TEACHER KNOWLEDGE ABOUT ASSESSMENT PRACTICES FOR DIAGNOSING KINDERGARTENERS' COGNITIVE NEEDS WITHIN EJISU MUNICIPALITY

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ABSTRACT

The study examined teacher knowledge about assessment practices for diagnosing kindergarteners' cognitive needs within Ejisu Municipality in Ghana. The study employed an explanatory sequential mixed method design. A total of 132 kindergarten teachers were selected for the quantitative phase of the study using the Krejcie and Morgan sampling formula. Whiles 10 teachers were sampled using the opportunity sampling technique for the interview session. The quantitative data was collected using a questionnaire and a semi-structured interview guide was used for the collection of the qualitative data. Frequencies, percentage, mean and standard deviation were used in analysing the quantitative data whilst the qualitative data was analysed thematically. The study found that the majority of the kindergarten teachers in the Ejisu Municipality have an appreciable knowledge of assessment practices in diagnosing the cognitive needs of kindergarteners. However, they only adopt the observational checklist and rating scale for diagnostic practices. Ejisu Education Municipal Directorate and Ghana Education Service (GES)

should put in effort to motivate kindergarten teachers to use alternative assessment practices for diagnosing cognitive needs of kindergarteners. Again, a call is made on GES and head teachers to organise in-service training to update kindergarten teachers' knowledge about the use of varied assessment tools for diagnosing cognitive needs of kindergarteners.

Keywords:
Teacher knowledge, Assessment practice, Cognitive needs, Kindergarten

INTRODUCTION

Early Childhood Education (ECE) professionals emphasize the crucial role of diagnostic assessment in promoting the learning and development of young children, particularly those from disadvantaged backgrounds (Giardiello, 2013). Effective diagnostic practices guide teachers in tailoring instruction by identifying strengths and weaknesses. The diagnostic process, as outlined by Hamilton and Swan (2011), involves confirming intervention need, assessing broad and specific skill levels, and establishing targeted instructional goals.

Thorough diagnostic assessment is a vital step in engaging young children in education. It bridges the gap between initial screening and targeted intervention, ensuring well-informed educational planning. This process prevents inadequate interventions based on limited screening data, aiming to create personalized educational plans that consider a child's strengths, needs, and developmental abilities. Teachers' understanding of diagnostic assessment is now crucial for effective kindergarten classroom instruction (Gunnoe, 2017).

Nuari, Prahmana, and Fatmawati (2019) maintained that young learners often face challenges in various subjects during kindergarten. To address these difficulties, teachers must possess awareness and comprehension of these issues, using diagnostic assessments as a starting point. This approach is vital for effective teaching and quality early childhood education (Çiltas & Tatar, 2011; Nor, Ismail, & Yusof, 2016). Notably, academics emphasize the significance of teachers in implementing

diagnostic assessments, as their assessment knowledge impacts the success of educational practices (Gani, 2015; National Research Council, 2001).

Diagnostic assessment in education employs diverse instruments and techniques, which can produce similar results. The choice of assessment method is influenced by what, how, and why something will be assessed, as well as teachers' perspectives on classroom assessment. Teachers need to consider different classroom contexts when selecting assessment methods, utilizing tools like observation, anecdotal records, checklists, rating scales, rubrics, and conferences. Various options are available to effectively assess students' learning.

Whitebook et al. (2018) emphasized that teachers' adeptness in diagnostic assessment directly influences classroom practices, especially for identifying kindergarteners' requirements. Nettles and Herrington (2007) noted how teachers' diagnostic assessment knowledge significantly shapes their instructional approaches. They highlighted the use of appropriate tools to uncover learning barriers and enable targeted interventions. Tolsdorf and Markic (2017) emphasized that diverse early childhood learners necessitate tailored identification and interpretation of abilities and challenges through diagnostic assessments.

The current state of assessment in Ghana suggests that the education system is not fully utilizing the benefits of assessment to enhance teaching practices (Akyina and Oduro-Okyireh 2019).. Recent studies emphasizes the importance of teachers having a strong grasp of diagnostic assessment methods to effectively address the diverse needs of students in inclusive classrooms (Forlin, et al., 2010; Ryan & Gottfried, 2012).

While classroom diagnostic assessment practices are well-researched areas in some developed countries, like other developing countries, there is a chronic dearth of research on it in Ghana. It is against this background that this study is carried out to examine teacher knowledge about assessment practices for diagnosing kindergarteners’ cognitive needs within Ejisu municipality.

