Journal of
Education and Practice
(JEP)

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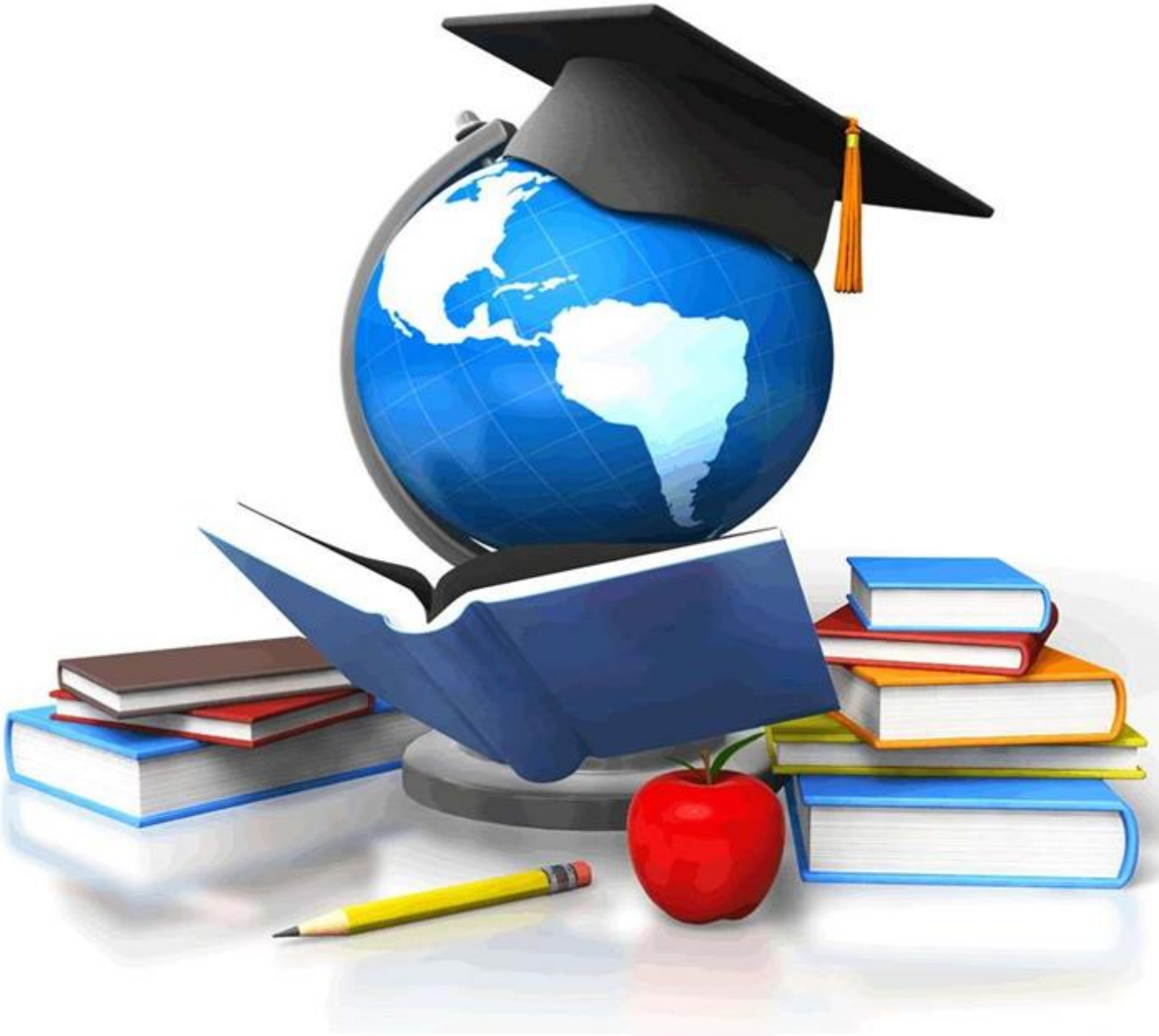

CARI Journals

Journal of Education and Practice
ISSN 2520-467X (Online)
Vol.7, Issue No.2, pp 1 – 30, 2023
www.carijournals.org

Using Differentiated Instruction to Promote Creativity, Critical Thinking and Learning: Perspective of Teachers

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Accepted: 9th Mar 2023 Received in Revised Form: 24th March 2023 Published: 30th Mar 2023

Abstract

Purpose: The purpose of this study was to investigate Basic School teachers' perspectives on the use of differentiated instructional approaches to promote creativity, critical thinking skills, cooperative teaching, and learning in the Ho-West District of Ghana.

Methodology: A descriptive research design was employed, and a simple random sampling technique was used to select 289 teachers for the study. The data collected were analyzed using the Statistical Package for the Social Sciences (SPSS) to compute descriptive statistics such as mean, standard deviation, and percentages.

Findings: The findings of the study indicated that the teachers in the Ho-West district had a good understanding of differentiated instructional strategies and their impact on student performance. Additionally, the teachers were aware of how differentiated instruction can affect pupils' knowledge and skill acquisition and recognized the importance of learning styles, motivation, and encouragement in improving learning outcomes.

Unique Contribution to Theory, Policy and Practice: This study makes a unique contribution to the field of education by providing insights into Basic School teachers' perspectives on the use of differentiated instructional approaches in promoting creativity, critical thinking skills, cooperative teaching, and learning in the Ho-West District of Ghana. The study's findings highlight the need for in-service programs, workshops, seminars, and short courses on differentiated instructional strategies to enhance teachers' practical training and further develop their existing knowledge of differentiated instruction. These findings have significant implications for theory, policy, and practice in education, particularly in the Ho-West District of Ghana. The study recommends that the Ho-West District directorate of the Ghana Education Service and stakeholders in education should organize such programs to enhance teachers' ability to apply differentiated instructional strategies and enhance creativity, critical thinking skills, and cooperative teaching and learning among pupils in the district.

