Implementation of the Differentiated Instructional Approach among Public Secondary Schools in Mwanga District, Tanzania

Mercy Joseph Nguvava and Jackson Meremo, PhD*
St. Augustine University of Tanzania

*Corresponding Mail: mejagi@gmail.com

Abstract
The Differentiated Instructional approach (DI) is a very important strategy to meet the diverse needs of the learner in improving the teaching and learning process. This study aimed at investigating the implementation of the Differentiated Instructional approach among the public secondary schools in Mwanga District, Tanzania. The study employed a mixed research approach with the convergent parallel design. The targeted population of this study was 7800 people and the study sample involved 98 participants including 1 District Quality Assurance Officer, 4 head of schools, 20 teachers as well as 73 students from 25 public secondary schools who were selected using purposive, stratified random sampling and simple random sampling. Data were analyzed through descriptive statistics with the help of the SPSS version 20 and content analysis. The findings indicate that teachers were familiar with the DI although they were not implementing it effectively to meet the diverse needs of the learners due to several work related hindrances. The study recommends that there should be the provision of adequate teaching and learning facilities in order to keep teachers updated on inclusive instructional approaches.

Keywords: *Differentiated instruction, multiple intelligences, digital resources, role-play, teaching process and learning process*

Introduction

Differentiated instruction is not a new concept. The term was propounded by Howard Gardner's concept of multiple intelligences, together with the more instructional suggestions emerging from the brain-compatible literature (Gardner, 2006; Goleman, 2006; Sousa and Tomlinson, 2011). The purpose was to emphasize various learning styles as a setting whereby teachers are encouraged to consider students' unique learning styles. Therefore, differentiated educational activities presented in the class were to provide for those differing learning styles on what is learned, how the content is mastered by the learner and how learning is observed and evaluated (Tomlinson and Imbeau 2010). Differentiated instruction is not individualized instruction but a classroom practice with a balanced emphasis on the individual student and course content.

Tomlinson (2013) argues that differentiated instruction is the teaching approach based on the principles that teachers should adapt the instruction according to students' differences for effective learning.   Rather than marching students through the curriculum lockstep, teachers should modify their instruction to meet students' varying readiness levels, learning preferences and interests.   Therefore, differentiated instruction is a means of improving the teaching and learning process since students differ in various aspects.   Different methods should be applied in teaching to meet the needs of the learners, not just to stick on achieving the curriculum goals.

Differentiated instruction has been practiced in different parts of the world. In New York, the differentiated instruction has been practiced in grades K-12 with a positive academic gain. At the elementary level, the learning environments were extended based on the students' interests

by providing them with opportunities to apply the skills they had learned during the school day (Beecher and Sweeny, 2008 as cited by Dosch and Zidon, 2014). The gains were recognized for students of all ability levels, across cultural backgrounds.

Tulbure (2011) in New York conducted an experimental investigation in her educational science classes to assess the impact of differentiated instruction in the learning process. The investigator implemented a one-semester intervention session where the class was divided into two groups (the experimental group and the control group). The experimental group was taught by using differentiated instruction according to students' learning styles while the control group received the traditional instruction as usual. From the result, the differences were found between two groups, whereby the experimental group performed better as compared to the control group.

In China, differentiated instruction had more emphasis in the twenty-first century and the same has been promoted in Hong Kong's schools whereby curriculum reform was emphasized to support students in their learning process. It is stated that in the curriculum reform, teachers were encouraged to apply differentiated instruction in the classroom to improve the teaching and learning effectiveness. Therefore, most of the teachers implemented the differentiated instruction through grouping methods so that the students can learn actively (Wan (2015).

In some African countries, the concept of differentiated instruction has been taken into serious consideration. In South Africa, for instance, this phenomenon is seen as a process in which the diversity of the learners is considered. Also, the Differentiated Instruction approach developed by the department of education was not simply to include learners with disabilities into the mainstream schools but as a way of identifying and addressing barriers to learning (Panther, 2011). Apparently, teachers play an important role in the implementation of differentiated instruction in South Africa to help students to achieve learning effectiveness. For example, they used practical visual and auditory aids to clarify concepts for the visual and auditory learners (Jager, 2011). This means that, teachers

design lessons based on the learner's needs and learning styles.