Statement of the Problem

Among early childhood education teachers, calls have been made to investigate their classroom assessment practices, knowledge and understanding of diagnostic assessment and the correlates of diagnostic assessment practices (Tookoian, 2018). On the level of knowledge of diagnostic assessment, predominantly, critical discovery from empirical studies shows a low level of teacher knowledge about classroom assessment techniques for diagnosing learner needs.

Abel, Talan, and Masterson's (2017) investigated kindergarten teachers' proficiency in diagnostic assessment. Results indicated that many lacked the necessary skills to assess cognitive needs. Similar issues were noted in Ejisu Municipality kindergartens, with teachers not routinely conducting diagnostic assessments, as seen during our casual visits. Some teachers seemed to overlook evaluating learners' cognitive needs.

Informal discussions we had with the Ejisu Municipal early childhood coordinator suggested that most teachers in the Municipality do not have much knowledge on diagnostic assessment practices in finding out the cognitive needs of learners, though this has not been documented yet. Again, similar outcomes have been outlined in workshop reports by the Ministry of Education (MoE, 2013). In this respect, to the best of our knowledge, limited studies have been done about the nature and antecedents of classroom assessment practices for diagnosing learners' needs in Sub-Saharan Africa (SSA), especially Ghana. Accordingly, this dearth of knowledge has necessitated the study of teacher knowledge about assessment practices for diagnosing kindergarteners' cognitive needs within Ejisu municipality.

Purpose of the Study

The study sought to examine teacher knowledge about assessment practices for diagnosing kindergarteners' cognitive needs within the Ejisu Municipality.

Research Questions

Based ont the research obejectives, the following research questions guided the study:

1. What are the views of kindergarten teachers regarding classroom assessment practices for diagnosing kindergarteners' cognitive needs within the Ejisu Municipality?
2. What assessment tools do kindergarten teachers use in diagnosing kindergarteners' cognitive needs within the Ejisu Municipality?

Theoretical Framework

The study is based on Vygotsky's social constructivist theory (Vygotsky 1978), particularly the concept of the zone of proximal development (ZPD), which explains learning in early childhood education. ZPD is the sensitive area where learning and cognitive development happen through tasks children can't do alone but can with help, often from teachers. This challenges static intelligence testing. Collaborative interactions in ZPD between adults and children are crucial for effective teaching and assessment, aligning learning support and progress evaluation. This approach integrates teaching and assessment processes.

From this perspective, the purpose of assessment is to identify the child's prior knowledge or skills so that the 'More Knowledgeable Other' (teacher) can intervene appropriately to help the child advance. What the child is capable of now becomes the pedagogical bridge to what a child can accomplish, given support by the teacher who is referred to as 'more knowledgeable other' in the theory. The theory's connection to the study is that it appears in every educational environment, where it is noted that learning and collaboration among learners where discovery is aided by the teachers' assessment practice may have a structural impact on the learner's learning and knowledge construction. Employing this theory, the researcher aimed at showing and verifying how valid, relevant and present this generally acknowledged theory is to cultural and environmental variances. This is the case in the Ejisu Municipality's kindergarten centres.

METHOD

Research Design

An explanatory sequential mixed method design was employed in the study. As a result, quantitative and qualitative data were collected and analysed in order, with quantitative data being collected and analysed first and qualitative data being collected and analysed afterwards. The explanatory sequential mixed method design aimed to employ qualitative data to complement, explain, or elaborate on quantitative results (Creswell & Creswell, 2017). The first phase of this research entailed gathering and analyzing quantitative data. The second phase used qualitative methods to expand on the quantitative data findings. The researcher was able to generalize results from a sample to a population and acquire a better grasp of the phenomenon of interest by combining the two types of data (Patten & Newhart, 2017).

Population, Sample and Sampling Techniques

The target population of the study comprised all kindergarten teachers in kindergarten schools within the Ejisu Municipality. The accessible population is made up of 194 trained kindergarten teachers in kindergarten centres within the Ejisu Municipality. The sample for the study consisted of 132 kindergarten teachers selected from public schools within the Ejisu Municipality. This sample size was determined and calculated using Krejcie and Morgan's (1970) table for determining sample size. According to Krejcie and Morgan's (1970) sampling table, a population of 194 gave a sample of 132. Therefore, a sample size of 132 for this study was considered large enough to produce the desired results and allow for the generalisation of the findings over the entire population.

Simple random was used to select the 132 teachers. Through the lottery approach, ‘Yes’ and ‘No’ was written and entered into a lucky-dipped so all the teachers that picked ‘Yes’ therefore qualified as a participant in the study. The teachers who picked the ‘Yes’ tag are believed to offer rich information to aid the objectives of the study. 10 teachers were selected for an interview through the opportunity sampling technique. This means that only the 10 kindergarten teachers who agreed to participate in the final

phase of the study were selected for the interviews from the entire 132 sample size. To ensure anonymity, each teacher was given a pseudonym.

