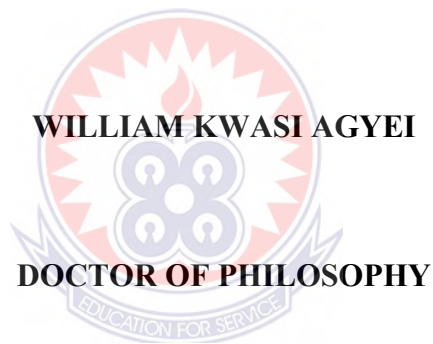


**UNIVERSITY OF EDUCATION, WINNEBA**

**EFFECTIVENESS OF CAROUSEL AND JIGSAW STRATEGIES ON  
LEARNERS WITH READING COMPREHENSION DIFFICULTIES IN  
PUBLIC JHS IN KOFORIDUA, GHANA**



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LEARNERS WITH READING COMPREHENSION DIFFICULTIES IN  
PUBLIC JHS IN KOFORIDUA, GHANA**

**WILLIAM KWASI AGYEI**

**(9150150001)**



**A thesis in the Department of Special Education,  
Faculty of Educational Studies submitted to the  
School of Graduate Studies, in partial fulfillment  
of the requirements for the award of the degree of  
Doctor of Philosophy  
(Special Education)  
in the University of Education, Winneba**

**NOVEMBER, 2022**

## DECLARATION

### CANDIDATE'S DECLARATION

I, **William Kwasi Agyei**, declare that this thesis, with the exception of quotation and references contained in the published works have all been identified and acknowledged, is entirely my own original work, and it has not been submitted either in part or in whole for another degree elsewhere.

Signature .....

Date .....

### SUPERVISORS' DECLARATION

We hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis as laid down by the University of Education, Winneba.

**Professor Mawutor Avoke (PhD) (Principal Supervisor)**

Signature .....

Date .....

**Dr. Yaw Nyadu Offei (First Co – Supervisor's)**

Signature .....

Date .....

**Dr. Yao Yekple (Second Co- Supervisor's)**

Signature .....

Date .....

## DEDICATION

This thesis is dedicated to my dear wife Ohenewah and children Pokua, Abena and Serwaa.



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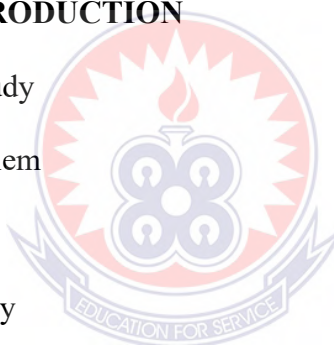
## ABBREVIATIONS

<b>RC</b>	Reading Comprehension
<b>JIS</b>	Jigsaw Instructional Strategy
<b>CIS</b>	Carousel Instructional Strategy
<b>JHS</b>	Junior High School
<b>MRCAT</b>	Maze Reading Comprehension Achievement Test
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organisation
<b>LWRCD</b>	Learners with Reading Comprehension Difficulties
<b>NAEP</b>	National Assessment of Education Progress



## TABLES OF CONTENTS

<b>Contents</b>	<b>Pages</b>
DECLARATION	iii
DEDICATION	iv
ACKNOWLEDGEMENTS	v
ABBREVIATIONS	vii
TABLES OF CONTENTS	viii
LIST OF TABLES	xii
ABSTRACT	xiv
<b>CHAPTER ONE: INTRODUCTION</b>	<b>1</b>
1.0 Background to the Study	1
1.1 Statement of the Problem	15
1.2 Aim of the Study	18
1.3 Objective of the Study	18
1.4 Hypotheses	18
1.5 Significance of the Study	19
1.6 Delimitation of the Study	20
1.7 Limitation of the Study	20
1.8 Operational Definitions of Terms	21
1.8.1 Reading comprehension	21
1.8.2 Carousel	21
1.8.3 Jigsaw	22
1.8.4 Learner with reading comprehension difficulty	22
1.9 Organisation of the Study	22





