

Factors Influencing the Adoption of Differentiated Instruction among Basic School Teachers

Linus Mwinkaar¹, Enock Yeng² & Jane-Frances Y. Lobnibe³

Department of Educational Foundations, University of Business and Integrated Development Studies,
Ghana^{1,3} & School of Education, Liberty University, Virginia, United States².

****Corresponding Author:** eyeng@liberty.edu

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Abstract: *This study investigated the factors influencing basic school teachers' adoption of differentiated instruction, specifically examining the interplay of instructional philosophy, practical principles, and adaptive teaching. Using a positivist paradigm and a descriptive survey design, the study employed a census sampling technique to include all 124 basic school teachers within specialized partner schools. Quantitative data, collected via the DI Quest instrument, were analyzed using descriptive statistics. The results indicated a conditionally positive philosophical orientation among teachers. While they demonstrated a growth mindset regarding student potential, significant pedagogical disagreement arose from perceived curricular rigidity. Furthermore, both practical application and adaptive teaching levels were moderate, with notable deficiencies in formative assessment and fostering student agency. These findings suggest that although teachers recognize the value of differentiated instruction, systemic constraints and content overload impede its implementation. Therefore, the study recommends targeted professional development focused on technical differentiation and a policy shift toward greater curricular flexibility to bridge the knowledge-action gap.*

Keywords: Differentiated instruction, adaptive teaching, teacher philosophy, basic school, teachers.

INTRODUCTION

The 21st-century classroom has undergone a radical transformation, evolving into a complex tapestry of learner diversity. Educators today are tasked with instructing students with a wide range of academic abilities, from those with learning difficulties to the highly gifted, as well as differences in cultural heritage, socioeconomic status, and personal interests (Wang & Zollers, 2016). In Ghana, this diversity is equally pronounced. Classrooms in the Wa metropolis comprise learners with varying degrees of motivation and distinct attitudes toward schooling, all of whom respond differently to traditional instructional environments (Nabiebakye & Susan, 2022). Historically, basic schooling operated on a "one-

size-fits-all" model, assuming all students could learn the same content, in the same way, at the same pace. However, contemporary educational theory suggests that understanding is not directly transferred from teacher to student but is actively constructed within the learner's mind (Schreiber & Valle, 2013). To facilitate this construction, teachers must move beyond rigid pedagogical practices and design instructional environments that challenge and expand the existing mental models of every individual student (Bachari et al., 2012).

Differentiated Instruction (DI) has emerged as the premier pedagogical framework to address this shift. DI is a proactive approach where teachers intentionally modify the content, process, and product of learning based on a student's readiness, interests, and learning profile (Tomlinson, 2015). By moving away from a uniform delivery method, DI seeks to provide equitable access to high-quality learning, ensuring that every student is appropriately challenged and supported (Welker, 2017). The successful adoption of DI, however, is deeply rooted in the educator's philosophical leanings. A teacher's belief system regarding whether all children can learn and whether diversity is a burden or an opportunity serves as the foundation for instructional choices. Beyond philosophy, transitioning to a differentiated classroom requires a set of practical principles the 'how-to' of classroom management- including routines, flexible grouping, and tiered assignments. Furthermore, adaptive teaching is the hallmark of an effective DI practitioner, involving the teacher's ability to make real-time adjustments during a lesson to meet the shifting needs of learners. While global reform movements advocate for these pedagogical shifts, research indicates that many Ghanaian teachers continue to struggle with integrating DI, often failing to show evidence of differentiation in their planning or assessment (Ako et al., 2019). This study, therefore, seeks to explore the factors, ranging from internal philosophies to external practicalities, that influence the adoption of these critical instructional practices among basic schoolteachers within the Wa Metropolis.

Problem Statement

Despite a global and national emphasis on inclusive education, a significant gap remains between the ideals of Differentiated Instruction (DI) and the actual teaching practices in Ghanaian basic schools. Although 21st-century school reform and Ghana's national curriculum advocate for instructional methods that address diverse learner needs (Welker, 2017), a uniform, one-size-fits-all approach still prevails in classrooms. This rigid approach marginalizes students with varying readiness levels, interests, and learning styles, leading to inequitable educational outcomes. In the Wa Metropolis, recent field reports and observations reveal a concerning situation. Pre-service teachers at the University of Business and Integrated Development Studies have noted high levels of disengagement, poor retention, and disruptive behavior among basic school learners, indicating that their specific learning needs are not being met. These reports suggest that students often lose focus or desire to leave class early because instruction fails to align with their interests or academic levels.