Data Collection Instruments

Two main instruments were used for this study. These included a structured questionnaire and a semi-structured interview guide. The present study employed a self-developed questionnaire as one of the research instruments, specifically selected due to its ability to yield quantifiable data amenable to statistical analysis. Again, we believed the respondents were well-versed in the subject under discussion, hence questionnaire was deemed appropriate in gathering information and their views about this phenomenon. The semi-structured interview guide was used for data collection because it allowed the researcher to enter another teacher's viewpoint, to better understand their perspectives and their level of knowledge of assessment practices for diagnosing kindergarteners' cognitive needs (Smith, 2022). Once more, the interview data were used to complement the questionnaire-derived data.

Data Analysis Procedure

The quantitative data were entered into the Statistical Product for Service Solution (SPSS) software version 26.0 in a coded numeric form with each representing a particular variable. Additionally, screening was carried out to ensure that errors that came as a result of data entering were corrected before the analysis. Frequencies, percentages, mean and standard deviation were used to analyse the data. The qualitative data was analysed in themes. The interview data were first transcribed by focusing on the key elements in the narrative that highlighted the aims of this research. Personal and identifying details were left out which ensured anonymity of the participants. Axial and open coding which is used to organise themes coherently (Kusi, 2012) was used to align similar ideas into their corresponding themes. This helped to cluster the emerging ideas into coherent units, and that allowed the emerging themes to stand out clearly.

RESULTS AND DISCUSSION

Research Question 1: What are the views of kindergarten teachers regarding classroom assessment practices for diagnosing kindergarteners' cognitive needs within the Ejisu Municipality?

This section presents data on the views of kindergarten teachers concerning classroom assessment practices for diagnosing the cognitive needs of kindergarteners in the Ejisu Municipality. Data in Table 1 present the results followed by interview results.

Table 1: Teachers' views on classroom assessment practices in diagnosing kindergarteners' cognitive needs

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	M/Std.
Diagnostic assessment is used by teachers to assess learners' current knowledge base on subject to be studied in the classroom.	75 (56.8)	47 (35.6)	6 (4.5)	2 (1.5)	2 (1.5)	3.55/0.78
Diagnostic assessment of young learners has a robust effect on their lives.	45 (34.1)	75 (56.8)	9 (6.8)	0 (0.0)	3 (2.3)	3.80/0.75
Diagnostic assessment is conducted to obtain fair idea of where learners currently stand logically.	54 (40.9)	53 (40.2)	14 (10.6)	11 (8.3)	0 (0.0)	3.86/0.91
Diagnostic assessment is conducted to obtain fair idea of where learners currently stand psychologically	73 (55.3)	42 (31.8)	15 (11.4)	2 (1.5)	0 (0.00)	3.59/0.75
Diagnostic assessment is conducted to obtain fair idea of where learners currently stand intellectually	62 (47.0)	47 (35.6)	15 (11.4)	7 (5.3)	1 (0.8)	3.77/0.90
Diagnostic assessment allows the teacher to make reasonable instructional choices.	76 (57.6)	41 (31.1)	9 (6.8)	6 (4.5)	0 (0.00)	3.58/0.81
Diagnostic assessment allows the teacher to make productive instructional choices.	38 (28.8)	78 (59.1)	8 (6.1)	8 (6.1)	0 (0.00)	3.89/0.76
Diagnostic assessment requires teachers to possess knowledge in assessment in order to understand the needs of these learners for better guidance and instruction.	58 (43.9)	57 (43.2)	13 (9.8)	2 (1.5)	2 (1.5)	3.73/0.81
The activities underlying the teacher's knowledge and practices are linked to whatever skill to be diagnosed	45 (34.1)	61 (46.2)	21 (15.9)	4 (3.0)	1 (0.8)	3.90/8.2
Diagnostic assessment offer response which improves the thinking ability of young learners.	56 (42.4)	49 (37.1)	17 (12.9)	4 (3.0)	6 (4.5)	3.90/1.04

Diagnostic assessment during instruction is ultimately needed to facilitate teachers select suitable instruction, coaching and teaching tactics.	50 (37.9)	55 (41.7)	25 (18.9)	0 (0.00)	2 (1.5)	3.86/0.83
Diagnostic assessment is best used at the preliminary stage to get a preview into the learners learning stages.	72 (54.5)	40 (30.3)	15 (11.4)	4 (3.0)	1 (0.8)	3.65/0.85
Diagnostic assessment proves very informative where diverse learners in the lesson have dissimilar levels of academic upbringings.	84 (63.6)	30 (22.7)	13 (9.8)	3 (2.3)	2 (1.5)	3.55/0.87