<b>CHAPTER TWO: LITERATURE REVIEW</b>	<b>23</b>
2.0 Introduction	23
2.1 Theoretical Context of the Study	23
2.1.1 Constructivist learning theory	23
2.1.2 Social model of disability	25
2.2 Conceptual Review	28
2.2.1 Carousel instructional strategy	28
2.2.2 Jigsaw instructional strategy	32
2.2.3 Concept of reading	37
2.2.4 Reading comprehension	40
2.2.5 Sex in reading comprehension	44
2.3 Empirical Review	48
2.4 Conceptual Framework	59
2.5 Summary of Literature Review	60
<b>CHAPTER THREE: METHODOLOGY</b>	<b>62</b>
3.0 Introduction	62
3.1 Research Paradigm	62
3.2 Research Approach	62
3.3 Research Design	63
3.4 Population	64
3.5 Selection of Participants	66
3.7 Instrument	67
3.8 Procedures for Data Collection	72
3.8.1 Pre - treatment	72
3.8.2 Treatment phase	73

3.8.2a. Carousel experimental group (KPA JHS)	73
3.8.2b Jigsaw Instructional Strategy (ST J B Junior High School)	84
3.8.2c Post-treatment phase	98
3.9 Validity and Reliability of Instruments	98
3.9.1 Reliability	99
3.10 Access and Ethical Considerations	99
3.11 Data Analysis	101
<b>CHAPTER FOUR: RESULTS AND ANALYSIS OF DATA</b>	<b>104</b>
4.0 Introduction	104
4.1 Background Information of Learners	104
4.2 Descriptive Information on Pretest and Posttest	105
<b>CHAPTER FIVE: DISCUSSION OF FINDINGS</b>	<b>120</b>
5.0 Introduction	120
5.1 Hypothesis 1	120
5.2 Hypothesis 2	125
5.3 Hypothesis 3	128
<b>CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS</b>	<b>136</b>
6.0 Introduction	136
6.1 Summary	136
6.1.1 Overview of the study	136
6.1.2 Key findings of the study	137
6.2 Conclusions	137

6.3 Recommendations	138
<b>REFERENCES</b>	<b>139</b>
<b>APPENDICES</b>	<b>150</b>



## LIST OF TABLES

<b>Tables</b>	<b>Pages</b>
1: Distribution of Learners in the Selected 21 Schools	65
2: Distribution of Learners with Reading Comprehension Difficulty	66
3: Sex Distribution of Learners	104
4: Age Distribution of Participants	105
5: Descriptive Statistics on Pretest, Posttest, and Delayed Posttest	106
6: Test Comparing Pretest Scores ANOVA	
7: Multivariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension	108
8: Univariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension Instructional Strategies	109
9: Bonferroni's Pairwise Comparisons for Carousel and Jigsaw	110
10: Adjusted for Posttest Means for Groups	111
11: Multivariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension based on Sex	113
12: Univariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension based on Sex	114
13: Adjusted for Posttest Means for Groups based on Sex	115
14: Multivariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension based on Age	117
15: Univariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension based on Age Category	118
16: Adjusted for Posttest Means for Groups based on Age Category	

## LIST OF FIGURES

<b>Figures</b>	<b>Pages</b>
1: Effects of Carousel and Jigsaw Instructional Strategies on Reading Comprehension	60
2: Regression Slopes	107



## ABSTRACT

The study examined the effectiveness of carousel and jigsaw instructional strategies on learners with reading comprehension difficulties among public junior high schools in New Juaben South Municipality, Koforidua. The study utilized the quasi-experimental nonequivalent group pretest, posttest control group design with delayed posttest. Through the purposive sampling technique, 51 learners with reading comprehension difficulties were drawn from three schools in the municipality. Two schools were assigned to the experimental groups, whereas one was assigned the control group. Achievement test in English comprehension in the form of Curriculum-Based Measurement Maze Reading Comprehension Assessment was used for the data collection. Data analysis was done using means and standard deviations, ANOVA, and MANCOVA. The study revealed that both carousel and jigsaw were effective instructional strategies. Both sex and age did not have any effect on the effectiveness of the two instructional strategies used. It was concluded that learners with reading difficulty could be help out by engaging them in carousel and jigsaw instructions, since they offered learners the motivational empowerment to be in charge in their own learning. It is recommended that Regular Teachers and Special Educationists should be well resourced to utilise Carousel and Jigsaw Instructional Strategies to enhance the reading ability of learners with reading comprehension difficulties in basic schools in the New Juaben South Municipality.



