moe (2012), many teachers equate assessment to the end of year standardized tests given to children, exercises at the end of basic chapters, tests and quizzes found within many textbook series and also teachers own created items. In the end the result as always remain that the teachers is always there to producing score improvements as against holistic development of children. So, limiting assessment to this narrow view is a total misrepresentation of assessments and what it stands for or can do in the educational process. Assessment according to Hlebowitsh (2005), is what allows teachers to see what a person knows or can do.

However, the process to collect data to discover what children know and can do is said to be very challenging (Guddemi & Case, 2004; Bredekamp & Rosegrant, 1995; National Education Goal Panel, 1998). Some of the reasons accounting for the complexity of assessing young children are their rates of physical, cognitive, motor, and linguistic development outpace growth rates at all other stages (National Education Goal Panel, 1998; Stevens & DeBord, 2001) and also how children construct knowledge (Bredekamp & Rosegrant, 1995) and that the ways of learning that cannot be captured with just a single instrument.

The evolution of assessment of kindergarten children by experts over the years, have maintained one main ideology which is the use of multiple tools and from multiple sources and at different times from narrative approach regardless of what information is needed about the child's progress. For instance, Jiban (2013) reported that, over the years, early childhood assessment has been grounded in multi-methods assessment practices until recently. The argument regarding the use of the multi-methods and tools for assessing younger children was that, early childhood educators cannot capture everything a child knows or does with just one method and claim it is valid information on the child's progress. Unless evidence is produced from multiple measures in different contexts and time using different means of documenting (McAfee, Leong & Bodrova, 2004), assessment information gathered on children can be deemed invalid.

However, current climate of accountability of what kindergarten children know and can do and the work output of teachers has left the term assessment been used loosely (McAfee, Leong and Bodrova, 2004). This has led to the use of standardized procedures including tests to determine where children are in terms of their development and learning (Miller & Almon, 2009). As a result, children have undergone the pressure of meeting inappropriate expectations. Meanwhile, Katz (1997), described children as “notoriously poor test-takers”. The reason Katz gave was that children are “sometimes confused by being asked questions that they think the tester must already know the answers to!” (Katz, 1997:2). Sheppard (1994) and Ratcliff (1995) in the separate works argued that there must be a reason to suggest that the younger the child being tested, the more errors are made. Katz (1997) deduced from the aforementioned that if the assertion is true, then the younger the child, the higher the risk of assigning false labels to them. Furthermore, Katz opined that this must suggest that the longer children live with a label, whether true or false one assigned to him from a kind of test result, the more difficult it may become to erase it.

Ghana’s kindergarten curriculum (2006) was explicit on how children in the early childhood centers are to be assessed but was not vigorous in its implementations because enough resources for use by teachers were not available. This has led to lack of uniformity of kindergarten assessment practices in the country which may have the tendency of affecting the kind of data collected on children; thereby reporting misleading information about children’s’ development and learning. There is therefore the need to examine teachers’ exposure level to the use of assessment methods in kindergarten centres with focus on the Effutu municipality in the central region of Ghana.

#### *Statement of the problem*

The 20th century classroom assessment, according to Manitoba Education, Citizenship and Youth (2006:3), has been considered “a mechanism for providing an index of learning, and it followed a predictable pattern: teachers taught, tested the students’ knowledge of the material, made judgments about students’ achievement based on the testing, and then moved on to the next unit of work.” The group is also of the view that in recent times this approach to assessment has been critiqued due to the change in expectations for schooling as far as the society is concerned. They argued that cognitive science has come up with new understandings into the nature of learning and the fundamental role that assessment plays is; student motivation to learn and academic achievements.

Mertler and Campbell (2005) reported that teachers feel they are inadequate in their assessment knowledge. A study conducted by Meo (2012) confirmed this assertion. This development according to Stiggins (2001) has resulted in wrong and misleading assessment information of learners’ learning and development, thus preventing these innocent learners from reaching their full potential.