Source: Field Survey, 2022

Table 1 reveal that 122 respondents agreed to the statement that "diagnostic assessment is used by teachers to assess learners' current knowledge base on subject to be studied in the classroom," whiles 4 respondents disagreed with the statement. However, 6 of the respondents remained neutral in their responses to the statement. The statement recorded a mean value of 3.55 (Std= 0.78). Also, the result reveals that 120 of the respondents agreed to the statement "Diagnostic assessment of young learners has a robust effect on their lives". However, 9 respondents were neutral to the statement and 3 of them disagreed with the statement. The statement recorded a mean value of 3.80 (Std=0.75). This could imply that teachers have positive views and understand the purpose of diagnosing learners' cognitive needs. It can further be deduced that the teachers believe adopting appropriate strategies in assessing learners' cognitive needs have positive effect on their learning.

Moreover, the analysis reveals that 107 of the respondents agreed to the statement that "Diagnostic assessment is conducted to obtain fair idea of where learners currently stand logically", however, 14 of them were neutral and 2 of them which were neutral to this statement with 11 disagreeing with the statement. The statement recorded a mean value of 3.86 (Std= 0.91). Furthermore, the analysis shows that 115 of the respondents agreed to the statement "Diagnostic assessment is conducted to obtain fair idea of where learners currently stand psychologically" whereas, 15 respondents were neutral and 2 of them disagreed to the statement. The statement recorded a mean value of 3.59 (Std= 0.75). the results also indicate that 109 of the respondents agreed that "diagnostic

assessment is conducted to obtain fair idea of where learners currently stand intellectually", whereas 15 of them were neutral in their responses to this statement. However, 8 of them disagreed to the statement. The statement recorded a mean value of 3.77 (Std= 0.90). In addition, the analysis revealed that 117 of the respondents rated the statement "Diagnostic assessment allows the teacher to make reasonable instructional choices" agreed whiles 6 of them rated it as disagreed, however, the result shows that 9 of them were neutral in their agreement to this statement. The statement recorded a mean value of 3.58 (Std= 0.81). The inference is that the teachers believe that, it is not for any other reason diagnostic assessment is conducted but serves as a reference point for making an informed instructional decision about a learner or group of learners.

Furthermore, the result reveals that 116 of the respondents agreed to the statement "Diagnostic assessment allows the teacher to make productive instructional choices" whiles 8 of them disagreed to this statement. However, it could be seen that 8 of the respondents were neutral in rating this statement. The statement recorded a mean value of 3.89 (Std= 0.76). Furthermore, it could be seen in Table 4.2 that 115 of the respondents agreed that "Diagnostic assessment requires teachers to possess knowledge in assessment in order to understand the needs of these learners for better guidance and instruction", however, 4 of them disagreed to the statement whereas 13 were neutral in their responses to the statement. The statement recorded a mean value of 3.73 (Std= 0.81). Besides, the analysis shows that 106 respondents agreed to the statement that "the activities underlying the teacher's knowledge and practices are linked to whatever skill to be diagnosed", whereas 5 of the respondents disagreed to this statement, whiles 21 were neutral in their response. The statement recorded a mean value of 3.90 (Std= 0.82). This could suggest that the understanding teachers have in about children's needs and diagnostic assessment plays an important role in their assessment drive.

Again, the analysis reveals that 105 respondents agreed to the statement "diagnostic assessment offer response which improves the thinking ability of young learners", however, 10 of the respondents disagreed to this

statement and 17 of them remained neutral in their responses. The statement recorded a mean value of 3.90 (Std= 1.04). It could further be observed from Table 4.2 that 105 respondents agreed to the statement "diagnostic assessment during instruction is ultimately needed to facilitate teachers select suitable instruction, coaching and teaching tactics", however, 2 of them disagreed to the statement with 25 of them remaining neutral in their responses. The statement recorded a mean value of 3.86 (Std= 0.83). Again, the results show that 112 respondents agreed with the statement "Diagnostic assessment is best used at the preliminary stage to get a preview into the learners learning stages". Fifteen of them were neutral in their responses whiles 5 of the respondents indicated they disagreed with the statement. The statement recorded a mean value of 3.65 (Std= 0.85). Finally, the result reveals that 114 of the respondents agreed to the statement "Diagnostic assessment proves very informative where diverse learners in the lesson have dissimilar levels of academic upbringings", whiles 5 of the respondents disagreed with the statement and 13 of them were neutral. The statement recorded a mean value of 3.55 (Std= 0.87). The results connote most teachers in Ejisu Municipality understand the need for diagnosing learners' cognitive needs. The positive views they held could have a bearing on their practice when it comes to diagnosing learners' cognitive needs.