## CHAPTER ONE

### INTRODUCTION

#### 1.0 Background to the Study

Reading comprehension performance has long been a top objective in schools around the nation for learners with and without disabilities. Reading comprehension can be viewed as a major skill learners learn both at home and in school because, it is the skill that is expedient for learning to take place across numerous subject areas. Among which are integrated science, social studies, mathematics and creative arts. Consequently, learners having challenges with reading comprehension are more often disadvantaged both in and outside school. In school, they are always demonstrated frustration in respect to teaching and learning and their academic performance continue to decline. In the home, they find it difficult to interpret simple instruction from parents. Again, poor readers also encounter several difficulties in some daily activities such as following directions. In order to succeed in grasping a range of curriculum areas in school and in their professional and social life outside the school, learners must be led to learn to read proficiently to get meaning from written materials on a regular basis (Benner, Michael, Ralston, & Lee, 2022). Reading fluency and efficient comprehension are strongly related. They further stated that when reading, the readers must recognise words easily and read quickly to facilitate comprehension. However, learners with reading comprehension difficulties spend much time concentrating or figuring out words. This makes them very slow in the act of reading and find it difficult to comprehend what they have struggled to read. Another feature of such learners is hesitation which is characterized by frequent stops and starts and multiple mispronunciations. Omissions, lip movement (during silent reading), lack of

concentration during reading and inability to connect words in passage are also some mannerisms demonstrated by learners with reading difficulties.

Reading is a language experience that opens door for pupils to access useful information, for their day to day activities (Safdarian, 2014). According to Wahyono (2019) reading experiences make pupils well equipped with knowledge and be able to reconstruct what they have read to other field of endeavours. Reading has been defined by Clarence and Brendan (2017) as a ubiquitous quality of life, a learnt trait of personal and social growth. They continue to add that the nature and scope of reading have been extended to include the effectiveness of daily life taking cues from what readers have accomplished as agents within the art of communication in previous years. Antonion (2011) indicates that early reading abilities are essential for a child's growth. Children who learn to read at a young age receive the rewards when they begin school. Antonion emphasised the need of having significant reading abilities in order for children to have a strong base in reading. According to Antonion, these basic abilities must be established for children to have equitable access to successful reading. The “orthographic”, “phonological”, “morphological”, “semantic”, and “syntactic” skills are the five primary skill areas that Antonion recommends children master in their early years to help them build excellent reading skills.

Antonion (2011) offers the following explanations to the early reading skills areas:

*Orthographic skill “involves the visual look of a word or string of letters. The ability to master orthographic skills will enable the child to process strings of letters as words, thereby boost the child’s reading speed” (p. 27).*

*Phonological skills are concerned with the sounds of language, which are referred to as “phonemes”. To learn to read, a child’s phonemes (phonology) must be matched onto the written letters*



*on the page (orthography). As a result, this reading ability is critical for laying a solid reading foundation. Learners who fall short of this ability usually face difficulty throughout their education.*

*The tiniest comprehensible elements of language, known as "morphemes", are the subject of morphological skill. These "morphemes" may assist youngsters in comprehending word meanings and building a good vocabulary acquisition skill. This ability to acquire vocabulary permits pupils to comprehend unfamiliar words in order to motivate them to read.*