Furthermore, research indicates that many Ghanaian teachers struggle with effective DI implementation, showing minimal differentiation in lesson content, teaching strategies, or assessments (Ako et al., 2019). While the consequences of undifferentiated teaching are evident, the underlying reasons for teachers' adoption or non-adoption of DI remain poorly understood. There is a lack of insight into how teachers' beliefs about student potential, their practical classroom management knowledge, and their ability to adapt

instruction in real-time interact within the socio-economic and systemic realities of the Wa Municipality. Without a deeper understanding of these factors, DI risks remaining an aspiration rather than a tangible practice for the diverse student population in the Wa metropolis. Therefore, there is an urgent need to investigate what motivates basic school teachers to adopt differentiated instruction, ensuring that the promise of education for all translates into effective and inclusive practices.

Significance of the study

The study offers significant theoretical value by applying social constructivism and differentiated instruction principles to the distinct educational context of sub-Saharan Africa. While existing research on differentiated instruction (DI) largely stems from Western perspectives, this study provides empirical data on how teacher philosophies and adaptive teaching practices are implemented within the Ghanaian basic school system. Practically, the findings offer a strategic roadmap for the Ghana Education Service (GES) and teacher training institutions, such as the University of Business and Integrated Development Studies. It identifies psychological, environmental, or systemic barriers that hinder teachers from adopting DI. Ultimately, the study's greatest impact lies in its potential to improve educational outcomes and learner engagement in the Wa Metropolis. Through fostering a deeper understanding of the factors that drive the adoption of adaptive and responsive teaching, the research advocates for an inclusive environment that addresses the diverse readiness levels and interests of all students. This shift from a one-size-fits-all model to a differentiated approach supports the national goal of achieving Sustainable Development Goal 4. It ensures that basic education genuinely promotes social justice, providing every child with an equitable opportunity to succeed and contribute to Ghana's development.

Study Purpose

The purpose of this study was to examine the instructional philosophies, application of practical principles, and adaptive teaching practices as factors influencing basic schoolteachers' adoption of differentiated instruction in the Wa Metropolis.

Research Questions

The study sought to answer the following research questions:

1. What is the status of teachers' philosophy of differentiated instruction among basic schoolteachers?
2. To what extent do basic schoolteachers apply the practical principles of differentiated instruction in their classrooms?
3. What is the level of teachers' adaptive teaching practices in responding to the diverse readiness, interests, and learning profiles of students?

RELATED LITERATURE REVIEW

Theoretical Foundations of Differentiated Instruction

Differentiated Instruction (DI) is an instructional approach grounded in the premise that effective teaching must be responsive to students' diverse learning needs, preferences, and readiness levels (Tomlinson, 2017). The theoretical underpinnings of DI are informed by multiple educational and psychological theories, which emphasize the significance of individualized learning experiences and adaptive teaching strategies. One key theoretical foundation of differentiated instruction (DI) is Vygotsky's zone of proximal development (ZPD). Vygotsky (1978) posited that learning occurs most effectively within a learner's ZPD, the range of tasks that a student can perform with guidance but cannot yet accomplish independently. DI aligns with this theory by encouraging teachers to provide scaffolding tailored to each student's current level of understanding, gradually withdrawing support as learners develop competence (Van Geert, 2019). Additionally, Howard Gardner's theory of multiple intelligences provides another essential basis for DI. Gardner (1983) argued that intelligence is not a single, unified construct but rather consists of multiple distinct modalities, such as linguistic, logical-mathematical, spatial, musical, and interpersonal intelligence. DI embraces this diversity by encouraging teachers to design lessons that cater to varied intelligence profiles, ensuring that all students have opportunities to engage meaningfully with the content (Armstrong, 2009).

Another significant influence on DI is Constructivist Learning Theory, which emphasizes that learners actively construct knowledge through meaningful interactions with their environment and prior experiences (Piaget, 1950). DI leverages this principle by allowing students to engage with content in ways that connect with their existing knowledge base and personal interests, fostering deeper understanding and retention (Schunk, 2020). Furthermore, Carol Ann Tomlinson's differentiation model synthesizes these theoretical perspectives into a practical framework for classroom instruction. Tomlinson (2017) highlights that DI involves modifying three key components of teaching: content, process, and product, to address learners' varying needs. For instance, teachers might present content at different levels of complexity, use diverse instructional strategies to facilitate engagement, and allow students to demonstrate their learning through varied outputs, such as written reports, artistic creations, or oral presentations. In conclusion, the theoretical foundations of DI emphasize the importance of acknowledging and addressing the unique needs of individual learners. By drawing on principles from Vygotsky's ZPD, Gardner's Multiple Intelligences, constructivist theories, and Tomlinson's differentiation model, educators can create inclusive classrooms where all students are supported in reaching their full potential.