The researcher was informed by the responses given in the questionnaire to engage respondents in interview sessions using a semi-structured interview guide. This was to confirm the responses given and to ask further questions for proper understanding. Respondents were asked about their views on classroom assessment practices in diagnosing kindergarteners' cognitive needs. Their responses are presented as follows.

Commenting on what constitutes the assessment practices in assessing kindergarteners' cognitive needs, a participant shared this;

> *My understanding of classroom assessment practices used for diagnosing of the cognitive needs of kindergarteners is the various means through which the learners are monitored to ascertain their readiness or their progress in*

> *response to activities they are taken through or how they cope with in and out of classroom activities* (Verbatim response from Teacher A).

Another teacher added:

> *Assessment practices to my understanding are activities, exercises and test given to children to identify their capabilities, talents, strengths, weaknesses and to know if they have special needs so that the teacher can plan his or lesson to suit their developmental needs and assign the right task* (Verbatim response from Teacher D).

Similarly, one teacher further said:

> *In my estimation, these are all the practices employed by early childhood teachers to help identify the cognitive demands of learners. They are employed in determining an individual's holistic development even before they join the school or progress to a new class. However, in our case, much attention is paid to the cognitive needs of children. This could be in the form of conversation with the child, observing the child, or providing the child with some activities to complete* (Verbatim response from Teacher F).

The researcher went ahead to ask the respondents whether or not they think a diagnostic assessment is used by teachers to assess learners' current knowledge of a subject. The respondents provided the following answers;

> *One of the great relevance of diagnostic assessment practices is to identify the current level of understanding and knowledge of a learner most especially on each of the content areas for the level. Having a fair knowledge on what learners already know and can do helps the teacher to provide the necessary assistance* (Verbatim response from Teacher B).

Another teacher shared her views by saying:

> *The learners' current knowledge is assessed through means of observation and the use of checklists to see if they meet a set criterion* (Verbatim response from Teacher E).

Respondents were asked for their opinions on how diagnostic assessment is responsible for making teachers make reasonable instructional choices. A respondent commented that:

> *It is very responsible for teachers to make reasonable instructional choices because these will help to improve the learning abilities of learners and set for them a good background or foundation for their future learning and general progress; academically and other aspects in their lives* (Verbatim response from Teacher E).

Another respondent reported that:

> *When teachers become aware of the child's current knowledge and understanding of activities in the school, especially what is learnt in the classroom, the teacher becomes opportune to put measures in place to assist learners. This includes selecting developmentally appropriate instructional practices to appeal to the needs of individual children* (Verbatim response from Teacher J).

According to the results, most kindergarten teachers have a fair knowledge of what diagnostic assessment is and what it entails for one to seek to diagnose the needs of children especially the cognitive needs of kindergarteners. Teachers are aware that diagnostic assessment practices are employed to determine an individual's holistic development even before they join the school or progress to a new class and that their knowledge of what diagnostic assessment is benefits children. In line with this is the assertion of Nuffield (2003), which claims that a good diagnostic assessment of young learners has a significant impact on their lives and careers. Azimi and Rahmani (2013) further state that the decisions made within and by early childhood institutions in regard to young learners' learning processes have a substantial impact on their academic path. Teachers must be educated in assessing and understanding the needs of these young learners in order for them to successfully complete their academic goals (Julie & Kay 2018).

Also, teachers were aware of the numerous benefits of diagnostic assessment on the academic life of kindergarteners. These include having

a fair idea of where learners stand currently intellectually. The study reveals that as much as diagnostic assessment is beneficial to learners, it is equally beneficial to teachers as well since it helps them to make appropriate instructional choices. A report from the OECD/CERI (2020) validates this finding. It states that in order to gain a good picture of where learners currently stand logically, psychologically, philosophically, and intellectually, teachers undertake diagnostic evaluation (OECD/CERI 2020). Marcy and Betsy (2004), further indicate that it enables teachers to make informed decisions about how to teach new lesson content and how to teach it. And that the ultimate goal is to discover learners' requirements by examining their weaknesses, strengths, skills, and capacities (Marcy and Betsy 2004).

Research Question 2: What assessment tools do kindergarten teachers use in diagnosing kindergarteners' cognitive needs within the Ejisu Municipality?

This section sought to find out the various assessment tools teachers use in diagnosing kindergartners' cognitive needs within the Ejisu Municipality. Data in Table 2 present the results followed by interview results.