In Zambia, the Ministry of Education emphasized on the pupil-centered teaching and learning (Gachubi, Mboya and Kireru (2006). The National in-service teachers' college in Zambia produced training modules to train teachers on the differentiated instruction which was revised in 2006. A program for the Primary Teachers' Diploma by distance learning was developed to achieve quality not only of the individual teachers but for educational provision and delivery as a whole through the implementation of Differentiated Instruction. Primary school teachers' training by distance learning gave the teachers an opportunity for professional and personal development. Provincial educational officers also conducted several continuing professional development workshops for serving teachers on Differentiated Instruction (Shumba, 2014). Through professional development, teachers in Zambia improved their teaching strategies and differentiated the lessons by using flexible grouping based on the student's interests and by using a variety of activities like word searches, matching, games and language exercises in a single lesson to meet the needs of each learner.

According to Muthomi and Mbugua (2014), Differentiated Instruction in Kenya was adopted in the mathematics class, whereby teachers changed from one technique to another so that they could harness and touch the needs of each individual learner through structure brainstorming activities and the use of the alternative form of expression such as story boards and pictures for the students who have difficulty in finding the main idea. The authors did a comparison on students' improvement from the pre-test to the post-test in the experiment group. They found out that 89% of the experiment group which was instructed with the differentiation performed better in the post-test than in the pre-test. This implies that there was students' improvement in mathematics achievement in the experiment group that was exposed to Differentiated Instruction. Therefore, the study concluded that Differentiated Instruction is useful since it has a positive impact on the performance of the learners.

In Tanzania, Differentiated Instruction seems to be complicated in implementation despite the

introduction of inclusive education principles whereby children should learn together, without discrimination based on their difficulties or differences (Rugambwa and Thomas, 2013). Regardless of the plan and the strategies that have been made by the Ministry of Education Science and Technology in the provision of equal education by considering the needs and background of the learners, teachers still face several barriers like poor learning environment, shortage of incentives for teachers and inadequate budget allocation to achieve effective teaching and learning. However, the Educational Training Policy of 2014 emphasized on the necessity for teachers to use Differentiated Instruction approaches to meet the diverse needs of the learners and enable them to develop their talents. The educational policy of 2007 in stressing on the importance of Differentiated Instructional approach, emphasized on the integration of information, communication and technology in schools such as the use of radios, videos as well as computers to expand learning opportunity and improve the learners' understanding (Ministry of Education and Vocational Training, 2017). This is because differentiated instructional approach requires teachers to use multiple instructions including the integration of multi-media in teaching and learning process to meet the learner's needs.

A study on Differentiated Instructional approach has been done by Tarimo (2013) in Mwanga District specifically on the use of the role-play as one of the differentiated teaching strategy in pre-primary schools and the study found that 57.5% of the teachers used play as a DI teaching strategy which enhanced the development of multiple skills to learners like speaking and listening. However, the study found that 42.5% of teachers did not use the role-play approach effectively in the teaching process. Against this backdrop, this study sought to conduct a study on the implementation of Differentiated Instructional approach in improving the teaching and learning process. The guiding question was: How is the Differentiated Instructional approach implemented in the teaching and learning process among the public Secondary Schools in Mwanga District?

Review of Related Literature

This section presents the literature related to the study topic. The review of literature revealed that researchers like Carmona and Echeverry (2016); Vlahopol (2016); Lin, Chen and Liu (2017); Kaovere and Mbaukua (2018) have identified the use of various methods in a single lesson such as the usage of visual aids, collaborative or team approach, digital resources and role-play approach in Differentiated Instruction as ways of improving the teaching and learning process.