Keywords: *Differentiated Instruction, Creativity, Critical Thinking, Cooperative Teaching and learning, learning styles*

INTRODUCTION

Educational psychology affirms that students come to the classroom with a variety of needs based on their uniqueness. They come into the academic environment with diverse backgrounds, experiences, exposures, interests, and with varying intellectual abilities and potentials. The works of Kuyini (2019), Agbenyega and Deku (2014), Abosi (2014), and Abora (2019) demonstrate how prevalent this variability is in Ghanaian classrooms. Hence a straight-jacketed approach to teaching them may not suffice. Some thinkers and researchers have reasoned and proffered differentiated instructional approach to teaching and learning as a panacea to the traditional teaching approaches which created inequalities in the classroom (Tomlinson, 2004; Allison & Rehm, 2007; Levy, 2008). Anderson (2009) opines that differentiated instruction is a process where the teacher matches the learning objectives, how the students learn, and how they demonstrate what they had learned, to each student's ability level, interest and learning styles. Santamaria (2009) posits that DI is a process-oriented and mixed-ability instructional approach that caters for the diverse learning needs of students. Gibson (2005) also views differentiated instruction as a process of modifying the content, process and product of learning based on students' abilities, interests, and needs. DI is crucial in the classroom as schools constitute a diversified group of students with a variety of experiences and personalities (Anderson, 2009). Sustainable Development Goal 4, focuses on quality education and by implication, instructions should be differentiated to meet the needs of learners. 21st-century education must leave no one behind, regardless of their academic assimilation rate or IQ levels, economic status, ethnicity, language, and cultural barriers among other demographic variables. According to Gardner's (1999) multiple intelligence theory, humans have at least eight (8) ways of being intelligent or talented about the world (thus; verbal/linguistic, logical/mathematical, visual/spatial, musical, naturalistic, interpersonal, intrapersonal, body/kinesthetic). Caine and Caine (1990) and Powell (2000) also affirms that brain-based instruction should take into consideration emotions and brain-based search for meaning as well as an individual's brain's unique way of learning.

Effective Teaching Strategies (ETS) and creative educational approaches such as games, storytelling, role-play and modelling have been used to contribute to promoting creativity, critical thinking skills, cooperative teaching and learning in basic schools (T-TEL Professional Development Programme, 2015; Tuo & Beili, 2021). Even though these efforts had yielded some significant results, it has not completely revolutionized critical thinking, creativity and cooperative teaching and learning, especially in basic schools. Students come to classrooms with different cognitive and intellectual capacities. Teaching and learning become a challenge as students may absorb information or materials at different rates. It even becomes more complex in stimulating creativity, critical thinking skills, and cooperative teaching as a myriad of dynamics come to bear. Studies have contributed to providing insight into the role that teachers' perceptions play in encouraging creative thinking in students, Beghetto (2007) posits that teacher perspectives reflect classroom instructions. Hence the study shall explore teacher perspectives on how the use of

differentiated Instructional strategies promotes creativity, critical thinking skills, and cooperative teaching and learning in Basic Schools. It is clear there exists scanty literature on basic school teacher perspectives and knowledge on differentiated instruction in Ghana and specifically in the Ho-West District. Hence this study shall contribute to bridging this gap.

Objectives of the Study

1. To examine how differentiated instruction affects knowledge and skills acquisition in the Ho-West District.
2. To ascertain how differentiated teaching strategies affect pupils' performance in the Ho-West district.
3. To ascertain how learning styles coupled with motivation and encouragement affect pupils' learning outcomes in the Ho-West.

Research Questions

1. How does differentiated instruction affect pupils' knowledge skills acquisition in the Ho-West District?
2. How do differentiated teaching strategies affect pupils' performance in the Ho-West District?
3. How do learning styles coupled with motivation and encouragement improve learning outcomes in the Ho-West District of Ghana?

RELATED LITERATURE

One factor in ensuring that students learn is effective instruction (Hattie, 2012). Engagement, assistance, and opportunity for students are further considerations. Quality education is mostly dependent on teachers (Hoy & Hoy, 2013). Providing top-notch instruction anywhere is still challenging (Borges & Rodríguez-Dorta, 2015). In the least Developed Countries (LDCs), where instructors frequently lack resources and training, the endeavour is made even more challenging. Hoy & Hoy (2013) assert that as long as students remain focused and make the most of their academic learning time, there isn't a single optimal approach to teaching. Depending on their students' requirements, their learning goals, and the kinds of knowledge they are trying to transfer to them, effective teachers employ a variety of techniques. Direct instruction cannot ensure that students understand and internalize the knowledge, according to Pratt (1993), who claims that learning is a construction of meaning obtained via experiences. In accordance with this idea, teachers take on the role of learning facilitators and are tasked with equipping the pupils with the abilities to become self-directed learners. In other words, facilitators support learning as opposed to controlling it (Laird, Holton, & Naquin, 2003). Researchers who laid the groundwork for current theories assert that active learning strategies and differentiated instruction encourage students to think critically, keep them focused, and help them make the most of their academic learning time (Cunningham & Cordeiro, 2013; Hattie, 2012; Hoy & Hoy, 2013). They include problem-based learning, project-based learning, cooperative learning, service learning, field-based projects, role-

playing, simulations, and reflective learning, all of which are founded on experiential education and the theories of Dewey, Vygotsky, and Piaget (Roberts, 2012). Active learning is still uncommon in classrooms in Africa. This is so that they can present classes utilizing the lecture technique, often known as "stand and deliver," which is how teachers are typically educated (Brion & Cordeiro, 2019). In this method, teachers give lectures while the students listen, repeat, and copy the information into their notebooks. The best way to learn, according to parents, school administrators, and teachers, is when students are quiet, sit still, and are well-behaved. These traditional and orthodox approaches to teaching and learning in recent times are a slap on inclusivity and often lead to inequities in the classroom setup. The works of Atiku and Anane-Simon (2022) demonstrate the importance of using discipline-specific instructional methodologies driven by technological advancements (educative virtual reality games) to foster creativity and innovation.

Learning styles

An important concept in differentiated instruction is learning styles. The term "learning styles" describes the idea that different people prefer to process information in different ways and that they can learn more effectively when they are given training that suits their inclinations (Pashler, McDaniel, Rohrer, & al, 2009). According to Pashler et al. (2009), the 1940s-era Myers-Briggs evaluation, which is still widely used today, is where the history of learning styles begins. Businesses frequently utilize the Myers-Briggs to determine the compatibility of potential hires for specific occupations. Despite studies being weakly in favour of the Myers-Briggs theory that people fall into distinct groups, the theory's popularity hasn't been affected. In essence, there appears to be a pull for businesses and the general public to classify people into preconceived groups in order to ascertain their "type of person," and this idea has permeated a wide range of educational contexts. Also, researchers have postulated aptitude-treatment interactions (ATIs) since at least the 1960s, the notion that a student's aptitude, which is sometimes characterized by a student's preference, such as learning style, can interact with a corresponding treatment (instructional approach) to produce an enhanced effect, most frequently claimed to be increased learning (Scott, 2010). The majority of empirical research disproved the most prevalent ATI assumptions by the 1970s, but the concept reappeared a decade later and found unprecedented acceptance and broad application as learning styles-based education. These procedures are so often used that few people question them (Bishka, 2010). Other academics link Gardner's theory of multiple intelligences; which is considerably more recent- with the occurrence of learning styles. In his original theory, Gardner postulated eight types of intelligence that all humans possess: visual-spatial, verbal-linguistic, logical-mathematical, bodily-kinaesthetic, interpersonal, intrapersonal, musical, and naturalistic. By recommending that education be tailored to students' preferred learning styles, Allcock and Hulme (2010) contends that Gardner (1993) multiple intelligence hypothesis has affected the learning styles approach. They point out that many teachers are expected to consider all forms of intelligence when planning lessons in order to appeal

to students' preferred learning styles. Additionally connecting the growth of learning styles to Gardner's theory, Fridley and Fridley (2010) also highlights the model's flaws.