Policy directions of successive governments in Ghana have set a high standard for both kindergarten children and their teachers to attain. For example, as part of accountability for teachers in Ghana, a target is set for every teacher to attain and is referred to as output of work. Teachers, as a result of the accountability, are perceived to have resorted to the use of inappropriate strategies to account for their stewardship of the children. Asare (2006) reported that kindergarten teachers still use pencil and paper test as their main means of gathering information about children’s learning in Ghana. However Asare (2006) did not mention the areas of the child’s learning and development that tests are used as the main tool to collect data on. It is important to understand that teachers must use the right assessment method for right reason(s). If not, information reported on children’s learning and development may be a misrepresentation of their true progress. It is therefore necessary to examine teachers’ exposure level to the use of assessment methods in kindergarten centres with special reference to the Effutu municipality in the central region of Ghana.

#### *Purpose of the Study*

The purpose of the study was to examine teachers’ exposure level to the use of assessment methods in kindergarten centres within the Effutu municipality of the central region of Ghana.

#### *Research Objectives*

The study sought to find out about:

1. The knowledge level of kindergarten teachers on key concepts of assessment in early childhood education in the Effutu Municipality.
2. The kind of assessment methods kindergarten teachers use in assessing children’s learning and development in the Effutu municipality?

#### *Research Questions*

The study was guided by the following research questions:

1. What is the knowledge level of kindergarten teachers on key concepts of assessment in early childhood education in the Effutu Municipality?
2. What assessment methods do kindergarten teachers use in assessing children’s learning and development in the Effutu municipality?

## II. METHODOLOGY

#### *Research Design*

The study employed a mixed methods explanatory sequential design. The design enabled the researcher to blend elements of quantitative and qualitative methods to provide a broader and/or deeper understanding of a central phenomenon (Creswell, Plano Clark, Gutmann & Hanson, 2003). Sherry and Morse (1991) explained that explanatory sequential design enables the researcher to collect quantitative data to explain significant or rather surprising result of the qualitative phase. According Creswell (2017), Explanatory Sequential

design is the one in which the researcher seeks to elaborate on or expand on the findings of quantitative method with a qualitative method. He further stated that, the overall intent of the Sequential Explanatory design is to collect qualitative data which help explain in more detailed an initial quantitative result. The qualitative phase (second phase) of the study is designed so that it follows from the results of the quantitative phase, which is the first phase (Creswell, 2012).

#### *Instrumentation*

Questionnaire was administered to all the 50 participants out of which 5 were interviewed. Items in the questionnaires were close-ended with some on a three and four point Likert-type scale. The data gathered through the questionnaire were coded 3, 2, 1 and 4, 3, 2, 1 and analysed using means and standard deviation. In the end, forty-two (42) respondents returned their answered questionnaires.

The interview was conducted one month after the questionnaires were administered. This was to allow for fair and accurate responses. Each interviewee was interviewed at different times to allow independent answers to the questions. The interview questions were developed from the results of the quantitative phase and the data collected were analysed using themes that emerged. The gathering of both quantitative and qualitative data generated enough data for triangulation.

#### *Population*

The population of the study comprised all the public school kindergarten teachers in the Effutu municipality and the officer in-charge of early childhood education at the directorate. Available statistics obtained from the Effutu municipal education office indicated that there are 25 public kindergarten schools with a total of 96 kindergarten teachers (EMIS Data, 2018). The population for the study was all the 96 kindergarten teachers in the municipality and an officer in charge of the early childhood education in the municipality making a total of 97.

#### *Sample and sampling techniques*

The researcher randomly selected 2 participants each from the 25 kindergarten schools in the Municipality, making a total of 50 participants for the quantitative phase. This study adopted the nested relationship model of sampling procedure to purposively select 5 participants from the 50 sampled participants. This implied that the sample selected for one phase of the study represented a subset of those participants chosen for the other phase of the investigation. An officer in charge of the early childhood education in the municipality was also purposively sampled, making a total of 6 participants for the qualitative phase of the study.