Usage of Visual Aids

The Differentiated Instructional Approach recognizes and supports individual differences in the learning process. The use of visual aids in teaching helps visual learners to increase their thinking capacity and create knowledge retention. Visual aids are those devices that are used in classrooms to encourage students' participation during the learning process and to make the learning easier and interesting (Singh, 2005). The visual aids include pictures, models, charts, maps, videos, slides, graphics and tables. Carmona and Echeverry (2016) conducted a study on the implementation of visual aids on students' comprehension activities in Columbia. The researchers found that teachers implemented the graphic aids and images in the classroom to impact learners' attention and retain certain information which fits the topic discussed. This improved ability of the learners to understand more information by making connections between the lesson and the visual aids used. Kaswa (2015) adds that teachers in Magu District, Tanzania used visual aids in the teaching process which involves maps, printed materials, wall painting and few models. These provided a better understanding of the presented knowledge to the students and increased their academic performance.

Shabiralyani, Hasan, Hamad and Iqbal (2015) conducted a study on the impact of visual aids in enhancing the learning process in Pakistan. The researchers found that 70% of teachers were using visual aids like pictures, animation videos, projectors and films for the Differentiated Instructional approach as motivational tools in improving the learning process. When teachers use visual aids in the teaching process, they develop and increase students' understanding on the subject matter and motivate them to learn more. Patesan, Balagiu and Alibec (2018) add that visual aids are additional tools in the teaching and learning process and if appropriately designed, they make the subject

clear and accessible, which stimulates and motivate students to learn effectively.

Usage of Collaborative or Team Approach

This is one of the strategies of Differentiated Instructional Approach whereby students learn in a teams through grouping them in different groups based on their needs. Vlahopol (2016) stated that collaborative learning is the teaching and learning approach that involves two or more interacting students to provide mutual support in understanding the academic materials. A study conducted by Felicia and Nnene (2014) on the collaborative approach in teaching and learning of English as a second language in Nigeria found that teachers can implement a team approach through the think-pair-share method. In this method, students are given a chance or time to think and process their thoughts during the instruction to produce answers and share them with their classmates. Collaborative approach clarifies concepts to students who help others and the ones being helped in discussions. Also, this facilitates cooperative learning among the students which makes the students feel like a part and parcel of the lesson and thus raising their performance. Rokhaniyah (2016) adds that through the usage of collaborative approach through grouping and pairing, learners increase their creative thinking and writing skills through listening to other students' ideas which facilitates them to acquire more knowledge.

Usage of Digital Resources

In Differentiated Instructional Approach, digital resources create a better learning environment since they help teachers to diversify instructions to meet the individual needs. Digital learning resources refer to the web or computer-based animations, simulations, games and videos which offer a way to illustrate or visualize concept beyond what non-digital tools can provide (Anderson & Goldenberg, 2012). Lin, Chen and Liu (2017) conducted a study on the effect of digital learning on learning outcomes and found that the use of videos and created education films target students' interest and enjoyment in the lesson which enhance the learning performance. Also, the researchers found that teachers used the digital learning through online interactive learning which increased learning time for students and helped to improve their academic performance. Haglind (2016) on a study of access and use of digital resources for learning in a digitized upper Secondary Schools adds that the use of flipped movies in the classroom makes a lesson more student-oriented, at the same time furthering training on the students' digital concepts. Furthermore, the use of animation helps to demonstrate the processes or concepts which are otherwise difficult to describe or show in dimension.

Usage of Role-Play Approach

Differentiated Instructional Approach teaches learner that in the learning process everyone has a different way of learning. Therefore, the use of role-play approach increases motivation to the learners with low motivation because through it, they are attracted to engage more in learning activities. The Role-play approach is a technique that allows students to explore realistic situations by interacting with other students in a manageable way to develop experience and try out different strategies in a supported environment (Hidayati and Pardijono, 2018). Kaovere and Mbaukua (2018) assessed the role of role-playing as a teaching method on social skills to the development of English language at junior primary schools level in Namibia. The study found that the use of role-play method in the classroom played an important position in developing students' language and social skills since it involves interaction with other students as well as the school environment which helps them to express their ideas better. Hidayati and Pardijono (2018) added that the use of the role-play approach in the teaching process enhances the students' learning achievement through mastering the learning models. The role-play approach implemented by the teacher involved several steps which are warming up the group, selecting participants, setting the stage, preparing the observers, enacting, discussing and evaluating, reenacting, discussing and evaluating as well as sharing experiences and finally generalizing. Those learners who do not participate in the role-play scenario are normally involved directly as observers to facilitate students' attention.

