Differentiating Content as a Way of Enhancing Students’ Self-Efficacy: A Study of Private Schools in Ruiru Sub-county

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ABSTRACT

Research confirms that differentiated instruction has both academic and non-academic benefits for students. Individualized learning enhanced academic performance, and most importantly, a sense of self-efficacy are all associated with this mode of instruction. Teachers in Kenya, as in the rest of the world, hold the opinion that differentiation reflects the best professional comprehension of skilled and adaptable instruction. This study aimed to examine the effects of differentiated instruction on the self-efficacy of elementary school students. The investigation utilized the Theory of Multiple Intelligences and Self-Efficacy and a post-positivist methodology. In nine private primary schools in Ruiru Sub-County, Kiambu County, Kenya, 45 teachers and 1,022 pupils in upper primary levels (grades 6, 7, and 8) participated in the study. Using questionnaires, quantitative data was collected and analyzed using SPSS Student Version 14.0. The investigated aspect of differentiated instruction is content differentiation. It was discovered that differentiated content has a statistically significant impact on the self-efficacy of elementary school pupils. The establishment of comprehensive teacher professional development systems in private primary schools to equip teachers with the ability to effectively deliver differentiated instruction and build students' self-efficacy is one of the study's key recommendations. Among the areas for additional research is the conduct of a comparable study in public elementary schools. Additionally, longitudinal, and experimental studies can be conducted to examine the relationship between differentiated instruction and student self-efficacy in both private and public primary institutions. Additional recommendations include conducting research on other factors that contribute to the self-efficacy of elementary school students.

Keywords: Differentiated instruction, private primary school, self-efficacy.

I. INTRODUCTION

With the increasing diversity in the classroom today, differentiated instruction offers teachers and other instructors the means to meet the needs of their ever-changing clients. According to Tomlinson (2017), a typical classroom today has learners with diverse social, cognitive, cultural, emotional, physical, economic, and other challenges, which necessarily calls for differentiated instruction. Differentiated instruction is a way of thinking about the classroom with the dual goals of honouring each student’s learning needs and maximizing their learning capacity (Griful-Freixenet et al., 2020). Since it targets the unique needs of the learner, differentiated instruction is beneficial to learners on many fronts, for example by enhancing their self-efficacy.

Teachers can differentiate, or adjust, five class elements to maximise chances of each student learning in the most efficient way. According to Vallyiades et al. (2018), these elements are (1) content, referring to what one teaches and how they give students access to the information and ideas that matter; (2) process, referring to how students come to understand and “own” the knowledge, understanding, and skills essential to a topic; (3) products, referring to how a student demonstrates what they have come to know, understand, and be able to do as a result of a segment of study; (4) affect, referring to how students link thought and feeling in the classroom; and (5) learning environment, which means the way the classroom feels and functions.

Kovtiuh (2017) observed that when teachers understand what differentiation in a class set up looks like, they can accommodate needs of learners. Kovtiuh (2017) noted that owing to diversity of students in today’s classrooms (i.e., with diverse social, economic, cognitive, and similar needs), it is crucial that teachers adopt a differentiated approach to meet these students’ needs. Hence, according to Pozas et al. (2020), teachers should necessarily learn to adopt differentiated instruction in classrooms if they wish to be successful in meeting needs of learners. One of the areas that stands to benefit from the use of differentiated instruction, is learners’ self-efficacy. Differentiated instruction allows teachers to work on learners’ self-image and confidence.
which consequently enhances their self-efficacy. However, few studies have focused on the effect of differentiated instruction in the Kenyan context, and more so with respect to learners’ self-efficacy.

Self-efficacy among learners is an especially important component that has been linked to academic performance at all stages of life, hence the need to give it attention (Usher & Pajares, 2008). Self-efficacy is a strong predictor of academic performance, even much more than a student’s cognitive abilities and is achieved through mastery experience (an individual’s experience of performance success), vicarious experience, verbal social persuasion, and emotional physiological arousal (Talsma et al., 2018). Self-efficacy has also been associated with the attainment of 21st century skills among learners (Semilarski et al., 2021), and one of the ways this can be enhanced is through differentiated instruction, which seeks to meet the needs of the learners as individuals rather than a group (Konstantinou-Katzi et al., 2013; Salar & Turgut, 2021). This study sought to show the relationship between the element of content in differentiated learning and self-efficacy.