Impact of Differentiated Instruction on Student Outcomes

Differentiated Instruction (DI) has been widely recognized as an effective strategy for addressing the diverse learning needs of students in today's classrooms. Its focus on tailoring instruction to meet individual learners' readiness levels, interests, and learning profiles has significantly positive effects on academic achievement, engagement, and overall student development (Tomlinson, 2017).

Academic achievement research highlights that DI improves student performance by aligning teaching methods and materials with individual learning needs. A study by Reis et al. (2011) found that students in classrooms employing DI strategies showed higher academic gains than those in traditional classrooms. This improvement is attributed to the adaptive nature of DI, which provides opportunities for students to engage with content at their own pace and level of readiness. Additionally, using varied instructional strategies, such as scaffolding, tiered assignments, and flexible grouping, helps bridge knowledge gaps and supports deeper understanding (Santangelo & Tomlinson, 2012).

Student Engagement

Differentiated Instruction (DI) also positively impacts student engagement by fostering a sense of ownership and relevance in learning. When students are given tasks that align with their interests or are allowed to choose how they demonstrate their learning, they are more motivated to participate actively in the learning process (Subban, 2006). For instance, incorporating student interests into lessons and offering choices in assignments can create a more engaging and dynamic classroom environment. This personalization fosters intrinsic motivation and encourages students to take responsibility for their learning.

Social and Emotional Development

Differentiated Instruction (DI) contributes to the social and emotional development of students by promoting a supportive and inclusive classroom environment. By addressing individual differences and providing appropriate challenges, DI helps reduce feelings of inadequacy or frustration among students with varying abilities (Rock et al., 2008). It also encourages collaboration and peer learning through activities such as cooperative learning and heterogeneous grouping, which enhance interpersonal skills and build a sense of community (McTighe & Brown, 2005).

Equity in Education

One of the most significant impacts of Differentiated Instruction (DI) is its ability to promote equity in education. Traditional one-size-fits-all teaching approaches often fail to address the unique needs of students from diverse backgrounds, leading to disparities in academic outcomes. DI ensures that all students, regardless of their abilities or backgrounds, have access to meaningful and effective learning experiences. Studies have shown that DI reduces achievement gaps among student's student achievement gaps and fosters and fosters a more equitable distribution of academic success (Hall et al., 2003). Consequently, DI has a transformative impact on student outcomes, enhancing academic achievement, engagement, social development, and equity in education educational equity. By creating responsive and inclusive learning environments, DI empowers all learners to achieve their full potential, thereby contributing to more effective and equitable educational practices.

Cultural and Contextual Influences on Differentiated Instruction

Cultural and contextual factors that influence teaching and learning profoundly shape and profoundly shape the implementation of differentiated... differentiated instruction implementation. Teachers' approaches to differentiation and students' engagement with such methods are often embedded within their sociocultural and contextual environments, which include the broader cultural values, school

systems, community expectations, and available resources (Tomlinson, 2017). Understanding these influences is crucial for creating responsive and effective instructional strategies tailored to diverse classroom settings.

Cultural Influences on Teaching and Learning

Cultural values and norms play a significant role in shaping teachers' beliefs, practices, and expectations in the classroom. For instance, collectivist cultures, which emphasize group harmony and interdependence, may favour cooperative and group-based learning strategies as part of DI. On the other hand, individualist cultures, which prioritize personal achievement, might encourage independent learning and self-directed tasks (Hofstede, 2001). Teachers operating in multicultural classrooms must navigate these cultural dynamics to ensure that their differentiation practices respect and address the cultural backgrounds of all learners. Moreover, students' cultural backgrounds influence their learning preferences, communication styles, and levels of engagement. Research shows that when teachers incorporate culturally responsive practices within DI frameworks, such as using culturally relevant materials and acknowledging students' linguistic diversity, student engagement and achievement improve significantly (Gay, 2018). For example, incorporating examples, texts, or assignments that reflect students' lived experiences enhances their connection to the learning material.

Socioeconomic Context and Resources

The availability of resources in each context significantly influences the feasibility of differentiated instruction (DI). Implementing individualized learning plans or providing diverse instructional materials can pose challenges in low-resource environments, where classrooms are often overcrowded and resources are scarce. As noted by UNESCO (2021), limited access to technological tools and inadequate teacher training in many developing countries hinder the adoption of innovative differentiation strategies. Additionally, socioeconomic disparities impact students' readiness levels and learning profiles. In underprivileged contexts, teachers may need to invest extra effort in scaffolding learning experiences for students who arrive in the classroom with notable knowledge gaps or minimal exposure to formal education. Such situations necessitate creative, low-cost approaches to differentiation, including flexible grouping and peer tutoring.