Research Methodology

The study employed a mixed research approach and a convergent parallel design. In this design, the qualitative and quantitative data were collected together, analyzed separately and then the researchers combined the qualitative and quantitative findings. The core argument for

using the mixed approach in this study is that the combination of both forms of data provides a better understanding of a research problem than either quantitative or qualitative data by itself (Creswell, 2012). Moreover, the qualitative and quantitative approaches in the mixed approach complements each other since each approach has strengths that checks the weakness of the other; hence giving a better understanding and explanation of the Differentiated Instruction in improving the teaching and learning process.

Population and Sampling
The target population of this study involved 7800 people includes 565 teachers, 7209 students as well as 25 head of schools from 25 public secondary schools and 1 District Quality Assurance officer in Mwanga District. The study employing both probability and non-probability sampling procedures. In the non-probability sampling the purposive sampling was employed to the district quality assurance officer as well as to heads of schools and in the probability sampling, the simple random and stratified sampling techniques were employed for teachers and students. The sample size was comprised of 1 district quality assurance officer, 4 heads of schools, 20 teachers and 73 students, giving a total of 98 respondents. The study employed the questionnaire to teachers and students, focus group discussion to teachers as well as the interview to head of schools and the district quality assurance officer in the data collection.

Results and Discussion
This part presents the major findings on the implementation of the Differentiated Instructional approach in improving the teaching and learning process among public secondary schools in Mwanga District. The objective of this study was to examine the implementation of Differentiated Instructional approach in improving the teaching and learning process. The researcher collected information using the guiding question; *how are the differentiated instructional strategies implemented in the teaching and learning process among the public secondary schools in Mwanga District?*

The questionnaires was given to teachers and students with the Likert scale containing the subsections and the levels of agreement or disagreement on how the DI approach was implemented at the schools. The interview was conducted to heads of schools and to the District Quality Assurance Officer and the focus group discussion was done with the teachers. The criteria of interpretation the mean scores was 3.50-4.00 = Strongly Agree, 2.50 to 3.49 = Agree, 1.50 to 2.49 = Disagree and 1.00 to 1.49 = Strongly Disagree.

Students' responses on the implementation of the Differentiated Instructional approach are presented in table 1.

Table 1: Students' Responses on Implementation of Differentiated Instructional Approach (n=73)

Statement	M	SD	interpretation
My teacher always pre-tests us to determine what we already know before introducing any new subject area	3	0.7	Agree
The teacher provides tasks that require students to apply and extend understanding	2.38	0.6	Disagree
The teacher uses a variety of materials other than the standard text	2.29	0.7	Disagree
My teacher lets us demonstrate what we know and we can do in different ways	2.33	0.6	Disagree
The classroom environment is structured to support a variety of activities including group or individual work	2.22	0.8	Disagree

Table 1 presents results on the implementation of differentiated instructional approach. The table indicates that participants agreed that the teacher always pre-tests them to determine what they already know before introducing any new subject area (M=3; SD=0.7). However, students disagreed that their teachers provide different tasks to expand their understanding (M = 2.38; SD = 0.6). They also disagreed that teachers use a variety of materials other than text during the teaching process (M = 2.29; SD = 0.7) and that the teacher gives chance to the students to demonstrate what they know and they can do in different ways (M = 2.33; SD = 0.6). Furthermore,

respondents disagreed that the classroom environment is structured to support a variety of activities including group or individual work (M =2.22; SD = 0.8). therefore, while the teachers pre-teste the students to observe what they know and prepare them for the new lessons, the teachers are limited to the use of text materials like books to demonstrate the lesson instead of using different methods and materials such as objects or real situations to demonstrate the concepts to in the process of teaching and learning. This may hinder students to understand the lesson and meet their individual needs. Moreover, the findings reveal that students are not given chance to perform tasks in different ways; thus, it may become difficult for them to learn through different approaches.