Table 2: Table 4.4: Tools teachers use in diagnosing kindergartners' cognitive needs

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	M/Std.
I use observation as a tool in diagnosing learners' cognitive needs.	58 (43.9)	59 (44.7)	5 (3.8)	9 (6.8)	1 (0.8)	3.76/0.88
I use anecdotal record as a tool in diagnosing learners' cognitive needs.	2 (1.5)	0 (0.0)	19 (14.4)	64 (48.5)	47 (35.6)	1.69/0.77
I use running record as a tool in assessing learners' cognitive needs.	4 (3.0)	1 (0.8)	7 (5.3)	64 (48.5)	56 (42.4)	1.63/0.78
I use checklist as a tool in diagnosing learners' cognitive needs.	82 (62.1)	35 (26.5)	9 (6.8)	6 (4.5)	0 (0.0)	3.54/081
I use portfolios as a tool in diagnosing learners' cognitive needs.	1 (0.8)	0 (0.0)	9 (6.8)	74 (56.1)	48 (36.4)	1.52/0.66
I use conferences as a tool in diagnosing learners' cognitive needs.	15 (11.4)	5 (3.8)	2 (1.5)	69 (52.3)	41 (31.1)	1.83/1.15

I use rating scale as a tool in diagnosing learners' cognitive needs.	85 (64.4)	33 (25.0)	4 (3.0)	7 (5.3)	3 (2.3)	3.56/0.95

Source: Field Survey, 2022

Table 2 reveal that 117 respondents agreed to the statement that "I use observation as a tool in diagnosing learners' cognitive needs", whiles 10 respondents disagreed with the statement. However, 5 of the respondents remained neutral in their responses to the statement. The statement recorded a mean value of 3.78 (Std= 0.88). Also, the result revealed that 111 of the respondents disagreed with the statement "I use anecdotal record as a tool in diagnosing learners' cognitive needs.". However, 19 respondents were neutral to the statement and 2 of them agreed with the statement. The statement recorded a mean value of 1.69 (Std= 0.77). In addition, the analysis revealed that 120 of the respondents rated the statement "I use running record as a tool in assessing learners' cognitive needs," as disagreed while 5 of them rated it as agreed, however, the result shows that 7 of them were neutral in their agreement to this statement. The statement recorded a mean value of 1.63 (Std= 0.78).

Again, the analysis reveals that 117 respondents agreed to the statement "I use checklist as a tool in diagnosing learners' cognitive needs", however, 6 of the respondents disagreed to this statement and 9 of them remained neutral in their responses. The statement recorded a mean value of 3.52 (Std= 0.81). It could further be observed from Table 4.2 that 122 respondents disagreed to the statement "I use portfolios as a tool in diagnosing learners' cognitive needs.", however, 1 of them agreed to the statement with 9 of them remaining neutral in their responses. In addition, the analysis revealed that 110 of the respondents rated the statement "I use conferences as a tool in diagnosing learners' cognitive needs," as disagreed whiles 20 of them rated it as agreed, however, the result shows that 2 of them were neutral in their agreement to this statement. The statement recorded a mean value of 1.83 (Std= 1.15). Finally, the analysis reveals that 118 of the respondents agreed to the statement "I use rating scale as a tool in diagnosing learners' cognitive needs.", however, 10 of the respondents disagreed to this statement and 4 of them remained neutral in their responses. The statement recorded a mean value of 3.56 (Std=

0.95). The results imply that out of the tools outlined, kindergarten teachers within Ejisu Municipality adopt only observation, checklist, and rating scale as assessment tool in diagnosing kindergarteners' cognitive needs.

The researcher asked respondents about the assessment tools they use in diagnosing kindergarteners' cognitive needs during the interview session. Respondents identified the following;

> *Assessment tools I use to diagnose children's needs and most especially cognitive needs include, Observation, rating scale, and checklist* (Verbatim response from Teacher E).
>
> *I use the observational checklist and rating scale for diagnostic purposes* (Verbatim response from Teacher G).

With how teachers use observation in diagnosing the cognitive needs of children, teachers had these to say;

> *Learners are watched as they engage in activities and the results is used to make informed decisions on learners* (Verbatim response from Teacher B).
>
> *Observation involves using different tool such as checklist running records, work samples, anecdotal records to monitor the developmental progress of learners consistently. However, because of time and other factors, I will say I don't get the chance to have a fruitful observation* (Verbatim response from Teacher D).

On how teachers use checklist, and rating scale in diagnosing learners' cognitive needs, respondents commented that;

> *I use checklists and rating scale in taking records of what learners have successfully accomplished in a given task* (Verbatim response from Teacher F).
>
> *With checklist and rating scale, I use it alongside when observing children because they are observational tools. So, I either decide to tick or rate them* (Teacher I).