Institutional and Policy Contexts

Institutional policies and curricula also shape the implementation of DI. Standardized testing systems, which emphasize uniformity in assessment, can hinder teachers' ability to tailor instruction to meet diverse needs. A rigid curriculum with little flexibility may limit opportunities for differentiation. Conversely, policies that promote inclusivity and provide professional development opportunities for teachers are more conducive to successful DI (Santangelo & Tomlinson, 2012).

In some contexts, the lack of support structures for differentiated teaching, such as large class sizes and insufficient professional training, poses additional barriers. Teachers may struggle to balance the demands of differentiation with the pressure to cover the prescribed curriculum. To address these challenges, professional development programs must emphasize the role of DI in fostering equity and train teachers to design adaptive instructional strategies within their unique contexts (Hall et al., 2003).

Language and Communication Barriers

Language diversity is another critical factor affecting DI. In multilingual classrooms, language barriers can hinder teachers' ability to communicate effectively with all learners, particularly those for whom the medium of instruction is not their first language. Differentiated strategies that incorporate language scaffolding, such as visual aids, bilingual materials, and peer support, can help bridge this gap and create inclusive learning environments (Schleicher, 2019). Cultural and contextual factors significantly influence the implementation and effectiveness of DI. Teachers must consider these factors to create equitable and meaningful learning experiences for all students. By embracing cultural responsiveness, leveraging available resources creatively, and navigating institutional constraints, educators can adapt DI to meet the diverse needs of their classrooms. Such adaptations not only enhance academic outcomes but also promote inclusivity and respect for diversity in education.

METHODOLOGY

Research Philosophy and Design

This study is situated within the positivist paradigm, which asserts that social phenomena can be measured through objective observations and empirical evidence (Creswell & Creswell, 2023). Aligned with this philosophy, a quantitative research approach was adopted, utilizing a descriptive survey design. This design is uniquely suited for this study as it allows for the systematic quantification of teacher attitudes and behaviors across a defined population, facilitating the identification of patterns regarding the adoption of differentiated instruction (DI) in the Wa Metropolis (Fowler, 2014; Babbie, 2021). The design focuses on providing a snapshot of the current pedagogical landscape, ensuring that the findings are both replicable and generalizable to similar urban educational contexts in Ghana.

Study Setting

The study was conducted in Wa Metropolis, the main administrative and educational hub of the Upper West Region of Ghana. As a rapidly growing urban center, the Metropolis encounters unique educational challenges, including significant student diversity and varying levels of infrastructural support. This location was chosen strategically, as Wa Metropolis serves as the primary site for clinical practice for pre-service teachers, making the instructional methods of local educators a crucial element in the broader teacher-training ecosystem of Ghana.

Population and Sampling Technique

The target population comprised all 124 basic schoolteachers currently serving in partner schools affiliated with the School of Education and Life-Long Learning at the University of Business and Integrated Development Studies. For this study, a census sampling technique was employed. In quantitative research, a census is considered superior to traditional sampling when the population is small and manageable, as it eliminates sampling error and ensures that the parameters of the study are identical to the parameters of the population (Saunders et al., 2023). By including the entire cohort of 124 teachers, the study achieves maximum statistical power and provides an exhaustive account of the instructional philosophies and practices within these specialized partner schools.

Instrumentation

Data collection was facilitated through the differentiated instruction questionnaire, a validated instrument adapted to align with the socio-educational context of Ghana. The instrument utilizes a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree) to prevent central tendency bias, where respondents avoid extreme positions by choosing a neutral midpoint (Chyung et al., 2017).

The DI Quest is partitioned into three psychometric domains:

1. *Teachers' Philosophy (Cognitive Domain)*: 8 items measuring mindsets regarding learner potential and curricular constraints.
2. *Practical Principles (Behavioral Domain)*: Items focusing on the proactive modification of content, process, and product.
3. *Adaptive Teaching (Enactive Domain)*: Items assessing real-time instructional adjustments during classroom interactions.

To ensure content validity, the instrument was reviewed by an expert in curriculum and instruction. Reliability was established through a pilot study, with the Cronbach's alpha coefficient alpha targeted at 0.70, indicating high internal consistency for the scales (Hair et al., 2021).

Data Collection Procedure

Data collection was executed over a duration of four weeks. The researchers personally administered the questionnaires to participants at their respective school sites. This person-administered approach was chosen to ensure a high response rate and to allow the researchers to clarify any technical terms in the questionnaire items, thereby reducing non-response bias and ensuring the integrity of the data collected (Dillman et al., 2014).

Data Analysis Plan

The primary data were analyzed using SPSS version 31, employing descriptive statistics such as frequencies and percentages for demographic profiling, while means and standard deviations were calculated for each research question against a theoretical mid-point threshold of 2.5 to determine the extent of positive adoption (Field, 2018; Pallant, 2020).