Through the open-ended items, when the students were asked to elaborate on the methods which their teachers used in the implementation of the Differentiated Instruction, majority were not much aware of the Differentiated Instructional approach. On the contrary, the respondents stated that their teachers mostly used the lecture and question and answer methods while teaching. Furthermore, the students in their open ended responses complained that teachers' reliance on those two methods denied them an opportunity to grasp what is taught as they found them common and boring. Furthermore, they complained that teachers' use of the lecture method dismissed them from being part of the lesson. The trend in the use of the Differentiated Approach is further revealed by the response from teachers who filled the questionnaire as reflected in Table 2.

Table 2: *Teachers' Response to the Implementation of Differentiated Instructional Approach (n=20)*

Statement	M	SD	Interpretation
I provide opportunities for independent and group learning to provide depth in understanding the lesson (team learning)	2.6	0.6	Agree
I allow students to discover key ideas individually through brainstorming	3.45	0.6	Agree
I encourage students to judge or evaluate situations, problems, or issues through the usage of visual aids	1.95	0.7	Disagree
I explore different ways to think about a situation or event through the usage of digital resources	2	0.6	Disagree
I apply the role-play approach in the classroom to develop the students' thinking skills and retain the concept.	2.15	0.6	Disagree

The table indicates that the teachers agreed that they offered the opportunities for independent and group learning to provide depth in understanding the lessons (M=2.6; SD=0.6). They also agreed that they allowed students to discover key ideas individually through brainstorming to expand their thinking capacity (M=3.45; SD=0.6). However, they disagreed that they encouraged students to judge or evaluate situations, problems, or issues through visual aids in the teaching process (M=1.95; SD=0.7). This indicates that the teachers did not demonstrate the lesson or situations through the usage of visual aids to meet various needs of the learner. On the other hand, teachers disagreed with the statement that they explored different ways to think about a situations or events through the usage of digital resources (M=2; SD=0.6). They also disagreed that they used role-play approach and digital resources in the teaching and learning process (M=2.15; SD=0.6).

Qualitative data was gathered from participants to further determine the implementation of the DI approach in the teaching and learning process. The Focus Group Discussion and an open-ended questionnaire were administered to teachers and students and the Interview Schedule to the heads of schools. The findings revealed that majority of the teachers used the variety of pedagogy in a single lesson such as lecture-discussion method and question and answer methods. Less than half of the respondents accepted the use of group discussion method while only a few of them used the ball toss game method and think pair share method.

The Usage of Lecture-Discussion Method
The teachers were asked in the Focus Group Discussion to explain more on methods they used

to differentiate the lesson in improving the teaching and learning process. From the result, the majority of the respondents (teachers) mentioned that they mostly used the lecture-discussion approach to deliver materials to the learners to make the students understand the lesson through stimulating their interests in introducing the new topic and to cover the syllabus quickly.

Discussants from school C said, they preferred to use the lecture-discussion method by introducing the topic. After that, they brainstormed with the learners. When they gave their views after that discussion, teachers added more elaborations based on the needs of the learners and the topic. This helped teachers to recognize the strengths and weaknesses of the learners since the lecture-discussion method created the comfortable environment for the students to express themselves and show their skills and interests.

Additionally, the respondents from school D added that, they used the lecture-discussion method by introducing subtopics to students, then divided them into two groups basing on their sexes. After that, they asked them to brainstorm about the subtopics introduced. Then, after all students presented their explanations, they drew conclusions and explained in deep about the concepts. This indicates that most of teachers were aware of the DI approach although they were not effectively utilizing them in the classroom. Moreover, the usage of the lecture-discussion method to some extent did not meet the individual needs of the learners because those students who presented wrong answers in the brainstorming process felt bad and shy for the subsequent discussions. Therefore, this method may become hard to meet the needs of each learner since teachers were not able to recognize and solve the weaknesses of the learners basing on their needs while at the same time thinking of covering the syllabus.