How Differentiated Instruction Promotes Creativity, Critical Thinking and Learning

Due to individual differences, not every pupil is the same. Based on this knowledge, differentiated instruction is a method of teaching and learning in which pupils have many options for absorbing information and making sense of ideas. The diversified instruction paradigm encourages teachers to be flexible in their approach to teaching and modifying the curriculum and presentation of material to learners, rather than expecting students to modify themselves for the curriculum. Classroom instruction is a combination of whole-class, group, and individual instruction. Differentiated Instruction is a teaching paradigm that holds that educational practices in classrooms should vary and be adaptable to individual and different students**.** Tomlinson (2001, pp. 1-117) argued that differentiated instruction is "not an individualised instruction of the 1970s, not chaotic, not another way to provide homogeneous grouping, not just tailoring the same suit of clothes" but differentiated instruction is "proactive, rooted in assessment, student centred, organic, a blend of whole class, group and individual instruction, and also provides multiple approaches to content, process and product." Undoubtedly, creativity and critical thinking skills are fruits of differentiated instruction. The investment hypothesis of creativity, which was discussed by Sternberg (2006), contends that creative people approach ideas in a manner similar to an investment broker who "buys" an idea and holds onto it despite opposition. According to the theory, creativity is the result of the interaction of six different resources, including mental aptitude, specialized knowledge, thinking patterns, personality traits, motivation, and the environment in which one can engage in creative activities. This notion claimed that since creativity is a decision, it can be taught. Furthermore, Kaufman and Sternberg (2007) asserted that, despite their conviction that creativity cannot be taught explicitly, one can encourage creativity in a person. According to Simplicio (2000) creativity can be viewed as both a natural ability and a methodological approach that can be learned and practiced. This assertion has been supported by other researchers. Brinkman (2010) maintains that a diversity of instructional approaches, evaluations, and evaluation criteria are essential for promoting creativity in the classroom (Simplicio, 2000). To develop creative thinking in the classroom, an activity must focus on both the creative process and the creative output. Teachers' active participation in creative activities is critical. Teachers must also provide genuine support rather than empty praise when fostering children's creative potential (Geist & Hohn, 2009)**.** Beghetto (2007) investigated prospective teachers' perceptions regarding memorizing and creative thinking play in K-12 schools. According to the findings, the majority of instructors polled stated that there is a specific grade level during which teachers should place greater focus on memorization of right answers rather than promoting students' inventive thinking. The authors examined the findings' genesis, explaining that the teachers polled believed encouraging creative thinking could interfere with the acquisition of academic information. This research has significant implications for the training of creative

thinking. If pre-service instructors believe that encouraging imaginative thinking should be curtailed at some point throughout a student's education, then classroom instruction will reflect that belief. In contrast Kampylis, Berki, and Saariluoma (2008) described pre-service teachers' conceptions of creativity. Their study answered three questions: What are teachers' conceptions and implicit theories about creativity in general? What are teachers' theories about creativity in the context of primary education? How well trained are teachers in their role in developing students' creative potential? The study's findings suggested that teachers considered creativity as a significant aspect in social and personal advancement, and that creativity can be nurtured in people. Teachers in the research also agreed that children could express their creativity in a variety of fields, but that many topics in school did not give adequate opportunity for creative development. In response to the third research question, teachers in the survey stated that they did not feel well-versed in creativity theories and types. The study also emphasized teachers' general attitudes on creativity and evidence of instructors' perceptions of their preparedness to encourage creativity in their students. Other studies have been undertaken to measure teachers' opinions of creativity in the classroom. Fleith (2000) explored teachers' and students' opinions of qualities that support or restrict the development of creativity in the classroom. According to the findings, both instructors and students agreed that a creative classroom atmosphere is one in which students are given alternatives, various ideas are acknowledged, self-confidence is built, and students' abilities and interests are supported. This study also corroborated the conclusions of the British NACCCE report All Our Futures (1999), which stated that in order to foster creative capacity in children, instructors should encourage students' conviction in their creativity and give them the confidence to explore it. Diakidoy and Kanari (1999, pp. 225-243) investigated student instructors' perceptions of creativity, creative outcomes, and creativity-related characteristics. They discovered that student instructors believed that creative outcomes are not always the best ones, that creativity is mostly displayed through artistic and literary activity, and that prior knowledge does not play a role in creativity. According to the authors, "these attitudes may contribute to instructional techniques with limited ability to elicit and develop creativity." Flowerday and Schraw (2000) explored teachers' perceptions regarding instructional choice in the classroom. Their research looked into the types of options teachers provide pupils, how they select when and to whom they offer options, and why they do so. According to the findings, teachers believe that giving students alternatives in the classroom enhances student creativity. Other studies on creativity in the classroom have offered quantifiable evidence of teachers' characteristics on the growth of learning, student accomplishment, and better student creativity. Hong et al. (2009) investigated instructors' epistemological views, motivation, and goal orientation in relation to instructional techniques that encourage student creativity. The findings were classified to show that specific teacher traits influence teachers' capacity to stimulate student creativity. The teacher's orientation toward learning, personal drive for creative work, and ideas about the nature of knowledge and learning were identified as these qualities. Horng et al. (2005) discovered numerous characteristics that promote creative teaching while researching the subject of what makes educators creative.