Differentiating classroom content, process and product are instrumental in promoting self-efficacy among learners. According to Taylor (2015) content to be differentiated in the classroom is the ‘what’ of instruction, process the ‘how’, while product is the ‘evidence’ of instruction. When content, process and product are correctly differentiated in the classroom, learners’ self-efficacy is boosted as they are able to confidently undertake the tasks before them (Tomlinson, 2017).

II. RESEARCH QUESTION

The research question in this study was ‘What is the effect of differentiating content on students’ self-efficacy in private primary schools in Ruiru Sub County?’

III. LITERATURE REVIEW

Differentiated instruction focusses on teaching that seeks to meet the needs of the diverse learners in the classroom today (Grifull-Freixenet et al., 2020; Tomlinson, 2017). The classroom today has learners with diverse cognitive, cultural, emotional, physical, economic, and other challenges that require differentiated instruction. Smale-Jacobse et al. (2019) observed that differentiated instruction is rooted in the deep belief and respect in the uniqueness of the learners, and requires teachers to vary their content, teaching methods, approaches, curricula, teaching methods.

Differentiated instruction is an approach to learning that aims to accommodate the wide range of student backgrounds in today’s classrooms (Grifull-Freixenet et al., 2020; Tomlinson, 2017). Many students in today’s classrooms require differentiated instruction due to cognitive, cultural, emotional, physical, financial, or other limitations. According to the definition of differentiated education provided by Smale-Jacobse et al. (2019), educators must modify their pedagogical positions, instructional methods, course materials, and more to fit the requirements of their diverse student bodies. The current research examined private schools in Kenya and found that various pedagogical approaches affect students’ knowledge acquisition across a variety of disciplines.

There is scientific evidence connecting differentiated education with student perceptions of their own abilities. Boerger (2005) looked at how sixth- and seventh-grade math teachers in a suburban middle school in Washington, USA, implemented differentiated instruction strategies in their classrooms. Context and agendas were the focus of the study since they represent two distinct pedagogical approaches. Differentiation was found to help students establish meaningful connections to the mathematics they were learning, which in turn increased their engagement with the subject matter.

Karadag and Yasar (2010) conducted research on the effects of differentiated instruction on students’ attitudes in a Turkish course. The study in Turkey used an action research approach with 16 girls and 14 boys in 5th grade. Turkish lessons were taught utilizing customized instruction methodologies developed by the centres. Data was gathered using the Turkish Course Attitude Scale and semi-structured interviews (Acat, 2000). The qualitative data was analysed using the "NVivo 8" tool, while the quantitative data was analysed using SPSS. The results showed that a differentiated education strategy favourably improved students’ attitudes about Turkish courses, implying the value of distinguishing content and its effect on a student’s attitude, which is related to self-efficacy.

After conducting an action research project on effects of differentiated instruction on motivation and engagement in fifth grade math and music students in Chicago, Illinois, Pickett (2013) found that application of differentiated instruction and more choices during non-instruction time as intervention strategies, positively impacted changes in how students perceived their engagement and motivation. The more students were allowed choice in the classroom, the more they perceived learning as challenging. Further, the researchers found out that, by creating a more learner-centred classroom environment, students were more likely to choose projects and authentic learning, both of which are internally motivating factors. Self-efficacy is therefore achieved if consideration is given for course content. The current study was applied research, and not action research as was the case for Pickett (2013) and it focused on private schools in Ruiru Sub-County, Kenya.

IV. THEORETICAL FRAMEWORK

A. Theory of Multiple Intelligences

The theory of Multiple Intelligences was first developed in 1983 by Howard Gardner, and it seeks to challenge the traditional view of intelligence, premised on Intelligence Quotient (IQ) tests, as too narrow (Gardner, 2000). The theory advances the idea that there exist eight types of intelligences hence a wider range of human potentialities and capacities. These are linguistic, logical-mathematical, visual-spatial, musical-rhythmic, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic intelligence (Gardner, 2000).