*The connotation of words in context is called semantic skill. Adding novel and unfamiliar words to one's vocabulary expands one's vocabulary, which is necessary for good reading. For instance, some children start school with huge vocabularies based on their spoken language experiences, whereas others attend school with limited vocabularies, which puts them at a disadvantage and causes them to fall behind their classmates in reading.*

*The sequence and combination of words in phrases and sentences is what syntactic skill is all about. Children may utilise syntactic abilities to differentiate among sentences that include the same words but have different meanings. Understanding grammar, on the other hand, may aid in the development of reading and decoding skills, both of which are necessary for comprehension (pp. 27-28).*

Struggling readers, according to Shafie and Nayan (2011), fail to grasp the texts in the initial phase of the interactive reading process because they have little previous understanding of English literature. Shafie and Nayan add that struggling readers perform well when a given task requires simple answers from the reading text. Asinyo (2020) explains that struggling readers are those learners who are with sound health, but, demonstrate reading challenge in regular school setting, but, not in Special School Setting. Rief and Stem (2010) maintain that poor readers read lesser, have lesser interaction with print, and have fewer sight vocabularies as a result. Grabe (2010) cited in Asinyo (2020) affirms that realistically, to aid comprehension, an L2 experienced reader is expected to read approximately 250

to 300 words accurately within a minute. Cicerchia (2016) cited in Mensah (2018) stated that studying requires the comprehension of ideas, the growth of thinking abilities, and the general academic development of children, therefore kids who fail to read and comprehend will be at a disadvantage in learning other topics.

Neitzel, Lake, Pellegrini and Slavin (2022) enumerated the following characteristics that distinguished difficulty readers from good readers: *They struggle to answer relatively high ranked interrogations that need more mental effort and much detailed responses. The poor readers have a hard time answering questions that demand them to use their analytical, synthesis, and assessment skills. Again, Poor readers struggle to synthesise texts by combining old ideas to form new ones, generalising from given facts, connecting information from many fields, and forecasting outcomes. The competency rating is difficult to interpret for struggling readers. They have difficulty comparing and discriminating between thoughts, evaluating the value of theories and presentations, making decisions based on reasoned argument, verifying the value of evidence, and recognising subjectivity. Finally, they have difficulty answering questions that require them to explain the writer's intended meaning, identify the writer's opinion, and provide evidence to back up their responses* (pp. 8).

The issue of struggling readers cropped up, when the researcher had informal preliminary observation of student teachers' internship programme in Junior High Schools at New Juaben South Municipality- Koforidua in January 2019. During reading comprehension session, it was observed by the researcher that about 50% of the learners read at a slower pace ranging from 120 to 190 words correctly within a minute.

Data also gathered from 2019 to 2020 regarding learners' performance in English Language with reference to reading comprehension within the New Juaben South Municipality, seemed to suggest that about 40% of learners performed above average and the remaining 60% of the learners have difficulty in reading comprehension (New Juaben South Educational Directorate, 2020). The performance of the learners appears to suggest that most of the learners struggle to read and comprehend text very well. It appears learners in Junior High Schools in New Juaben South Municipality in Eastern Region of Ghana, demonstrated various difficulties in reading comprehension. Further, a preliminary maze assessment conducted for JHS learners indicated that a substantial number of the learners' demonstrated difficulties in reading comprehension. Of the 698 that took the three (3) different sets of maze test from 21 schools randomly selected, 215 representing 30.8% had scores from 0 to 150 out of 300, suggesting a problem of reading difficulties. Each set of test was scored out 100%. In identifying readers' difficulties, Conoyer, Lembke, Hosp, Espin, and Poch (2017) maintained that learners who scored below 50% and below denotes Frustration Level, 60-84% above denotes Instructional Level and learners who scored above 85 to 100% denotes Independent Level. According to the authors, learners who scored below 50% in maze reading comprehension achievement test have difficulty to comprehend a reading text. This current study, therefore, focused on learners who scored 0 to 150 in Curriculum- Based Measurement Maze Reading Comprehension Test.