Personality traits, family components, learning experiences in the instructors' backgrounds, peer interaction, views in education, devotion to innovative instruction, motives, and school environment organization are among the elements. They claimed that the most essential aspects are the teacher's views about teaching, hard work, and motivation. Teachers must be adequately educated in their subject areas in order to nurture the creativity of students in that domain (Saebø, McCammon, & O'Farrell, 2007)**.** Jaskyte et al.(2009) studied what happens in novel teaching and learning environments. Certain characteristics of an innovative educational environment were found by these scholars. They discovered that adding new methodologies or procedures is critical. Also important is the instructor's personality and the interaction between the instructor and the students. Educators must consider their own personality as well as the interpersonal interaction between themselves and their pupils while fostering creative potential. In the area of critical thinking and learning, a number of academics have suggested that specific instructional tactics, such as explicit instruction, collaborative or cooperative learning, modelling, and constructivist techniques, be used to enhance the development of critical thinking skills and capacities. Many researchers, for example, have observed that in the absence of explicit teaching, critical thinking skills and talents are unlikely to develop (Abrami, et al., 2008; Case, 2005; Facione, 1990; Halpern, 1998; Paul, 1992). Thayer-Bacon (2000) is a proponent of cooperative or collaborative learning and stresses the significance of student interactions in the development of critical thinking abilities. Supporters also include Bailin, Case, Coombs, and Daniels (1999), who contend that pro-social interactions entail promoting and valuing others' contributions and that critical thinking requires the capacity to respond to others in a constructive manner during group discussions. The findings from a study conducted by Loredana et al. (2022) demonstrate that educators view group discussions, active learning, and the mapping of reasoning as methods for encouraging critical thinking in students. In spite of prior exposure to the idea through project-based learning and "Philosophy for Children," respondents suggest that they still require help through peer learning and exchanges of best practices in order to completely develop critical thinking among students. The shortcomings of primary education, where students appear to be inadequately guided on how to evaluate, process, and critically reflect on information because their teachers continue to suffer from a lack of knowledge, education, and training in fostering these abilities, according to Davies (2013), even though it is widely acknowledged that improving students' critical thinking (CT) is an important educational goal, these skills remain underdeveloped (McLaren, 2015). Clearly there exists extensive literature on creativity, critical thinking and cooperative teaching and learning in the classroom, however literature on its roots- differentiated instruction remains scanty. As teachers' perception tend to influence instructional activities in the classroom, this study shall contribute to literature on how differentiated instruction promotes creativity, critical thinking and cooperative learning in the classroom.

METHODOLOGY

Research Design

Descriptive research design was adopted in the study. The goal of descriptive research is to precisely and methodically describe a population, circumstance, or phenomenon. It gathers information about the present situation and can respond to inquiries about what, where, when, and how, but not why (McCombes, 2019; Creswell, 1994). The descriptive technique is the most appropriate method to utilize since this study is centered on the viewpoint of basic school teachers on how the use of differentiated instructional approach promotes creativity, critical thinking skills, cooperative teaching, and learning. Specifically, a survey method was deemed useful for the study.

Population and Sampling

The population under study was all basic school teachers in the Ho-West District of the Volta Region of Ghana with a total population of 1128 teachers. The total number of basic schools in the district was 117. A total of 289 basic school teachers in the district, selected randomly, constituted the sample. The sample size was adequate to reach the standards of thematic saturation in quantitative research according to Creative Research Systems Sample Size calculator. Out of the 289 teachers sampled for the study, 35.6% were females while 64.4% were males. Data was collected with the assistance of the Ho-west district directorate of education.

Instrument

An online survey-Google form was constructed by the researcher and used for data collection. The first section of the survey, which had four items, asked for background information about the respondents. This included gender, age, and educational level of respondents. The impact of differentiated instruction on students' learning outcomes was elicited in the second section. Some questions included: 1) Pupils assimilate better with the use of teaching learning resources such as abacus, e-reader? 2) I continually assess and adjust lesson content to meet Pupils needs? The third section looked at how teaching strategies impact students' academic achievement in the Ho-District. Some questions included: 1) Pupils do well in their class assignments, tests/exams as a result of the use of appropriate creative instructional approaches (role play, games, group discussions)? 2) Putting Pupils into groups fosters cooperation and enhances performance? The final segment focused on how students' learning results were affected by learning styles coupled with motivation and encouragement. Some questions were: 1) Motivation Increases classroom participation? 2) I demonstrate flexibility in managing how Pupils learn and are assessed? All sections consist of items on a four-point Likert scale with options strongly disagree (4), disagree (3), agree (2), and strongly agree (1). On the following variables, the Cronbach Alpha coefficient was calculated: teaching and learning resources (α =0.744), differentiated teaching strategies (α =0.845), motivation and encouragement (α=0.738) which indicates high internal consistency and is, therefore, suitable for the study.

Data Analysis

Descriptive statistics in the form of simple percentages, frequency, mean and standard deviation were used to analyze data.

RESULTS AND DISCUSSIONS

Data on the basic school teacher's perspective on the use of differentiated instructional approach to promote creativity, critical thinking skills, cooperative teaching and learning in the Ho-west district of Ghana is presented in this section

General Information

The Demographic Data collected include Age, Gender, and Level of Education

Table 1

Demographic Data of Respondents

Gender	Percent	Age	Percent	Educational Level	Percent
Male	186(64.4%)	20-30	28.0(28%)	Diploma	197(68.2%)
Female	103(35.6)	31-40	50.2(50.2%)	Degree	92(31.8%)
		41-50	16.6(16.2%)		
		51-60	5.2(5.2%)		
Total	289(100%)		289(100%)		289(100%)

According to the preliminary data on Gender, respondents comprised of 35.6% females and 64.4% males as indicated in Table 1 above. The preliminary data on Academic qualification, respondents comprised of 68.2% Diploma holders, 31.8% Bachelor's degree holders as indicated above. The preliminary data on age, 28% of respondents were between the ages of 20-30, 50.2% were between the ages of 31-40, 16% were between the ages of 41-50 and 5.2% were between the ages of 51-60.

RESULTS

Research Question 1: How does differentiated instruction affect Pupil's knowledge and skills acquisition?

This research question centred on outlaying the perspective of basic school Teachers in the Ho-West district on how differentiated instruction affect pupil's knowledge and skills acquisition**.** Two hundred and eighty nine (289) Basic school teachers in the district responded to the likert scale questionnaire and table 2&3 below indicates their shared viewpoints.