Ethical Considerations

In accordance with international research standards, participants were provided with a plain language statement and signed an informed consent form acknowledging their voluntary participation. To ensure confidentiality, data were anonymized using alphanumeric coding (for example, T1, T2). All raw data were stored in a password-protected cloud drive, accessible only to the principal researchers, and will be destroyed five years' post-publication.

RESULTS AND DISCUSSIONS

This section outlines the findings of a study examining the factors that influence the adoption of differentiated instruction (DI) among Basic School teachers in Wa metropolis, Ghana. The results are derived from data collected using the DI Quest instrument and analyzed through descriptive statistics. Key findings are discussed in the context of existing literature on the adoption and implementation of DI.

Research Question 1: What is the status of teachers' philosophy of differentiated instruction among basic schoolteachers?**Table 1: Teachers' Philosophy of Differentiated Instruction**

Teachers' Philosophy of Differentiated Instruction	Strongly Agreed %	Agreed %	Disagreed %	Strongly Disagreed %	Mean	Std. Deviation
Despite students' learning potential, we cannot change their intellectual capacities.	9.7	27.4	40.3	22.6	2.2	0.91
The way a teacher teaches is influential on the intellectual capacities of their students.	46.0	46.0	6.5	1.6	3.4	0.68
Classroom experiences of success can influence the intellectual capacities of students.	29.0	62.1	4.8	4.0	3.2	0.69
A teacher's belief in the competencies of a student can influence their intellectual capacity.	28.2	56.5	12.9	2.4	3.1	0.71
The way a teacher motivates his students is not an influence on the students' intellectual capacities.	18.5	26.6	25.8	29.0	1.8	0.82
The curriculum provides flexibility to cope with individual students.	9.7	42.7	36.3	11.3	2.3	1.09
The curriculum is overloaded with content and goals.	14.5	40.3	31.5	13.7	3.0	0.91
The curriculum does not provide any room to foresee differentiated instruction.	15.3	36.3	27.4	21.0	2.5	0.82
Average	21.4	42.2	23.2	13.2	2.7	0.8

Source: Field Data, 2026.

Data from Table 1 reveals that participants generally hold a positive philosophical outlook toward differentiated instruction, with an average mean score of 2.7 (SD = 0.8), exceeding the criterion mean of 2.5. The item asserting that a teacher's instructional approach influences students' intellectual capacities received the highest agreement ($\bar{x}$ = 3.4, SD = 0.68), with a combined agreement rate of 92%. This was

closely followed by the belief that successful classroom experiences can influence intellectual capacities, garnering 91.1% agreement ($\bar{x}$ = 3.2, SD = 0.69). Furthermore, 84.7% of surveyed teachers agreed that their belief in a student's competency can influence that student's intellectual capacity ($\bar{x}$ = 3.1, SD = 0.71). These figures suggest that teachers possess a high sense of internal pedagogical efficacy and believe in the transformative power of their instructional roles.

Conversely, the results also indicated significant philosophical disagreements regarding the fixed nature of intelligence and the role of motivation. For the statement, 'Despite students' learning potential, we cannot change their intellectual capacities,' the mean score was low ($\bar{x}$ = 2.2, SD = 0.91), with 62.9% of respondents disagreeing. Similarly, the assertion that 'teacher motivation does not influence intellectual capacity' recorded a mean of ($\bar{x}$ = 1.8, SD = 0.82), with 54.8% of participants rejecting this claim. While these scores generally indicate a rejection of fixed mindset ideologies, the relatively high standard deviations for these items suggest a lack of consensus among staff, implying that nearly a third of the workforce still holds traditional or static views of student potential.

Regarding the curriculum, a trend toward curricular fatalism was observed, where teachers feel philosophically constrained by external mandates. Specifically, 54.8% of participants agreed that the curriculum is overloaded with content and goals ($\bar{x}$ = 3.0, SD = 0.91), and 51.6% agreed that the current framework does not provide sufficient room to foresee or implement differentiated instruction ($\bar{x}$ = 2.5, SD = 0.82). This data reflects a critical bottleneck: while teachers believe in the malleability of student intelligence, they perceive the structural environment of the national curriculum as a rigid barrier that inhibits the practical application of their inclusive philosophies. The prevalence of a growth mindset in the Wa Metropolis is a significant finding that aligns with Dweck's (2017) incremental theory of intelligence. By strongly rejecting the notion that intellectual capacity is unchangeable, teachers demonstrate a foundational prerequisite for differentiated instruction; they view student variance as a professional challenge to be met rather than a biological limit. This high sense of teacher efficacy is supported by Hattie (2023), who identifies teacher collective efficacy and high expectations as the most significant predictors of student achievement. When teachers believe that their instruction and the success they facilitate can physically and cognitively reshape a student's potential, they are more likely to invest in the complex task of differentiation.