Grouping Students Based on Their Interest
Furthermore, the results display that few of the respondents (students) on the questionnaire argued that their teachers used the group discussion method in teaching. One of the students wrote, "My teacher uses a group discussion method only when he has a double period. He teaches one period and for the second

period, he gives us questions for discussion based on our interests." Teacher N added, "It's hard to know the needs and understanding of each learner in the class. Therefore, I better put them into groups so that they can present their ideas in a short time and one of them represents the whole group on what they have discussed." This helps the inter-personal intelligence learners because they naturally develop their ideas and skills through interaction with others and encourage others to improve their academic performance. The usage of group discussion method improves the students' participation in the class and also increases the cooperation among the learners although the number of the students in the class is a big challenge for discussion arrangements. Similar findings were conveyed by Abdulbak, Suhaimi, Alsaqqaf and Jawad (2018) who commented that the group discussion method produces favorable students' performance, fosters greater participation and improves self-confidence of the learners.

On the other hand, in the interview conducted with the head of school B, he added that: when I want to test the understanding of the students about the subject matter, I put them into groups of eight then I introduce the topic briefly and clearly describe the questions by providing the instruction on what they are supposed to do, then I give them time to discuss their work. After that, they present what they have discussed in the whole class. Basing on how the student interacts with others, his or her capability in a particular area is likely to develop and change (Viens, 2004). This motivates those learners who feel shy to speak in front of the whole class by developing their confidence from the small group.

Nevertheless, from the Focus Group Discussion, one of the respondents (teacher) stated, "Although group discussion has a positive reaction to the students since they feel like part of the lesson by presenting their ideas, I rarely use it because the time is very limited, the classroom is not structured to support the method and the number of the students is very large." This shows that students do not have enough opportunity to express what they know about the subject matter since they are not presenting their ideas in the discussion. Even if they get the chance for discussion, very few of them will have a chance to present their ideas

because of the large number of students in the classroom. Due to that, it becomes difficult for the teachers to recognize the weaknesses and needs of each student.

Question and Answer Method
Most of the respondents in the questionnaire mentioned that they rely on the question and answer method in the teaching process. One of the students identified that "our teachers prepare some questions and bring them to us so as we can answer them orally and sometimes the teacher requests us to open on the back of our exercise books to answer them in written form." This helps intra personal intelligent learners since through individual assignment, they are be able to use their inner feelings and think in solving the given matter. Nevertheless, through an interview with the head of school D, he said: the question and answer method helps to manage and maintain the class, especially for those students who are busy with their activities during the class secession since I pose questions to the students at any time and pick them randomly specifically to those who don't raise their hands.

Similarly, the same views were remarked by the school head from school C through an interview where she confessed that question and answer teaching method is a way that helps her to test the thinking capacity of the students and to examine the students' understanding of the previous lesson. This indicates that teachers used the question and answer method in the implementation of the DI because some students were not able to concentrate in the class when the teacher used the lecture method. So, to consider them, the teacher prepared some questions which would make them active in learning. Moreover, the same method was used almost by all teachers to determine where they could start to teach based on the answers provided by the students.

The Usage of the Think Pair Share Method
Responses from the open-ended questionnaire on the implementation of the DI approach show that out of twenty teachers, only two were using the think pair share method in the teaching and learning process. One of the respondents further elaborated that, he poses a question or problem to the students then allows them to think and formulate ideas individually then group them into pairs so that they can discuss their thoughts.

After that, students' pairs shared their ideas in a group and then to the whole class.

Another respondent commented that the think pair share approach provides a chance for a student to think on the given topic by allowing them to meditate and formulate new ideas individually and improve their thinking capacity by helping one to think out of the box. This improves the students' oral communication skills as well as their confidence since this method teaches a learner to share ideas with other students in the classroom. The finding is consistent with other research findings such as of Hetika, Farida and Sari (2017) and Usman (2015) which explained that the think pair share method improves the learning motivation and achievements to the students because they are more comfortable presenting their ideas in a group and they don't feel shy.