Table 2

How differentiated instruction affect pupil's knowledge and skills acquisition

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
Pupils assimilate better with the use of teaching learning resources such as abacus, e-reader etc.	112	144	19	14
	38.8%	49.8%	6.6%	4.8%
Subject knowledge of Pupils are enhanced with the use of teaching learning materials such as abacus, e-reader etc	122	142	18	7
	42.2%	49.1%	6.2%	2.4%
Pupils gain critical thinking skills with the use of teaching learning materials such as abacus, e-reader	105	170	9	5
	36.3%	58.8%	3.1%	1.7%
Pupil feedback is maximized with the use of teaching learning resources (TLRs)	98	139	45	7
	33.9%	48.1%	15.6%	2.4%
I continually assess and adjust lesson content to meet Pupils needs	91	171	21	6
	31.5%	59.2%	7.3%	2.1%
	111	140	30	8

I design lessons based on Student/Pupil learning styles	38.4%	48.4%	10.4%	2.8%
I vary the quality of work of Pupils according to their ability, interest or previous content knowledge	124 42.9%	144 49.8%	16 5.5%	5 1.7%

It can be observed from Table (2) that 112(38.8%) and 144(49.8%) of respondents strongly agree and agree respectively that Pupils assimilate better with the use of teaching learning resources such as abacus, e-reader etcetera. However, 19(6.6%) and 14(4.8%) of respondents respectively disagree with the statement. Also, 122(42%) and 142(49.1%) of respondents strongly agree and agree that the subject knowledge of Pupils are enhanced with the use of teaching-learning materials such as the abacus, e-reader etcetera. However, 18(6.2%) and 7(2.4%) of respondents disagree and strongly disagree respectively to the statement. Furthermore, 105(36.3%) and 170(58.8%) of respondents strongly agree and agree respectively that Pupils gain critical thinking skills with the use of teaching-learning materials such as Abacus, e-readers etcetera. However, 9(3.1%) and 5(1.7%) of respondents disagree and strongly disagree respectively with the statement. The result in Table 2 indicates 298 (33.9%) and 139(48.1%) of respondents strongly agree and agree respectively that Pupil's feedback is maximized with the use of teaching-learning resources (TLRs). However, 45(15.6%) and 7(2.4%) of respondents disagree and strongly disagree respectively with the statement. In addition 91(31.5%) and 171(59.2%) of respondents strongly agree and agree respectively that they continually assess and adjust lesson content to meet Pupil's needs. However, 21(7.3%) and 6(2.1%) of respondents disagree and strongly disagree respectively with the statement. Also, 111(38.4%) and 140(48.4%) of respondents strongly agree and agree respectively that they design lessons based on Pupil's learning styles. However, 30(10.4%) and 8(2.8%) of respondents disagree and strongly disagree respectively with the statement. Finally, 124(42.9) and 144(49.8%) of respondents strongly agree and agree respectively that they vary the quality of work of Pupils according to their ability, interest, or previous content knowledge. However, 16 (5.5%) and 5(1.7%) of respondents disagree and strongly disagree respectively with the statement.

Table 3

Descriptive statistics on pupil's knowledge and skills acquisition using differentiated instruction

Statement	N	Minimum	Maximum	Mean	Std. Deviation
I vary the quality of work of Pupils according to their ability, interest or previous content knowledge	289	1	4	1.66	.663
Subject knowledge of Pupils are enhanced with the use of teaching learning materials such as abacus, e-reader etc	289	1	4	1.69	.697
Pupils gain critical thinking skills with the use of teaching learning materials such as abacus, e-reader	289	1	4	1.70	.614
I design lessons based on Student/Pupil learning styles	289	1	4	1.78	.742
Pupils assimilate better with the use of teaching learning resources such as abacus, e-reader etc.	289	1	4	1.78	.774

I continually assess and adjust lesson content to meet Pupils needs	289	1	4	1.80	.657
Pupil feedback is maximized with the use of teaching learning resources (TLRs)	289	1	4	1.87	.759
Valid N (listwise)	289				

Clearly, the data in Table 3 shows that the average respondent agree that Pupils assimilate better with the use of Teaching Learning Resources (M=1.78, SD=0.774). Also, data shows that the average respondent agree that subject knowledge of Pupils are enhanced with the use of teaching learning materials (M= 1.69, SD=0.697). Furthermore, the data shows that the average respondent agree that Pupils gain critical thinking skills with the use of teaching leaning materials (M=1.70, SD=0.614). In addition the average respondent agree that Pupil feedback is maximised with the use of teaching learning resources (M=1.87, SD=0.759). The data also shows that the average respondent agree that they continually assess and adjust lesson content to meet Pupil's needs. (M= 1.80, SD= 0.657) In addition, the average respondent agree that they design lessons based on Pupil's learning styles (M= 1.78, SD=0.742). Finally, the average respondent agree that they vary the quality of work of Pupils according to their ability, interest or previous content knowledge (M= 1.66, SD=0.663).

Research Question 2: How do differentiated teaching strategies affect Pupils' performance in the Ho-West District?

This research question centred on outlaying the perspective of basic school Teachers in the Ho-West district on how differentiated teaching strategies affect pupil's performance. Two hundred and eighty-nine (289) Basic school teachers in the district responded to the likert scale questionnaire and table 4&5 below indicates their shared perspectives.

Table 4

Effects of differentiated teaching strategies on pupil's performance

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree
Pupils do well in their class assignments, tests/exams as a result of the use of appropriate creative instructional approaches (role play, games, group discussions)	93	168	24	4
	32.2%	58.1%	8.3%	1.4%
Putting Pupils into groups fosters cooperation and enhances performance	115	149	21	4
	39.8%	51.6%	7.3%	1.4%
Valuing Pupil's questions and interest promotes creativity	93	184	6	6
	32.2%	63.7%	2.1%	2.1%
Interactive learning builds on Pupils prior knowledge and enhances their critical thinking skills	100	184	0	5
	34.6%	63.7%	0.0%	1.7%
I assess student's learning using formative assessment	76	207	3	3
	26.3%	71.6%	1.0%	1.0%
I use variety of projects, task or problem solving activities in my lesson delivery	101	168	17	3
	34.9%	58.1%	5.9%	1.0%
I use the same material to teach all students/	59	165	55	10

pupils using variety of instructional strategies				
	20.4%	57.1%	19.0%	3.5%
I consider varied ability of pupils when teaching	126	154	5	4
	43.6%	53.3%	1.7%	1.4%
I vary the level of difficulty of the task based on Pupil's ability	91	176	19	3
	31.5%	60.9%	6.6%	1.0%
I give assignments to Pupil's after every lesson	114	150	22	3
	39.4%	51.9%	7.6%	1.0%
I assess Pupils critical thinking skills when they retell stories appropriately	75	166	44	4
	26.0%	57.4%	15.2%	1.4%
I assess students retentive memory skills through singing for fun	77	144	54	14
	26.6%	49.8%	18.7%	4.8%
I engage student actively in learning through role play	104	153	27	5
	36.0%	52.9%	9.3%	1.7%
I use simulation techniques to teach challenging topics	67	170	41	11
	23.2%	58.8%	14.2%	3.8%
I use role play to develop understanding and confidence among students	81	170	35	3
	28.0%	58.8%	12.1%	1.0%
I inculcate good behaviour and character training	89	175	22	3

in Pupils through the dramatization of social situations	30.8%	60.6%	7.6%	1.0%
I prepare different instructional techniques before the course begins	81 28.0%	181 62.6%	21 7.3%	6 2.1%