According to Gardner (2012), schools and culture tend to mostly address linguistic and logical-mathematical
intelligence; this is demonstrated by the value that is ascribed to those individuals who are highly articulate, eloquent, and logical. Gardner (2012) argued for a paradigm shift that will allow educators and the society in general to place equal emphasis on people who demonstrate gifts in the intelligences such as the artists, architects, musicians, designers, dancers, therapists, entrepreneurs, and others who enrich the world. According to Armstrong (2020), the theory of multiple intelligences proposes a radical change in how schools are run and suggests how teachers should be trained to present lessons in a wide variety of ways using music, cooperative learning, art activities, role play, multimedia, field trips, inner reflection, and much more. Instruction in class should respond to the multiple intelligences in children as proposed by the theory of multiple intelligences.

Bender (2008) observed that differentiated instruction is best conceptualized as a teacher’s response to diverse learning needs of students in the general education classes. It is imperative that teachers identify and tailor instruction to their students’ variance in learning abilities, academic status, learning styles and learning preferences. Tomlinson (1999) challenged teachers to individualize instruction to meet students’ varied needs through a highly interactive, challenging, and interesting curriculum. This theory is relevant in responding to the research question, in understanding how teachers differentiate instruction to address the content, a component of self-efficacy, and thus addressing all the intelligences in a classroom set up.

B. Self-Efficacy Theory

Self-efficacy theory is associated with Bandura (1977). According to Maddux (2012), what is paramount in self-efficacy theory is the belief people have concerning capabilities, and the effect this has on behaviour. This to a significant extent determines behaviours people choose to engage in and how much they persevere in efforts in the face of obstacles and challenges. Theofanidis and Fountouki (2018) pointed out that the self-efficacy theory maintains that efficacy beliefs are instrumental in an individual’s psychological adjustment and problems, physical health, as well as professionally guided and self-guided behavioural change strategies.

Four primary sources of self-efficacy information are advanced by the theory: personal accomplishment, vicarious experiences, verbal persuasion, and emotional arousal (Bandura, 1977; Talsma et al., 2018; Usher & Pajares, 2008). With personal accomplishment, an achievement enhances an individual’s mastery as it motivates them to learn and practice more on the same. Thus, a student learning a new language through an online game is likely to feel that they can indeed master the language if they get good scores in the game (Talsma et al., 2018). In vicarious experience, when students observe others perform threatening activities without incurring adverse consequences, this can cause them to have expectations that they too will be able to perform the same or similar activities, through persistent effort.

Zulkosky (2008) outlined three concepts of self-efficacy: cognitive processes, affective processes, and locus of control. In cognitive processes, people with high levels of self-efficacy are more likely to set higher goals, commit to challenges that are more difficult, and strive to meet those goals. Affective processes refer to people’s emotional reactions (such as stress or depression) which can affect their actions both directly and indirectly. Locus of control is “an individual’s perception about the underlying main causes of events in his/her life” (Neill, 2022, p. 1). He further observed that people believe that destiny is controlled by either external forces, such as fate or luck, or by internal forces, such as personal decisions or efforts. In line with this study, differentiated instruction contributes to self-efficacy, hence related to all the study objectives.

V. METHODOLOGY

A. Research Design

The descriptive study used employed the use of a survey. Survey research provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population (Cohen et al., 2007; Creswell & Creswell, 2018). The aim of descriptive survey research is to describe behaviours and to collect people’s opinions, attitudes, perceptions, and beliefs about a current phenomenon. Surveys are typically administered to a random sample of the population to which the researcher wants to generalize the survey results (Lodico & Spaulding, 2006).