It also seems that limited information exists regarding how poorer learners choose reading comprehension activities in the classroom setting. Scholars believe that reduced motivation, low self-efficacy, and restricted cognitive ability are all

factors in struggling readers' choices (Leigh, 2014). According to Leigh, if struggling readers learned the necessary reasoning skills and experienced a rise in motivation and self-efficacy, they would make more desirable reading choices which could possibly enhance their reading comprehension performance.

Studies conducted by Grabe (2010) cited in Asinyo (2020) seems to suggest that the above learners in the New Juaben Municipality Junior High Schools be classified as struggling readers. The Basic Education Certificate Examination (BECE) Results for Junior High graduate between 2018 and 2019 in New Juaben Municipality showed significant worse performance in English Language (New Juaben Educational Directorate, 2020). The Mock Examination that was conducted for the final year's learners in the Municipality in the middle of August, 2020 also showed 50% of learners scored weak mark in the English Language where 60% of the student scored a very low mark in reading comprehension section (New Juaben South Educational Directorate, 2020).

In global scene, According to Alida, Poh, Karol, and Emily (2020), according to the most recent National Assessment of Educational Progress (NAEP) results in Texas, a large proportion of fourth- and eighth-grade pupils in the United States (U.S.) are unable to read at a competent level. The authors cited that particularly, nearly 33% of fourth-graders were found to be reading below basic levels, indicating problems in generating simple deductions and locating essential evidence to substantiate their knowledge of a book. Their results reveal an alarming rise in the number of pupils diagnosed with learning difficulties, with close to 70% of struggling fourth graders reading under the expected average levels. Another study conducted in United States of America, by National Assessment of Education

Progress (NAEP, 2017) for public schools for grade 4, 8, and 12 level in reading comprehension assessment.

The results from (NAEP, 2017) showed that Montana State in USA recorded the lowest average national assessment scores in 2017. Similarly, According to a UNESCO ( United Nations Educational, Scientific and Cultural Organisation) assessment, over 250 million African school-aged children lack reading and writing abilities, whether they are schooling or not. In Johannesburg, a study which was conducted by McBride (2019) found that nearly 80% of South African children could not read and comprehend well. McBride (2019) adds that according to the Progress in International Reading Literacy Study (PIRLS), which is a multi-national comparative reading examination, nearly 80% South African Grade 4 learners were unable to read for meaning, with the situation being much worse for children assessed in their native dialects.

Children's reading and comprehension abilities must be developed early in life in order to improve their literacy levels and lifetime possibilities (GES, NEAU, RTI, & IEARC, 2017). Children's literacy is a problem, since the USAID Early Grade Reading Assessment shows that nearly 90% of Ghanaian children cannot read below the third-grade level (GES, NEAU, RTI, & IEARC, 2017). Furthermore, in Ghana, about 98% of primary school pupils are unable to read or write at a basic level. Consequently, United Way Ghana launched the Nyansapo Literacy Project in May, 2019 at the Ayeberg Memorial Primary in Accra, with the theme “Promoting Childhood Literacy”, with the goal of improving literacy levels and cultivating a reading habit among school children in underprivileged areas from primary one to six (GES, et al. 2017). The “Library in a Box” programme, which will benefit 667 children, will give reading books in every classroom at the recipient institution.

Each week, United Way Ghana volunteers will conduct intense reading sessions at the school to instil a love of reading in the pupils. Faustina Abbey, who is the Impact and Operations Coordinator for United Way Ghana, explained the logic for the “Nyansapo Literacy Project”, emphasising the importance of reading and writing in early development and its lasting repercussion on a child's welfare. As stated by GES et al., “this project seeks to enhance childhood literacy by inculcating the culture of reading in the learning cycle of the pupil. With the ‘Library in A Box’ in every primary classroom, pupils will have access to a variety of books and trained volunteers of United Way Ghana will hold weekly reading sessions to support the efforts of school teachers.”