It can be observed from Table 4 that 93(32.2%) and 168(58%) of respondents strongly agree and agree respectively that pupils do well in their class assignments, tests/exams as a result of the use of appropriate creative instructional approaches (role play, games, group discussions). However, 24(8.3%) and 4(1.4%) of respondents disagree and strongly disagree respectively with the statement. The data also indicates that 115(39.8%) and 149(51.6%) of respondents strongly agree and agree respectively that putting pupils into groups fosters cooperation and enhances performance. However, 21(7.3%) and 4 (1.4%) disagree and strongly disagree respectively with the statement. According to the data, 93(32.2%) and 182(63.7) of respondents respectively strongly agree and agree respectively that valuing pupils' questions and interest promotes creativity. However, 6(1.2%) and 6(1.2%) of respondents disagree and strongly disagree respectively with the statement. The data further indicates 100(34.6%) and 184 (63.7%) of respondents strongly agree and agree respectively that interactive learning builds on pupils' prior knowledge and enhances their critical thinking skills. However, 0(0.0%) and 5(1.7%) disagree and strongly disagree respectively with the statement. In addition, 76(26.3%) and 207(71.6%) of respondents strongly agree and agree respectively that they assess students' learning using formative assessment. However, 3(1.0%) and 3(1.0%) of respondents disagree and strongly disagree respectively with the statement. The data also indicates that 101(34.9%) and 168(58.1) of respondents strongly agree and agree that they use a variety of projects, tasks, or problem-solving activities in their lesson delivery. However, 17(5.9%) and 3(1.0%) of respondents disagree and strongly disagree with the statement. The data also indicates 59(20.4%) and 165(57.1%) of respondents strongly agree and agree respectively with the statement that they use the same material to teach all students using a variety of instructional strategies. However, 55(19.0%) and 10 (3.5%) of respondents disagree and strongly disagree respectively with the statement. Also, 126(43) and 154(53.3%) of respondents strongly agree and agree respectively that they consider the varied ability of pupils when teaching. However, 5(1.7%) and 4(1.4%) disagree and strongly disagree respectively with the statement. The data further reveals 91(31.5%) and 176(60.9%) of respondents strongly agree and agree respectively they vary the level of difficulty of the task based on the pupil's ability. However, 19(6.6%) and 3 (1.0%) disagree and strongly disagree respectively with the statement. The data also shows that 114(39.4%) and 150(51.9%) of respondents strongly agree and agree respectively that they gave assignment to pupils after every lesson. However, 19(6.6%) and 3(1.0%) of respondents disagree and strongly disagree respectively with the

statement. The data shows that 75(26%) and 166(57.4%) of respondents strongly agree and agree respectively that they assess pupils' critical thinking skills when they retell stories appropriately. However, 44(15.2%) and 4 (1.4%) of respondents disagree and strongly disagree respectively with the statement. The data also reveals that 77(26.6%) and 144(49.8%) of respondents strongly agree and agree respectively that they assess students' retentive memory through singing for fun. However, 54(18.7%) and 14 (4.8%) of respondents disagree and strongly disagree respectively with the statement. Also, 104(36%) and 153(52.9%) of respondents strongly agree and agree respectively with the statement that they engage students actively in learning through role-play. However, 27(9.3%) and 5(1.7%) of respondents disagree and strongly disagree respectively with the statement. The data also affirms that 67(23.2%) and 170(58.8%) of respondents strongly agree and agree respectively that they use simulation techniques to teach challenging topics. However, 41(14.2%) and 11(3.8%) of respondents disagree and strongly disagree respectively with the statement. The data reveals that 81(28.0%) and 170(58.8%) of respondents strongly agree and agree respectively that they use role play to develop understanding and confidence among students. However, 35(12.1%) and 3(1.0%) of respondents respectively disagree and strongly disagree respectively with the statement. In addition that 89(30.8%) and 175(60.6%) of respondents strongly agree and agree respectively that they inculcate good behaviour and character training in pupils through the dramatization of social situations. However, 22(7.6%) and 3(1.0%) of respondents disagree and strongly disagree respectively with the statement. Finally the data shows that 81(28.0%) and 181(62.6%) of respondents strongly agree and agree respectively they prepare different instructional techniques before the course begins. However, 21(7.3%) and 6(2.1%) of respondents disagree and strongly disagree respectively with the statement.

Table 5

Descriptive statistics on the effect of differentiated teaching strategies on pupil's performance

Statements	N	Minimum	Maximum	Mean	Std. Deviation
I consider varied ability of pupils when teaching	289	1	4	1.61	.597
Interactive learning builds on Pupils prior knowledge and enhances their critical thinking skills	289	1	4	1.69	.565

Putting Pupils into groups fosters cooperation and enhances performance	289	1	4	1.70	.663
I give assignment to Pupils after every lesson	289	1	4	1.70	.652
I use variety of projects, task or problem solving activities in my lesson delivery	289	1	4	1.73	.615
Valuing Pupil's questions and interest promotes creativity	289	1	4	1.74	.600
I engage student actively in learning through role play	289	1	4	1.77	.686
I assess student's learning using formative assessment	289	1	4	1.77	.512
I vary the level of difficulty of task based on Pupil's ability	289	1	4	1.77	.609
Pupils do well in their class assignment, test/exams as a result of the use appropriate creative instructional approaches (role play, games, group discussions)	289	1	4	1.79	.646

I inculcate good behaviour and character training in Pupils through dramatization of social situations	289	1	4	1.79	.618
I prepare different instructional techniques before the course begins	289	1	4	1.83	.640
I use role play to develop understanding and confidence among students	289	1	4	1.86	.652
I assess Pupils critical thinking skills when they retell stories appropriately	289	1	4	1.92	.680
I use simulation techniques to teach challenging topics	289	1	4	1.99	.726
I assess students retentive memory skills through singing for fun	289	1	4	2.02	.806
I use the same material to teach all students/pupils using variety of instructional strategies	289	1	4	2.06	.729
Valid N (listwise)	289				