### III. RESULTS AND DISCUSSIONS

Table 1: Qualification of respondents

Area of Qualification	Frequency	Percentage
Early childhood education	18	42.9
Basic education	22	52.4
Others	2	2.8
<b>Total</b>	<b>42</b>	<b>100</b>

Source: Field data, 2018.

Among the kindergarten teachers as indicated by table 1, eighteen (18) teachers representing 42.9% were trained early childhood education practitioners while the majority of 22 respondents representing 52.4% were untrained early childhood teachers. The inference is that, there are less number of kindergarten teachers with specialty in Early Childhood Education than kindergarten teachers with other areas of specialisation.

#### *Research question 1:*

1. *What is the knowledge level of kindergarten teachers on key concepts of assessment in early childhood education in the Effutu Municipality?*

The research question sought to find out the knowledge level of kindergarten teachers in the Effutu Municipality on key assessment concepts in early childhood education to ascertain their assessment literacy level in early childhood education. Kindergarten teachers were asked to indicate on 4-point Likert scale (covered in-depth = 4, covered = 3, somehow covered = 2 and not covered =1) their knowledge level of to 22 variables on key concept in early childhood assessment component of the questionnaire. The score for each variable was used to calculate and the mean score of each individual item.

Table 1 shows summary of kindergarten teachers' knowledge level in key assessment concepts of early childhood education. The data shows that among all the 22 items, the respondents claimed they have knowledge on formal assessment in early childhood education compared to the rest of the items. The knowledge level of respondents to the concept of formal assessment recorded the highest mean value of 2.76(SD=.82) indicating that the respondents were highly consistent with responses. This was followed by the concept on "The use of assessment information" which recorded a mean value of 2.73(SD=085) also indicating that the respondent was consistent with their response. The concept "The purpose of assessment in early childhood education" recorded a mean value of 2.73(SD=.83) making it the third highest concept kindergarten teachers are exposed to. It was followed by the concept "Standardized test" which recorded a mean value of 2.57(SD=.99) whiles "The meaning of assessment in early childhood education recorded a mean value of 2.57(SD=.89). The least mean value of 1.95(SD=.85) was recorded in favour of the concept "norm-reference assessment." The concept "authentic assessment" and "assessment as learning (AAL)" recorded a low mean value of 2.00(SD=.85) and 2.14(SD=.84) respectively. The concept of 'Observation in early childhood

education had a mean value 2.66(SD=1.02). Furthermore, “Performance assessment,” Curriculum embedded assessment” and “High-Stake testing” recorded a mean value of 2.54(SD=1.00), 2.33(SD=1.02) and 2.33(SD= 1.00) respectively. The mean of means of the 22 variables was 2.66(SD=.92) which indicate that kindergarten teachers in the Effutu municipality have weakly covered the 22 key topics and concepts on assessment in early childhood education despite the individual variations in scores.

*Research Question 2:*

2. *What assessment methods do kindergarten teachers use in assessing children’s learning and development in the Effutu municipality?*

This question was posed to kindergarten teachers to explore the assessment methods they use in assessing children. In this section, the teachers were required to indicate on a 3-point Likert scale (1 = Never, 2 = Sometimes and 3 = mainly) the assessment method used. Based on the responses to the individual variables, the mean score was calculated.