B. Target Population

The population of this study was students and teachers in the private primary schools in Ruiru Sub-County, Kiambu County. To arrive at the sample, the researcher adopted a multi-stage sampling. First, ten schools were purposively sampled from the available pool. In purposive sampling - also referred to as judgment sampling - sample elements judged to be typical, or representative, are chosen from the population (Ary et al., 2010). Based on previous knowledge and interaction with teachers from the specific schools, the researcher identified the ten schools whose learners and teachers formed the sample. Both teachers and learners were randomly sampled, while stratified sampling was used to get both boys and girls who participated in the study. Targeted students were those in grade 6, standard 7 and standard 8, owing to their maturity and ability to respond to the research questions. According to Kothari (2018), for descriptive survey research, 10% of the total population is sufficient as the sample. The sample for this study therefore was a total of 1042 learners from the ten schools, and 45 teachers. The headteachers were approached through personal phone calls and physical meetings in schools. The researcher explained the purpose and rationale for the study and requested permission for schools to be involved. The researcher also requested the headteachers’ permission and support to speak with the individual teachers to invite them to participate.

Data for this study were collected through survey questionnaires. The unique value of questionnaires resides in their ability to gather wide ranging information from a large group of people (Mathers et al., 2007). Based on the research questions and conceptual framework, the researcher employed two questionnaires, one for the teachers, and the other for the students.

The students’ questionnaire was adapted from the Children’s Self-Efficacy Scale (Bandura, 2006). On its part, the teachers’ questionnaire was developed from literature.
reviewed. To facilitate effective data analysis, all the questions were close ended. Another feature of the questionnaires was use of a Likert scale which was employed to collect data on each sub-variable in the study as outlined in the conceptual framework. The scale was composed of a range of items with equal values and a range of response categories made along a continuum of agreement and disagreement.

C. Data Analysis

The data collected were subjected to quantitative analysis. After cleaning (i.e., removal of erroneous questionnaires) data was analysed using SPSS v.14.0. Thereafter, data was organized and presented in frequency distribution tables and percentages. A multiple regression analysis was undertaken to explore the relationships between the independent variables and the dependent variable.

Multiple regression analysis is an extension of simple linear regression and is concerned with the value of a single dependent variable (Kituyi, 2020). In addition, Crano et al. (2015) explained that multiple regression is an extension of the Pearson correlation and is used to estimate the relationships of multiple predictors to a criterion.

It is used where a researcher may wish to know in what way the combination of several different predictor variables relates to some criterion measure. The choice of this type of analysis was based on the study’s concern with how different elements of differentiation influence students’ self-efficacy in private primary schools in Ruiru Sub-County, Kenya.

VI. INTERPRETATION OF THE FINDINGS

In the teachers’ questionnaire, teachers were asked four questions: whether they plan their content; accordingly, whether they focus on key concepts and principles that students should master; whether they target specific knowledge and skills that students should be able to attain and do; and finally, whether they plan for content that students should have access to. Responses were collected on a five-point Likert scale (1 = strongly agree, 2 = agree, 3 = undecided, 4 = disagree, 5 = strongly disagree).

The first question asked teachers if they plan their content accordingly. 65.9% of the teachers strongly agreed with the statement while a further 29.3% agreed. This could be attributed to the teachers’ strong professional qualifications and teaching experience which have equipped them with the theoretical and practical understanding of the importance of proper lesson planning for effective pedagogy.

In the second question, teachers were asked to state if they focus on key concepts and principles that students should master. The vast majority, 70.7%, strongly agreed with the statement while an additional 29.3% agreed. This could be attributed to the efforts by the ministry of education to conduct periodic teacher workshops on the competency-based curriculum in which key inquiry questions are central. Key inquiry questions are used to probe for deeper meaning and set the stage for further questioning.