However, the reported pedagogical disagreement between teacher beliefs and curricular perceptions suggests that the adoption of DI in the Wa Metropolis is hindered by systemic anxiety. The findings corroborate De Neve et al.'s (2015) research, which posits that even growth-oriented teachers often succumb to standardized teaching behaviors when they perceive the curriculum as an inflexible master rather than a flexible tool. In the Ghanaian context, this implies that the transition to a more inclusive basic education system requires more than just teacher training on DI methods; it necessitates a philosophical shift at the policy level to reassure teachers that the curriculum allows for the flexibility needed to cater to diverse learners. Without addressing this perception of content overload, the positive instructional philosophies identified in this study may remain purely theoretical, never translating into the adaptive teaching practices required for student success.

Research Question 2: To what extent do basic school teachers apply the practical principles of differentiated instruction in their classrooms?**Table 2: Teachers' Practical Principles of Differentiated Instruction**

Teachers' Practical Principles of Differentiated Instruction	Always %	Very often %	Rarely %	Never %	Mean	Std. Deviation
I use assessment to gain insight into the learning processes of my students.	3.2	24.2	41.1	31.5	2.0	0.83
I teach my students to help each other.	29.0	11.3	33.9	25.8	2.4	1.16
I explicitly make sure I have a good relationship with all my students.	36.3	5.6	25.8	32.3	2.5	1.28
During my lessons, students need to work together to progress in their learning process.	19.4	24.2	32.3	24.2	2.8	1.11
I make sure that every student has a specific function in my classroom.	18.5	21.0	57.3	3.2	2.5	0.83
Working in heterogeneous groups allows my students to learn from each other.	23.4	44.4	32.3	0.0	2.9	0.74
I make sure that every student who needs extra guidance will get this.	32.3	24.2	27.4	16.1	2.7	1.08
My students get the opportunity to rework a task based on given feedback.	4.0	22.6	38.7	34.7	2.0	0.86
Average	20.8	22.2	36.1	21.0	2.5	1.0

Source: Field Data, 2026.

Data from Table 2 provides a critical overview of how basic schoolteachers in the Wa Metropolis apply the practical principles of differentiated instruction (DI). The results show an average mean score of ($\bar{x}$ = 2.5, SD = 1.0), which precisely matches the criterion threshold, suggesting a moderate level of DI adoption. However, a closer look at specific items reveals significant deficiencies in the technical aspects of differentiation, especially concerning assessment and feedback. Specifically, only 27.4% of teachers frequently use assessment to gain insight into learning processes ($\bar{x}$ = 2.0, SD = 0.83), and an even smaller proportion (26.6%) allow students to rework tasks based on feedback ($\bar{x}$ = 2.0, SD = 0.86). In contrast, teachers appear more comfortable with social and organizational strategies, such as using heterogeneous groups ($\bar{x}$ = 2.9, SD = 0.74) and ensuring students work together for progress ($\bar{x}$ = 2.8, SD = 1.11). This stark contrast between the high use of grouping versus low use of formative assessment suggests that while teachers are adopting the form of a differentiated classroom, they may be missing its substance.

Within the DI framework, assessment is not merely a grading tool but a compass guiding instructional adjustments. The fact that 72.6% of respondents rarely or never use assessment to inform their understanding of the learning process indicates a departure from the assessment-instruction link emphasized by Tomlinson (2017). This finding aligns with Black and Wiliam (2018), who argue that without robust formative assessment, classroom activities, even collaborative ones, lack the precision needed to meet individual learning needs. In the Wa Metropolis, this suggests that differentiation may be functioning more as a general social strategy than a targeted pedagogical response to measured student variance.

The relatively high frequency of heterogeneous grouping ($\bar{x} = 2.9$) and peer assistance ($\bar{x} = 2.4$) indicates a strong pedagogical alignment with Vygotskian social constructivism. Teachers in the Wa Metropolis seem to recognize the value of the zone of proximal development (ZPD), where students learn through social mediation and peer support. However, the high standard deviations (ranging from 0.74 to 1.28) across these items reveal a lack of uniformity in practice. This inconsistency suggests that DI principles are likely applied based on individual teacher initiative rather than a standardized institutional culture. As Shulman (2015) notes, the transition from pedagogical content knowledge to actual classroom practice is often hindered by enactment barriers, where teachers understand a concept (like peer learning) but lack the classroom management skills to implement it consistently. Furthermore, the data highlights a significant gap in responsive pedagogy, particularly regarding feedback loops. The low mean score ($\bar{x} = 2.0$) for allowing students to rework tasks based on feedback contradicts the mastery learning model, which is central to effective differentiation. Hattie and Timperley (2007) identify feedback as one of the most powerful influences on achievement; however, for feedback to be effective, students must have the opportunity to act upon it. The failure to provide this opportunity in the Wa Metropolis suggests that instruction remains largely linear, focused on curriculum coverage, rather than cyclical, where instruction is revisited based on student performance. This reinforces findings from Research Question 1 regarding curricular fatalism, where the pressure to cover content overrides the practical necessity of allowing students time for revision and mastery.