Table 2: Assessment methods used by Kindergarten Teachers

Assessment method/Tools	M	ST	N	Total sample (N = 42)	
	Freq(%)	Freq(%)	Freq(%)	Mean	SD
Pencil and paper test/exercise	32(76.2)	8(19.0)	2(4.8)	2.71	.55
Anecdotal records	5(11.9)	23(54.8)	14(33.2)	1.78	.65
Photograph	3(7.1)	24(57.1)	15(35.7)	1.71	.60
Video	2(4.8)	14(33.3)	26(61.9)	1.42	.59
Portfolio	11(26.2)	15(35.7)	16(38.1)	1.88	.80
Observation	25(59.7)	12(28.6)	5(11.9)	2.47	.71
Checklist	16(38.1)	18(42.9)	8(19.0)	2.19	.74
Rating Scale	14(33.3)	16(38.1)	14(33.3)	1.95	.79
Conversation	27(64.3)	10(23.8)	5(11.9)	2.52	.71
Interviews	10(23.8)	23(54.8)	9(21.4)	2.02	.68
Running Record	4(9.5)	26(61.9)	12(28.6)	1.80	.59
Time Sampling	5(11.9)	22(52.4)	15(35.7)	1.76	.65

Source: Field data, 2018.

Table 2 shows that the use of pencil -paper test or exercises had the highest mean value of 2.71(SD=.55) making it the highest used method by the kindergarten teachers in assessing kindergarten children in the Municipality. This was followed by the use of conversation which had the mean value of 2.52(SD=.71). The use of observation also recorded a mean value of 2.47(SD=.71) whereas the use of checklist recorded a mean of value of 2.19(.74) indicating they were somehow used by the kindergarten teachers in the Effutu municipality. However, the least used method were photograph and video with the mean value of 1.71(SD=.60) and 1.42(SD=.59) respectively. Rating scale, Portfolio, running record, and Time sampling also recorded a mean value of 1.95 (SD= 0.79), 1.88(SD= 0.80), 1.80(SD= 0.59) and 1.79(SD= 0.65) respectively. This indicates that kindergarten teachers in the municipality mainly use pencil-paper test and exercises to gather information about children learning and development as against the other tools.

When respondents were interviewed regarding the use of pencil-paper test to collect data on children, one of the teacher respondents remarked:

*Using pencil-paper text and exercise is the only way we can stand the enormous pressure coming from both*

*parents and the circuit supervisors. Parents want a proof that their children are learning so, the evidence is produced using test and class exercise. The C.S. also comes around for work output so they demand for children’s exercise books and record the number of exercises given by the teacher. That is why we don’t use the other methods of assessment.*

(Verbatim quote: Tr. 1)

Another respondent said:

*Ghana Education Service mandates us to use pencil-paper and exercise to gather assessment information. Every school in the municipality uses it. Even apart from that how will we know if the child has learned something? ...We have to test them so that we can fill the end of term report card for parents to see their children’s performance.*

(Verbatim quote: Tr. 2)

Yet, one more respondent has this to say:

*How can I use photos and videos as a tool for assessing children? It not appropriate to use and besides that, will Ghana Education service buy the phone for that purpose?*

*I don't think so! ... In fact, I can't imagine. Seeing tools like anecdotal records and time sampling, I have not heard of them before and I think will need some education on them.*

(Verbatim quote: Tr. 3)

The municipal early childhood coordinator (MECC) confirmed this by asserting that:

*Though the kindergarten curriculum stated clearly the assessment method that kindergarten teachers must use, the directorate has not been so religious about it. We are aware that pencil and paper test is frequently used to gather assessment information about children. We have*

*talk to the head teachers about the use of checklist and rating scale in their various schools...*

(Verbatim quote: MECC)

From the foregoing responses, it is conclusive that teachers use pencil-paper test mainly because it is a requirement by Ghana Education Service and also, due to accountability, pressure from parents and other stakeholders. Though some of the participants claimed they used checklist, observation and conversation to gather evidence on what children know or can do, checks through observation and proof of documentation such as sample checklist and observational report were not available to confirm the claim of usage.