<table>
<thead>
<tr>
<th>TABLE I: DIFFERENTIATING CONTENT</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Question</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I plan for my content accordingly</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly agree</td>
<td>27</td>
<td>65.9</td>
</tr>
<tr>
<td>Agree</td>
<td>12</td>
<td>29.3</td>
</tr>
<tr>
<td>Total</td>
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<td>95.1</td>
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<tr>
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<td></td>
</tr>
<tr>
<td>System</td>
<td>2</td>
<td>4.9</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly agree</td>
<td>29</td>
<td>70.7</td>
</tr>
<tr>
<td>Agree</td>
<td>12</td>
<td>29.3</td>
</tr>
<tr>
<td>Total</td>
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<td>100.0</td>
</tr>
<tr>
<td>I target specific knowledge and skills that students should be able to attain and do</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly agree</td>
<td>26</td>
<td>63.4</td>
</tr>
<tr>
<td>Agree</td>
<td>10</td>
<td>24.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Total</td>
<td>37</td>
<td>90.8</td>
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</tr>
<tr>
<td>System</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>100.0</td>
</tr>
<tr>
<td>I plan for content that students should have access to</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly agree</td>
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<td>46.3</td>
</tr>
<tr>
<td>Agree</td>
<td>15</td>
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<tr>
<td>Disagree</td>
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<td>2.4</td>
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<td>Total</td>
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<tr>
<td>Total</td>
<td>41</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Besides, they foster development of higher order capabilities such as problem solving and make learning authentic by enabling learners to make connections between their realistic encounters and learning (Education News Hub, 2019).

63.4% of teachers strongly agreed that they target specific knowledge and skills that students should be able to attain and do. 24.4% agreed with the statement. The cumulative 87.8% of teacher respondents who either agreed or strongly agreed that they target specific knowledge and skills that students...
should be able to achieve and perform suggests a relatively high level of knowledge of this element of differentiated instruction among the respondents. This is considerably different from the findings by Sefotho (2020) that in Enugu state, Nigeria, primary school teachers scarcely practice differentiated instruction with poor knowledge and skill among the teachers being one of the leading factors.

On the fourth question, 46.3% of respondents strongly agreed that they plan for content that students should have access to while 36.6% agreed to the statement. This suggests that teachers deliberately take time to prepare lessons before they deliver them in the classroom. It also suggests that private schools have put in place methods and systems that sustain a culture of thorough pre-teaching activities among their teaching staff. These could include requiring teachers to plan lessons early in advance and instituting daily or weekly lesson plan checks for quality assurance purposes. Careful planning for content is an essential element in differentiated instruction since content is one of the key aspects that teachers can differentiate to deliver responsive instruction.

Tomlinson (2017) called upon teachers to individualise instruction by providing a highly engaging, interactive, and stimulating curriculum in order to meet students’ diverse needs.

VII. CONCLUSION

The objective of the study was to examine the effect of differentiating content on students’ self-efficacy in private primary schools in Ruiru Sub-County, Kiambu County. The findings indicate a remarkably high level of appreciation and application of careful lesson planning as a core pre-teaching activity. It also suggests the presence of a high quality of teaching staff in private primary schools in Ruiru Sub-County, Kiambu. Other contributing factors could be that the teachers benefit from regular in-service workshops and professional development systems put in place by the schools and the ministry of education. Teacher respondents stated that they focus on key concepts and principles that students should master which could be linked to the efforts by the ministry of education to conduct regular teacher workshops on the competency-based curriculum in which key inquiry questions are central. This is an important investment for classroom instruction as teachers can use key inquiry questions to stretch students’ thinking and deepen their understanding of content.

The study also found that most of teacher respondents target specific knowledge and skills that students should be able to achieve. This implies that the teachers focus on core content and competencies that students should achieve in a learning activity. This reduces wastage of time and other resources that would be spent in activities that would not benefit the learner. Differentiation of content is vital since it gives teachers the power to tailor the complexity of material through different educational procedures based on their students’ varying needs. In this way, all students grasp the same conceptions, skills, and principles but in diverse ways. This aligns with literature for teachers to individualise instruction by providing a highly engaging, interactive, and stimulating curriculum in order to meet students’ diverse needs.

Differentiating content has a statistically significant effect on primary school students’ self-efficacy. This includes the following approaches: planning the content accordingly, focusing on key concepts and principles that students should master, targeting specific knowledge and skills that students should be able to attain and do, and, finally, planning for content that students should have access to.

CONFLICT OF INTEREST

The authors declare that they do not have any conflict of interest.

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