In summary, the application of DI practical principles in the Wa Metropolis is characterized by a 'Surface-Level Adoption' profile. Teachers successfully implement social structures, such as group work and peer help, but struggle with the data-driven aspects of differentiation, such as formative assessment and feedback-driven revision. For DI to move beyond a moderate level of adoption, professional development in the Metropolis must shift its focus from how to group students to how to use student data to modify instruction. Without this shift, the practical application of DI will remain a series of social activities rather than a precise mechanism for achieving equitable learning outcomes.

Research Question 3: What is the level of teachers' adaptive teaching practices in responding to the diverse readiness, interests, and learning profiles of students?

Table 3: Teachers' Adaptive Teaching

Adaptations to interests, readiness, and learning profiles.	Always %	Very often %	Rarely %	Never %	Mean	Std. Deviation
I choose the learning content and teaching methods based on my students' needs.	17.7	25.0	32.3	25.0	2.4	1.0
I adjust my assessment based on my students (or groups of students).	25.0	19.4	33.9	21.8	2.5	1.1
During my lessons, different students work on different tasks with different levels of difficulty.	25.0	5.6	39.5	29.8	2.3	1.1
Every student will receive the same assessment.	41.1	23.4	17.7	17.7	2.9	1.1
During my lessons, my students can decide with me which assignment they need to work on.	16.1	8.1	50.8	25.0	2.2	1.0
Knowing my students, I select the learning content, materials, and teaching methods.	29.0	37.1	30.6	3.2	2.9	0.9
Based on their learning profile, I let my students choose between learning content and teaching methods.	16.1	18.5	27.4	37.9	2.1	1.1
During my lessons, I choose the learning content and teaching methods for my students based on their learning profiles.	9.7	20.2	33.9	36.3	2.0	1.0
Average	22.5	19.7	33.3	24.6	2.4	1.0

Source: Field Data, 2026.

Data from Table 3 indicates that the overall average mean score for adaptive teaching is (2.4, SD = 1.0), which falls slightly below the criterion mean of 2.5. This suggests that while teachers possess a theoretical understanding of student diversity, their ability to execute real-time pedagogical adjustments is limited. A notable discrepancy exists between knowing students and acting for them; while 66.1% of teachers reported that they select content and materials based on their knowledge of students ($\bar{x}$ = 2.9, SD = 0.9), far fewer implement differentiated tasks. Specifically, only 30.6% of teachers frequently assign different tasks with varying levels of difficulty during lessons ($\bar{x}$ = 2.3, SD = 1.1), and 64.5% admit that they consistently give every student the same assessment ($\bar{x}$ = 2.9, SD = 1.1). The persistent reliance on

standardized assessment and uniform task difficulty highlights a significant implementation gap in the adaptive teaching cycle. In a truly differentiated classroom, knowing the student must lead to adjusting for the student. The high mean score for using general knowledge to select materials ($\bar{x} = 2.9$), contrasted with the low mean for letting students choose between content or methods based on their profiles ($\bar{x} = 2.1$), suggests a teacher-centered approach to adaptation. This indicates that while teachers in the Wa Metropolis are making macro-level choices (selecting a general textbook or method for the class), they are struggling with micro-level adaptations (individualized tasks). These findings align with the work of Parsons et al. (2018), who noted that adaptive teaching requires a high degree of pedagogical agility that many teachers find difficult to maintain alongside the pressures of a fixed curriculum and large class sizes.

The also reveals a profound lack of student agency and autonomy, which are pillars of the differentiated instruction framework. With 75.8% of teachers rarely or never allowing students to participate in deciding which assignments they need to work on ($\bar{x} = 2.2$), the learning environment remains largely prescriptive. This lack of choice contradicts the Self-determination theory of Ryan and Deci (2000), which posits that autonomy and competence are essential for intrinsic motivation. When students are denied the opportunity to influence their learning path, the interests and learning profiles mentioned in the research question become secondary to the teacher's pre-planned agenda. In the context of the Wa Metropolis, this suggests that even when teachers recognize student differences, they retain strict control over the learning process, likely as a classroom management strategy to handle diversity. Furthermore, the prevalence of uniform assessment ($\bar{x} = 2.9$) presents a critical challenge to equitable education. The principle of adaptive teaching requires that the product of learning be as varied as the process (Tomlinson, 2017). However, most teachers in this study continue to measure diverse learners against a single, standardized yardstick. This one-size-fits-all assessment model, as argued by Wiliam (2011), often fails to capture the true progress of students at either end of the readiness range: the struggling learners who may need alternative ways to show mastery, and the advanced learners who are not being sufficiently challenged. The high standard deviation across these items ($SD = 1.1$) further indicates that adaptive teaching is not a systemic practice but is left to the discretion of individual teachers, leading to an inconsistent learning experience for students across different schools in the Metropolis.