The researcher sought to find out why respondents did not use anecdotal records, running records, portfolio, and conferences assessment tools such as. Respondents had these to say;

> *I often feel comfortable using the observation, checklist and rating scale because I have used it all this while. Same cannot be said about the anecdotal records, running records, portfolio, and conferences, I think it will waste much time if I try to use them* (Verbatim response from Teacher B).
>
> *I am not familiar with the usage of the anecdotal records, running records, portfolio, and conferences. I think some form of training should be given to us on how to use it* (Verbatim response from Teacher I).

The results from the study suggest that kindergarten teachers in the Ejisu Municipality employ some assessment tools when diagnosing the cognitive needs of kindergarteners at the expense of others. They use observation, checklist, and rating scale. On the reason why teachers in the Municipality do not use the portfolio, anecdotal record, running record, and conferences, it was established that teachers do not have much knowledge about it. Again, inadequate time at school was another reason given by the respondents.

The findings indicated that teachers in the Municipality use observation as an assessment tool when learners are watched as they engage in activities and the results inform decisions. The assertion of Kuranchie (2016) corroborated the study's findings. He defined observation as a data collection strategy that allows a teacher to observe youngsters in their natural environment. Similarly, Kusi (2012) points out that observation allows teachers to connect with learners in natural circumstances, which allows them to recognize what they already know and where they need to improve. From the study, it is realized that kindergarten teachers use checklist and rating scale as diagnostic assessment tools. They use them when observing children because they are observational tools. It assists teachers to establish a learners' current knowledge in a specific subject or content area. Agreeing to the study's findings, Swaffield, (2008), opines that checklists and rating scales are evaluation tools that provide precise

criteria for teachers and learners to use when making judgments about competence development. Furthermore, according to Swaffield, these tools provide systematic means of organizing information about individual learners or groups of learners by listing specific behaviours, knowledge, abilities, attitudes, and procedures for evaluation. On the other line, Airasian (2000) posit that Rating scales are similar to checklists, but they differ in that they allow the observer to rate performance on a continuum rather than as a binary. They all, however, offer standards or criteria for evaluating performance (Nitko & Brookhart, 2007). Each standard includes several degrees of proficiency, and teachers are expected to grade learners based on how effectively they accomplish the assignment (Nitko & Brookhart, 2007).

Key Findings of the Study

The main findings from the study are;

1. It was found that kindergarten teachers in the Ejisu Municipality have an appreciable knowledge of what diagnostic assessment is and how it is relevant in the teaching and learning process to both the teacher and the kindergartener. The majority of the teachers agreed that diagnostic assessment makes it possible for the teacher to realize the current knowledge state of the child in all subjects which assists the teacher to reflect and make productive instructional choices which are appropriate to the level and interests of the learners.
2. The study identified that kindergarten teachers within the Ejisu Municipality only adopt observational checklist and rating scale as tools for diagnosing the cognitive needs of learners. They do not use anecdotal record, running record, portfolio, and conferences when diagnosing children's cognitive needs. This undermines the quality of the diagnostic assessment of learners since the unused tools have unlimited importance to the diagnostic assessment practice.

RECOMMENDATIONS

Based on the study findings, it is recommended that;

1. Since the study found out that kindergarten teachers in the Ejisu Municipality have an appreciable knowledge of what diagnostic assessment is and how it is relevant in the teaching and learning process to both the teacher and the kindergartener, the study recommended to the education directorate of the Municipality and the Ghana Education Service to put in efforts to motivate kindergarten teachers to hold onto their positive knowledge and understanding of assessment practices for diagnosing cognitive needs of kindergarteners and its importance to the teacher and the learner.
2. Since the study found out that teachers only use the observational checklist and rating scale in diagnosing children's cognitive needs, it is recommended by the study that kindergarten teachers in the Municipality should endeavour to adopt and use alternative assessment tools in diagnosing children's cognitive needs. This will facilitate effective and quality diagnostic assessment practices.

REFERENCES

Abel, M., Talan T., & Masterson, M. (2017). Whole leadership: A framework for early childhood programs.

Airasian, P. W. (2000). *Assessment in the classroom: A concise approach* (2nd ed.) Boston: McGraw-Hill.

Akyina, K. O. & Oduro-Okyireh, G. (2019). Formative assessment practices of senior high school teacher in the Ashanti Mampong Municipality. *British Journal of Education, 1*, 27–28.

Azimi, H.M. & Rahmani, R. (2013). Importance of needs assessment for implementation of e-learning in colleges of education. *International Journal of Information and Computation Technology, 3*(5), 377-382.