Clearly, the data in Table 5 shows that the average respondent agree that Pupils do well in their class assignment, test/exams as a result of the use of appropriate creative instructional approaches.(M=1.79, SD= 0.646). Also the data shows that the average respondent agree that putting pupils into groups fosters cooperation and enhances performance (M=1.70, SD=0.663). In

addition the average respondent agree that valuing Pupil's questions and interest promotes creativity (M= 1.74, SD=0.600). The data also reveals that the average respondent agree that they consider varied ability of Pupils when teaching (M= 1.61, SD=0.597). The data shows that the average respondent agree that they assess students learning using formative assessment (M= 1.77, SD= 0.512). The data further indicates that the average respondent agree that they use a variety of projects, task or problem solving activities in their lesson delivery (M= 1.73, SD=0.615). The data also affirms that the average respondent agree that they use the same material to teach all using variety of instructional strategies (M=2.06, SD=0.729). The data also shows that the average respondent agree that they consider Pupils when teaching (M=1.61, SD=0.597).The data further shows that they average respondent agree that they vary the level of difficulty of task based on Pupil's ability (M= 1.77, SD=0.609). The data also reveals that the average respondent agree that they give assignment to Pupils after every lesson (M= 1.70, SD=0.663). The data further shows that the average respondent agree that they assess Pupils critical thinking skills when they retell stories appropriately (M= 1.92, SD=0.680). The data further confirms that the average respondent agree that they assess Pupils retentive memory skills through singing for fun (M= 2.02, SD=0.806). The data also reveals that the average respondent agree that they engage students actively in the learning through role play (M=1.77, 0.686). It is also clear from the data that the average respondent agree that they use simulation techniques to teach challenging topics (M= 1.99, SD=0.726). Also, the data shows that the average respondent agree that they prepare different instructional techniques before the course begins (M= 1.83, SD= 0.640). The data further shows that the average respondent agree that they inculcate good behaviour and character training in Pupils through dramatizing of social situations (M=1.79, SD=0.618). Finally, the data reveals average respondent agrees with the statement (M= 1.83, SD=0.640)

Research Question 3: How do learning styles coupled with motivation and encouragement improve learning outcomes in the Ho-West District of Ghana?

This research question focused on ascertaining the perspective of Basic school teachers in the Ho-West district on how learning styles coupled with motivation and encouragement improve learning outcomes. Two hundred and eighty-nine (289) Basic school teachers in the district responded to the Likert scale questionnaire and table 6&7 below indicates their shared perspectives

Table 6

Impact of learning styles coupled with motivation and encouragement on learning outcomes

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
Pupils develop greater	107	152	28	2

self-confidence as a result of encouragement	37.0%	52.6%	9.7%	0.7%
Motivation increases the absorption level of students in my class	106 36.7%	165 57.1%	15 5.2%	3 1.0%
Motivation Increases classroom participation	183 63.3%	99 34.3%	5 1.7%	2 0.7%
Motivation and encouragement help students execute group and single-handed assignments.	131 45.3%	144 49.8%	10 3.5%	4 1.4%
I create a safe and supportive environment in the classroom	132 45.7%	147 50.9%	7 2.4%	3 1.0%
I motivate and Engage students/pupils through games	130 45.0%	136 47.1%	20 6.9%	3 1.0%
I demonstrate flexibility	112	164	10	3

in managing how Pupils learn and are assessed	38.8%	56.7%	3.5%	1.0%

The data in Table 6 reveals 107(37.0%) and 152(52.6%) of respondents strongly agree and agree respectively that Pupils develop greater self-confidence as result of encouragement. However, 28(9.7%) and 2(0.7%) of respondents disagree and strongly disagree respectively to the statement. It is evident from the data that 106(36.7%) and 165(57.1%) of respondents strongly agree and agree respectively that motivation increases the absorption level of students in their class. However, 106 (36.7%) and 165(57.1%) of respondents disagree and strongly disagree respectively to the statement. The data further reveals 183(63.3%) and 99(34.3%) of respondents strongly agree and agree respectively that motivation increases classroom participation. However, 5(1.7%) and 2 (0.7%) of respondents disagree and strongly disagree respectively with the statement. According to the data, 131(45.3%) and 144(49.8%) of respondents strongly agree and agree respectively that motivation and encouragement help students execute group and single-handed assignments. However, 10(3.5%) and 4(1.4%) of respondents disagree and strongly disagree respectively with the statement. The data further shows that 132(45.7%) and 147(50.9%) of respondents strongly agree and agree respectively that they create a safe and supportive environment in the classroom. However, 7(2.4%) and 3(1.0%) of respondents disagree and strongly disagree respectively with the statement. The data indicates 130(45.7%) and 136(47.1%) of respondents strongly agree and agree respectively that they motivate and engage Pupils through games. However, 20(6.9%) and 3(1.0%) of respondents disagree and strongly disagree respectively with the statement. Finally, it is evident from the data that 112(38.8%) and 164(56.7%) of respondents strongly agree and agree respectively that they demonstrate flexibility in managing how Pupils learn and are assessed. However, 10(3.5%) and 3(1.0%) of respondents disagree and strongly disagree respectively with the statement.

Table 7

Descriptive statistics on the impact of learning styles coupled with motivation and encouragement on learning outcomes

Statements	N	Minimum	Maximum	Mean	Std. Deviation

Motivation increases classroom participation	289	1	4	1.40	.563
I create safe and supportive environment in the classroom	289	1	4	1.59	.595
Motivation and encouragement help students execute group and single-handed assignments.	289	1	4	1.61	.626
I motivate and engage students/pupils through games	289	1	4	1.64	.658
I demonstrate flexibility in managing how Pupils learn and are assessed	289	1	4	1.67	.595
Motivation increases absorption level of students in my class	289	1	4	1.71	.612
Pupils develop greater self-confidence as a result of encouragement	289	1	4	1.74	.655
Valid N (listwise)	289				

The data in Table 7 shows clearly that the average respondent agree that Pupils develop greater self-confidence as a result of encouragement (M= 1.74, SD=0.655). Also, the data shows that the average respondent agree that motivation increases the absorption level of students in their class. (M= 1.71, SD=0.612). Furthermore, the data reveals that the average respondent strongly agree that motivation increases classroom participation. (M= 1.40, SD=0.563). The data also shows that the average respondent agree that motivation and encouragement help students execute group and single-handed assignments (M= 1.61, SD=0.626). The data further reveals that respondents agree they create safe and supportive environment in the classroom. (M=1.59, SD=0.595). The data also indicates clearly that the average respondent agree that they motivate and engage Pupils through

games (M=1.64, SD= 0.658). Finally, the data suggests that the average respondent agree that they demonstrate flexibility in managing how Pupils learn and are assessed. (M=1.67, SD=0.595)

DISCUSSIONS

Basic school teachers' perspective on how the use of differentiated instructional approach promotes creativity, critical thinking skills, cooperative teaching and learning was examined based on three questions which were: 1) how does differentiated instruction affect Pupil's knowledge and skills acquisition in the Ho-West District? 2. How do differentiated teaching strategies affect pupils' performance in the Ho-West District? 3. How do learning styles coupled with motivation and encouragement improve learning outcomes in the Ho-West District of Ghana?