In conclusion, the level of adaptive teaching in the Wa Metropolis is characterized by a knowledge-action disconnect. Teachers have the diagnostic knowledge of their students, but this knowledge does not systematically translate into differentiated tasks, varied assessments, or student agency. The results suggest that adaptive teaching in this context is more about the teacher's general preparation than it is about real-time, student-responsive adjustments. To improve this, doctoral-level interventions should focus on helping teachers move beyond the uniformity of the lesson and toward a model where task difficulty and assessment modes are as diverse as the learners themselves. Without addressing the reliance on standardized assessments and the lack of student choice, the goal of truly responsive, differentiated instruction will remain elusive.

CONCLUSIONS AND IMPLICATIONS

This study concludes that basic schoolteachers in the Wa Metropolis are philosophically inclined towards inclusivity, yet a significant gap exists between their beliefs and their classroom practices. With a philosophical orientation mean of 2.7 and a practical application mean of 2.5, it is clear that teachers have overcome initial fixed-mindset barriers and largely embrace an incremental theory of intelligence. However, moderate scores and high standard deviations suggest that Differentiated Instruction (DI) is more an idiosyncratic practice than a systemic standard. The study reveals a concerning pedagogical conflict: teachers believe student intelligence is malleable but feel philosophically and structurally constrained by a curriculum they view as rigid and overloaded. As a result, DI in the Wa Metropolis is currently superficial; social strategies like group work are common, but technical, data-driven strategies such as formative assessment and task differentiation are significantly underutilized.

Study Implications

These findings carry profound implications for the future of basic education in Ghana. If the current trend of curricular fatalism persists, the growth mindsets identified among teachers will likely erode into frustration or mechanical compliance.

1. The implication is that training alone will not suffice; unless the structural perception of the curriculum is addressed, teachers will continue to prioritize content coverage over learner mastery.
2. Furthermore, the reliance on uniform assessments and the lack of student agency imply that the education system in the Wa Metropolis may be inadvertently perpetuating inequities by failing to challenge advanced learners or adequately scaffold instruction for those at risk. For the Ghana Education Service (GES) to achieve its goal of equitable access to quality education, the transition from a one-size-fits-all model to a responsive pedagogical framework must be treated as both a psychological and a structural reform.

Recommendations

Based on these conclusions, the following recommendations are suggested for your consideration.

1. First, the Ministry of Education and the National Council for Curriculum and Assessment should undertake a curriculum compacting initiative, providing explicit guidelines on how teachers can navigate standardized content with the flexibility required for DI. Professional development should shift from theoretical orientations toward high-yield technical training, focusing specifically on formative assessment literacy and the design of tiered assignments that cater to varying readiness levels.
2. Additionally, school leadership must institutionalize professional learning communities (PLCs) within the Wa Metropolis to mitigate the isolation of practitioners. These communities should serve as innovation hubs where teachers can share data-driven strategies and collectively solve the challenges of large class sizes.
3. Finally, the study suggests a critical need for policy intervention regarding classroom resources; providing teachers with digitized formative assessment tools could significantly reduce the

administrative burden of differentiation and facilitate the real-time adaptive teaching that this study found to be currently lacking.

Limitations and Areas for Further Research

1. This study offers a robust, census-based overview of Differentiated Instruction (DI) in the Wa Metropolis; however, it has limitations. As a descriptive survey, it relies on self-reported data, which may be influenced by social desirability bias. Teachers might report practices they believe are expected rather than their actual daily routines.
2. Moreover, while curriculum rigidity was identified as a barrier, the study did not account for variations in administrative support or the specific socio-economic pressures of different schools, both of which could affect a teacher's ability to differentiate instruction. These factors, though acknowledged, fell outside the immediate quantitative scope of this investigation.
3. Therefore, future research should adopt an experimental design to measure the direct impact of targeted professional development programs on the long-term changes in teachers' DI practices.
4. Additionally, further research could explore the role of digital scaffolding tools, investigating how educational technology might automate content and assessment differentiation, particularly in resource-constrained settings.
5. Finally, a comparative study between urban centers like Wa and more rural districts such as Wa West and Wa East would offer deeper insights into how geographical and infrastructural disparities affect the implementation of inclusive teaching methods in Ghana.

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