Çiltas, A., & Tatar E. (2011). Diagnosing learning difficulties related to the equation and inequality that contain terms with absolute value. *International Online Journal of Educational Sciences,* 3(2):461–473.

Creswell, J. W. & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). London: Sage.

Forlin, C., García, I., Romero-Contreras, S., & Fletcher, T. (2010). Inclusion in Mexico : Ensuring supportive attitudes by newly. 14(7):723–39. doi: 10.1080/13603111003778569.

Gani, P. S. (2015). *Diagnostic assessment of senior secondary two learners' achievement in quantitative aspect of Economics in Akwanga Educational Zone, Nasarawa state.* Unpublished M.Ed. thesis. Department of Educational Foundations, University of Jos.

Giardiello, P. (2013). *Pioneers in early childhood education: The roots and legacies of Rachel and Margaret McMillan, Maria Montessori and Susan Isaacs* (1st ed.). London: Routledge.

Gunnoe, L. W. (2017). Informal assessment and individualized educational planning. In S. J. Meisels (Ed.), *Special education and development: Perspectives on young children with special needs* (pp. 139-151). Baltimore: University Park Press.

Hamilton, J. L., & Swan, W. W. (2011). *Measurement references in the assessment of preschool handicapped children.* Topics in Early Childhood Special Education. Rockville: Aspen Systems.

Julie, O., & Kay, P. U. (2018). Views of classroom assessment. In G. E. Hall, L. F. Quinn, and D. M. Gollnick (Eds.), *The wiley handbook of teaching and learning* (Pp. 577–602). John Wiley & Sons, Inc.

Krejcie, R. V. & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement* 30 (3), 607-610.

Kuranchie, A. (2016). *Research made easy* (2nd ed.). Ashanti New Town, Kumasi: Bookworm Publications.

Kusi, H. (2012). *Doing qualitative research, a guide for researchers*. Accra: Emmpong Press.
Marcy, G. & Betsy J. C. (2004). Assessing young children. *Pearson Education Report* 2–9.

Ministry of Education. (2013). *Inclusive education policy*. Ministry of Education, Republic of Ghana.

National Research Council (2001). *Educating Children with Autism*. Washington DC: National Academy Press, Division of Behavioral and Social Sciences and Education.
Nettles, S. M. & Herrington, C. (2007). Revisiting the importance of the direct effects of school leadership on student achievement: The implications for school improvement policy. *Peabody Journal of Education*, 82(4), 724–36.

Nitko, A. J., & Brookhart, S. M. (2007). *Education assessment of student* (5th ed.). Upper Saddle River, NJ: Peason Prentice Hall.
Nor, N. A. K. M., Ismail, Z. and Yusof, Y. M. (2016). The relationship between emotional intelligence and mathematical competency among secondary school learners. *Journal on Mathematics Education, 7*(2), 91–100.

Nuari, L. F., Prahmana, R. C. I. and Fatmawati, I. (2019). Learning of division operation for mental retardations' student through math GASING. *Journal on Mathematics Education, 10*(1), 127–42.

Nuffield, F. (2003). *The role of teachers in the assessment of learning.* Newcastle Document Services.

OECD/CERI (2020). Assessment for learning formative assessment. In *OECD/CERI international conference "learning in the 21st Century: Research, Innovation and Policy."*

OECD/CERI (2020). Assessment for learning formative assessment. In *OECD/CERI international conference "learning in the 21st Century:*

Research, Innovation and Policy."

Patten, M. L., & Newhart, M. (2017). *Understanding research methods: An overview of the essentials* (10th ed.). New York: Routledge.

Ryan, T. G., & Gottfried, J. (2012). Elementary supervision and the supervisor. *Teacher Attitudes and Inclusive Education*, *4*(3), 563–71.

Smith, A. (2023). Enhancing Assessment Practices for Kindergartener's Cognitive Needs. Journal of Early Childhood Education, 45(2), 78-92.

Swaffield, S. (Ed.). (2008). Unlocking assessment: Understanding for reflection and application (1st ed.). David Fulton Publishers. https://doi.org/10.4324/9780203930939

Tolsdorf, Y., & Markic, S. (2017). Exploring chemistry student teachers' diagnostic competence – A qualitative cross-level study. *Education Sciences*, *7*(4), 86.

Tookoian, J. (2018). What is a diagnostic assessment? *Edulastic.com.* Retrieved fromhttps://edulastic.com/blog/diagnostic-assessment/

Vygotsky, L. (1978). *Mind in society* (1st ed.). Cambridge MA: Harvard University Press.

Whitebook, M., McLean, C., Austin, L. J. & Edwards, B. (2018). *Early childhood workforce index, 2018.* Berkeley, CA.