The Usage of Ball Toss Game Method
Similarly, in the Focus Group Discussion, one teacher specified that he used a ball toss game to meet the individual need of the learners. The respondent additionally explained that, he used to go with the small ball especially during the noon secessions because most of the time during that hour students are not active. Therefore, he asked students to formulate groups; thereafter, he tossed the ball to one member of any group and poses the question to that student base on the matter or the topic that is supposed to be discussed. After the first student answering the question, he or she tosses the ball to the other students to proceed with the game and if one of them fails to answer the question, he will be asked to write an essay on any topic as a punishment. Additionally, another respondent claimed that the game activates the mood of the learners since they set their minds active because any time they might be needed to answer a question. Khoiriyah (2015) made a similar comment by stating that ball toss game method is more effective during the teaching process because it helps the teacher to solve the problem in the class when students feel bored; thus, it improves the teaching and learning process since it makes the students active while at the same time expanding their understanding.

Conclusions and Recommendations
The following conclusions and recommendations are hereby made from the findings:

Conclusions

Implementation of differentiated instructional approach is very important in teaching and learning process Teachers were aware of the Differentiated Instructional approach although they were not implementing it effectively. This is because they worked under the pressure with the focus of covering the syllabus. Indeed, most teachers feared that the usage of many techniques in one class would consume a lot of time and delay them from covering the planned syllabus. This is against the multiple intelligence theory because teachers did not employ many differentiated approaches to meet the individual needs. The theory proposed that human intelligence is independent of one another, which enables the learner to engage in intellectual activities in different ways and understand the concept through different techniques. Therefore, if teachers did not meet the individual needs of learners, the teaching and learning process would not be effective. Teachers could not have adequate opportunity to observe students' behavior while in the classroom, through the implementation of the Differentiated Instruction by setting up a variety of activities to observe students' interests and preference.

Recommendations

TheMinistry of Education, Science and Technology should provide adequate teaching and learning facilities in public secondary schools in order to facilitate the implementation of differentiated instructional approach. Moreover, it should provide opportunities for teachers to go for further studies to keep them updated on inclusive instructional approaches. Teachers and administrators should endeavour to be creative and innovative in their respective environments to simultaneously use various methods to meet the demands of the Differentiated Instructional Approach for improved teaching and learning processes. Finally, school administrators should play a supportive and supervisory role by making sure that teachers have access to and use a variety of resources they need in the implementation of the Differentiated Instruction.

References

Abdulbak, K., Suhaimi, M., Alsaqqaf A., & Jawad, W. (2018). The use of the discussion method at university: Enhancement of teaching and learning. *International Journal of Higher Education, 7*(6) 118-128.

Anderson, A. & Goldenberg, L. B. (2012). Digital resources to support science instruction: Research, Development and Practice. *NARST conference Proposal*.

Carmona, J. E. & Echeverry, D. F. (2016). Implementation of visual aids on students' listening comprehension activities. *Bachelor Dissertation*. The Technological University of Pereira.

Creswell, J. W. (2012). *Educational research: planning conducting and evaluating quantitative and qualitative research* (4[th]ed). Boston: Pearson Education.

Dosch, M., & Zidon, M. (2014). The Course Fit Us: Differentiated Instruction in the College Classroom. *International Journal of Teaching and Learning in Higher Education, 26*(3), 343-357. Retrieved from http://www.isetl.org/ijtl he/2019. 12.07.

Felicia, E. & Nnene, G. B. (2014). A collaborative approach in teaching and learning of English as a second language. *Journal of the English Language Teachers' Association of Nigeria, 4*, 113-122.

Gachubi S., Mboya. & Kireru D. (2006). *Training in activity student experiment, improvisation and plan in secondary Mathematics and Science Education*. Nairobi: McGraw-Hill Co.

Gardner, H. (2006). *Multiple intelligences: New horizons*. New York: Basic books.

Goleman, D. (2006). Emotional intelligence: Working with Emotional Intelligence. Bantam Books.