Table 3: Assessment methods and why they are used to asses by Kindergarten Teachers

Variable	PPE N=35 F/%	Anecd N=23 F/%	Photo N= 23 F/%	Video N= 18 F/%	Portfolio N= 31 F/%	observ. N= 31 F/%	C.list N= 30 F/%	R.scale N= 24 F/%	Convo N= 31 F/%	Intv N= 28 F/%	RR N= 24 F/%	TS N= 20 F/%
To assess what the child has learned	22(52.4)	8(19.0)	8(19.0)	4(9.4)	6(14.3)	13(31.0)	10(23.8)	6(14.3)	13(31.0)	11(26.2)	4(9.5)	7(16.7)
To determine promotion	4(9.5)	3(7.1)	2(4.8)	3(7.1)	59(11.9)		8(19.0)	11(26.2)	5(11.9)	2(4.8)	12(28.6)	6(14.3)
To report to parents	1(2.4)	8(19.0)	8(19.0)	1(2.4)	2(4.8)	3(7.1)	1(2.4)	3(7.1)	3(7.1)	6(14.3)	3(7.1)	1(2.4)
To plan lesson	4(9.5)		3(7.1)	7(16.7)	1(2.4)	1(2.4)	1(2.4)	1(2.4)	2(4.8)	4(9.5)		6(14.3)
To identify learning strengths and weaknesses	4(9.5)	4(9.5)	2(4.8)	3(7.1)	8(19.0)	14(33.3)	10(23.8)	3(7.1)	8(19.0)	5(11.9)	5(11.9)	

Source: Field data, 2018.

Key: PPE = Pencil-paper test /exercise, Anecd = Anecdotal record, Observ = Observation, C.list = Checklist, R.scale = Rating scale,

Convo = Conversation, Intvw = Interview and TS= Time sampling

Table 3 shows that, 22 respondents representing 52% out of the 35 respondents use ‘pencil-paper test or exercises’ to gather information to assess what children have learned or developed while 4 respondents representing 9.5% use it to plan the next lesson. One (1) respondent representing 2.4% indicated using pencil and paper or exercise to report to parents, while 4 respondents representing 9.5% reported using it to determine promotion. With regards to the use of ‘anecdotal records’, out of the total of 23 respondents, 8 respondents representing 19.0% indicated using it to assess what children have learned or developed, 3 respondents representing 7.1% indicated that they use it to determine promotion, 8 respondents representing 19.0% `said they use it to report to parents and 4 respondents representing 9.5% reported using it to identify children’s learning strength and weakness. 18 kindergarten teachers responded to the use of ‘video tapes’ to assess children. Out of this number, 4 respondents representing 9.4% reported using ‘videos’ to collect data to assess what children have learned or developed, 7 respondents representing 16.7% said they use it to collect information to help plan the next lesson, 3 respondents

representing 7.1% reported using it to help assess children’s strength and weakness whereas 1 respondent representing 2.4% indicated using it to collect information on children when reporting to parents. The use of ‘rating scale’ as indicated by the respondents showed that out of a total of 24 respondents, 6 respondents representing 14.3 reported using it to collect data to assess children’s learning and development, 11 respondents representing 26% indicated they use the scale to collect information to help determine promotions; 3 respondents representing 7.1% reported that they use the scale to report to parents. One (I) respondent said; they use the rating scale to obtain information, help plan the next lesson whereas 3 respondents, representing 7.1% reported that they use the scale to identify children’s learning strengths and weaknesses.

#### IV. CONCLUSION

It is certain from the study that kindergarten teachers in the Effutu municipality are weakly exposed to key assessment concepts in early childhood education. Hence they were not well grounded in assessment as far as early childhood

education is concerned. Also, the study showed that teachers used mainly pencil-paper test and exercise to obtain information on children's learning and development to make a decision to guide their interaction with the children. In addition, they also assess numeracy skills, language and literacy, creative arts and environmental studies neglecting other important areas like emotional development and approaches to learning, gross motor development, self-confidence, problem solving skills and the ability to initiate.

#### V. RECOMMENDATIONS

Based on the findings of the study, it was recommended that the municipal Education Directorate organized periodic capacity building training workshop to:

1. Upgrade the kindergarten teachers in the municipality assessment knowledge on key concepts in early childhood assessment.
2. Equipped the kindergarten teachers with skills and the ability to use develop and use multiple assessment methods to collect evidence on children's' learning and development.

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