Findings indicate that Basic school teachers were aware of how differentiated instruction affects Pupils' knowledge and skills acquisition, this confirms findings of Kwakye, et al., (2020) that appropriate materials like bundles of sticks and Abacus should be encouraged and be used in primary schools more especially at the Lower Primary levels (Early Grade levels) to teach for the pupils to overcome their difficulties in solving addition problems involving two- and three-digits numbers. More specifically, 1) teachers agree that Pupils assimilate better with the use of teaching-learning resources such as the abacus, e-reader etcetera (M=1.78, SD=0.774); 2) teachers agree that the subject knowledge of Pupils is enhanced with the use of teaching-learning materials such as the abacus, e-reader etcetera (M=1.70, SD=0.614); 3) teachers agree that Pupil's feedback is maximized with the use of teaching-learning resources (TLRs) (M=1.87, SD= 0.759); 4) teachers agree that they continually assess and adjust lesson content to meet Pupils needs(M= 1.80, SD= 0.657); 5) teachers agree that they design lessons based on Pupil learning styles(M=1.78, SD=0.742); 6)teachers agree that they vary the quality of work of Pupils according to their ability, interest or previous content knowledge(M= 1.66, SD=0.663).

The findings also indicate that Basic School teachers have high knowledge of how DI-based teaching strategies affect Pupils' performance, this aligns with findings from the study of Ako, Kwame, Asare, and Amihere (2019) who indicated that JHS teachers have high knowledge of DI. More specifically, 1) teachers agree that pupils do well in their class assignment, test/exams as a result of the use of appropriate creative instructional approaches(role play, games, group discussions)(M=1.79, SD= 0.646); 2) teachers agree that putting pupils into group fosters cooperation and enhances performance(M=1.70, SD=0.663); 3) teachers agree that that valuing pupil's questions and interest promotes creativity(M=1.74, SD=0.600); 4) teachers agree that that interactive learning builds on pupil's prior knowledge and enhances their critical thinking skills(M=1.61, SD=0.597); 5) teachers agree that they assess student's learning using formative assessment(M=1.77, SD=0.512); 6) teachers agree that they use a variety of projects, task or problem solving activities in their lesson delivery(M=1.73, SD=0.615); 7) teachers agree that they use the same material to teach all students using variety of instructional strategies(M=2.06, SD=0.729); 8) teachers agree that they consider varied ability of pupils when teaching(M=1.61, SD=0.597); 9) teachers agree that they vary the level of difficulty of task based on pupil's ability(

M=1.77, SD=0.609); 10) teachers agree that they give an assignment to pupils after every lesson(M=1.70, SD=0.663); 11) teachers agree that they assess pupil's critical thinking skills when they retell stories appropriately (M= 1.92, SD=0.680); 12) teachers agree that they assess students retentive memory through singing for fun (M= 2.02, SD=0.806); 13) teachers agree that they engage students actively in learning through role play (M=1.77, 0.686); 14) teachers agree that they use simulation techniques to teach challenging topics(M= 1.99, SD=0.726); 15) teachers agree that they use role play to develop understanding and confidence among students (M= 1.86, SD= 0.640); 16) teachers agree that they inculcate good behaviour and character training in pupils through dramatization of social situations (M=1.79, SD=0.618); 17) teachers agree that they prepare different instructional techniques before the course begins (M= 1.83, SD=0.640)

The findings further indicated that Basic school teachers were knowledgeable about how learning styles coupled with motivation and encouragement improve learning outcomes, Bonney, Amoah, Micah, Ahiamenyo, and Lemaire (2015) confirms this findings that teachers are expected to motivate and encourage pupils to study hard to improve the standard of education. More specifically, 1) teachers agree that Pupils develop greater self-confidence as result of encouragement (M= 1.74, SD=0.655); 2) teachers agree that motivation increases the absorption level of students in their class (M= 1.71, SD=0.612); 3) teachers strongly agree that motivation increases classroom participation(M= 1.40, SD=0.563); 4) teachers agree that motivation and encouragement helps students execute group and single-handed assignments(M= 1.61, SD=0.626); 5) teachers agree that that they create safe and supportive environment in the classroom(M=1.59, SD=0.595); 5) teachers agree that that they motivate and engage Pupils through games (M=1.64, SD= 0.658); 6) teachers agree that they demonstrate flexibility in managing how Pupils learn and are assessed(M=1.67, SD=0.595)

Based on the numerous sub-questions they were tested on, the results indicated that Basic school instructors largely agreed with the claims and are consequently not novices of differentiated instructional approaches. This supports Whipple's (2012) findings, which show that teachers were informed about several DI sub-concepts.

IMPLICATIONS FOR PRACTICE

The concept of differentiated instruction (DI) describes how to accommodate different learning styles in a classroom environment. According to Anderson (2009), teachers must differentiate their lessons because the students in the classrooms have a variety of needs and come to school with a diversity of experiences. The need to educate all students, including those who are at risk of dropping out of school, have cultural and linguistic differences, are underprivileged, are slow learners, gifted and talented learners, are enrolled in special education, have racial, ethnic, and socioeconomic differences, as well as students with various educational backgrounds and family values, is eminent (Nordlund, 2003 cited by Anderson, 2009). As a result, basic school teachers in the Ho-west District should keep differentiating their lessons to accommodate the varied demands of all these student groups in their classes. The findings indicated that most teachers generally

possess a good level of understanding regarding differentiated instructional approaches. It was also discovered that teachers already use some differentiated instructional approaches in their lesson preparation and delivery. Additionally, it was discovered that the utilization of teaching-learning resources, evaluation, lesson content, and teaching practices all showed signs of DI in the classroom. Finally, it was discovered that teachers had incorporated inspiration and motivation into their classroom lesson delivery. In order to provide all pupils with a high-quality education, teachers must possess the pedagogical abilities, subject-matter expertise, and temperament for differentiated teaching and learning in the Ho-West district.

RECOMMENDATIONS

The Ho-West District directorate of the Ghana Education Service is advised to organize in-service programmes, workshops, seminars, and short courses on differentiated instructional strategies in order to give teachers practical training and further develop their already-existing knowledge of DI. This is in consonance with regulations on special education that have been introduced which place a strong emphasis on the need to properly equip teachers to fulfil the requirements of all students in the classroom (Ministry of Education – MoE, 2013). Teachers are advised by the Curriculum Research Development Division (2012) to consider pupils who have physical and mental issues as well as other students who have learning difficulties when preparing and delivering lessons. The study also recommends that teachers should be properly trained and given enough time to utilize differentiated instructional methodologies, as planning classes utilizing this approach can be time-consuming and challenging

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