Haglind, T. (2016). Access and use of digital resources for learning in a digitized upper secondary school. *International Journal of Digital Society, 7*(3), 1177-1184

Hetika, Farida, I. & Sari, P. (2017). Think pair share as a method to improve students learning motivation and learning achievement. *Dinamika Pendidikan, 12*(2), 125-135.

Hidayati, L. & Pardijono, P. (2018).The implementation of role-playing in the education of pre-service vocational teachers. *IOP Conference Series:*

Materials Science and Engineering. Higher Education and Training (2014). *Policy framework on differentiation in the South African post-school system.*

Jager, T. (2011). Guidelines to assist the implementation of differentiated learning activities in South Africa secondary schools. *International Journal of Inclusive Education, 17*(1), 1-15.

Kaovere, N. & Mbaukua, D. (2018). The role of role-playing as a teaching method on social skills to the development of the English language at junior primary in Namibia. *Master's Thesis*. The University of Eastern Finland.

Kaswa, J. (2015). The effect of visual learning aids in students' academic performance. *Master's dissertation*. Open University.

Khoiriyah, N. (2015). Use of ball toss game to improve students' understanding. *Dissertation*. State Islamic University.

Lin, M., Chen, H. & Liu, K. (2017). Effects of digital learning on learning motivation and learning outcomes. *Journal of Mathematics Science and Technology Education, 13*(7), 3553-3564.

Ministry of Education and Vocational Training. (2017). *Information and Communication Technology Policy for Basic Education*.

Muthomi, M. & Mbugua, Z. (2014). Effectiveness of differentiated instruction on secondary school students' achievement in mathematics. *International Journal of Applied Science and Technology, 4*(1), 116-122.

Panther, S. (2011). Evidence on inclusion and support for learners with disabilities in mainstream schools in South Africa: Off the policy Rader? *International Journal of Inclusive Education, 15*(10), 1103-1117.

Patesan, M., Balagiu, A. & Alibec, C. (2018).Visual aids in language education. *Journal of Knowledge-Based Organization, 24*(2), 356-361.

Rokhaniyah, H. (2016). The implementation of collaborative learning to enhance students' critical thinking in writing. *Scientific Journal of Pesantren Education, 11*(1), 74-87.

Rugambwa, A. & Thomas, M. A. (2013).*Teachers' conceptualizations and practices of inclusion.* New York: Sense Publishers.

Shabiralyani, G., Hasan, K. S., Hamad, N. & Iqbal, N. (2015).Impact of visual aids in enhancing the learning process. *Journal of Education Practice 6*(19), 226-233.

Shumba, C. (2014). An assessment of the implementation of differentiated instruction in primary schools, Kabwe District, Zambia. *European Scientific Journal*, *10* (7), 295-307.

Singh, Y. (2005). *Instructional technology in education*. New Delhi: Sage publication.

Sousa, D. A., & Tomlinson, C. A. (2011). *Differentiation and the brain: How neuroscience supports the learner-friendly classroom*. Bloomington, IN: Solution Tree Press.

Tarimo, J. (2013). Teachers' use of play as a teaching strategy in pre-primary schools in Mwanga district. *Masters dissertation*. Kenyatta University.

Tomlinson, C. A. (2013). *Differentiated instruction*. Alexandria, Virginia: ASCD.

Tomlinson, C. A., & Imbeau, M. B. (2010). *Leading and managing differentiated classroom*. Alexandria, Virginia: ASCD.

Tulbure, C. (2011). Differentiate instruction for pre-service teachers: An experimental investigation. *The Journal of Procedia-Social and Behavioral Sciences 30* (2011), 448-452.

Usman, A. H. (2015). Using the think pair share strategy to improve students' speaking ability. *Journal of Education and Practice, 6*(10), 37-45.

Wan, S. W. (2015). Differentiated instruction: Hong Kong prospective teachers' teaching efficacy and beliefs, Teachers and Teaching: Theory and Practice.

Viens, J. (2004). *Multiple intelligences and adult literacy: A sourcebook for practitioners*. Teachers College Press.

Vlahopol, G. (2016). Collaborative learning: A possible approach of learning in the discipline of study musical analysis. *Journal of Artistic Education, 11,* 98-108.