In Ghana, 2013 and 2015, posit 50 percent of children in primary two struggled to read a single word and for that matter unable to understand what is being read GES, etal. (2017). The Early Grade Reading Assessment (EGRA) report in 2015 in Ghana, indicated by Mensah (2018) in the study, as a result, it was noticed that learners' reading challenges stemmed from a lack of defined techniques for teaching reading, instructors' lack of phonics understanding, and a lack of reading comprehension instruction. Mensah cited Ghana National Education Assessment (2012) that just two percent of Ghanaian basic school pupils could efficiently read either English or any of their native dialects. Reading deficit in English (as a second language) is a difficulty, according to the Chief Examiner of Ghana's Basic Education Certificate Examination (BECE, 2018). As the report indicates, after six years in elementary school, over half of young women and one-third of young males could hardly read a sentence in English (Chief Examiner of BECE, 2018).

Chief Examiners Report 2018, indicates that despite the fact that the section was brief and had no new terms or expressions, it was quite technical, and was designed to relate to applicants who were knowledgeable with computers, as it has been stated in the passage. From Chief Examiners Report in 2018 surprisingly, learners performed abysmally in reading comprehension section, where majority of candidates were unable to understand all what the passage was about and as such offered wrong response to the comprehension questions. Again, the report pointed out that several of the applicants' replies revealed their inability to comprehend the text and deliver the appropriate responses. According to the report many of the candidate literally copied chunks of the paragraph and submitted them as responses. In the report, it clearly showed that a significant proportion of the applicants struggled with responding "wh-questions". In the report, candidates with the appropriate knowledge but incorrectly framed the responses due to a lack of understanding were cited in certain cases. The Chief Examiners' Report 2018 put forward the following remedies to curtail reading comprehension problem. The report seeks to bring to bear the need to guide learners to have skills to respond to questions in comprehension, particularly "wh-questions". Also, teachers need to plan their teaching well to challenge learners to think critically to be able to distinguish various ideas presented in a passage.

To be able to analyse and synthesise an issue constructively, largely depend on how much individual has read and understood the issues transmitted (Moore, 2016). Moore contends that comprehension is essential for a child's success across all academic endeavours, since it translates into practical competencies and critical reasoning. Reading comprehension is a multi-tasking skill which is of more expressive than receptive and poses a greater challenge to all pupils of school going



age (McKee, 2012). Reading comprehension is that which permits the reader to have a meaningful interaction with the material. It is the transition from passive to active reading, as well as the transition from letters and words to characters and situations. It is an important component of good reading and plays an important role in our academic and expert life.

Reading comprehension opens the door to lifelong reading filled with fun and delight for several people. It makes little difference what else kids learn in primary school if they cannot read (Antonio, 2011). Marie (2020) also adds that reading comprehension is one's capability of fully understanding the text that is being read. Acheampong and Acquaaah (2015) argue that reading comprehension tests a student's ability to understand and decipher information from the items they read. They posit that in reading comprehension, facts, data, or concepts from printed documents are chosen to discover the interpretation the writer wanted to convey and to evaluate how they connect to prior knowledge, as well as to appraise their suitability and value for reaching the personal aspirations of learners (Veeravagu, Muthusamy, Marimuthu & Subrayan, 2010).

Averagely, the age of both males and females in the schools within the New Juaben South of Eastern Region of Ghana, was 15 years old. Their reading comprehension performances was uneven when disaggregated by gender (i.e., males and females). The discrepancies existing in male and female learners' reading comprehension performance showed variations in their abilities within the schools in the New Juaben Municipality. In terms of gender issue, there have been only a few studies that have documented the investigation focusing on the gendered variations in reading comprehension. The gender differences as it was noticed in this current study was also supported by Wu (2013) who found gender differences



in the study conducted. Sun, Shieh and Huang (2013) found that male outperformed females in on-screen reading while females outshined their male peers in print reading. Research done by Hasan and Khan (2015), cited by Melisa (2020) indicated that a substantial variation existed in English achievement marks between male and female learners. This seemed to suggest that gender might influence the reading comprehension performance in teaching and learning process.

Strengthening reading and comprehension abilities in learners throughout their formative years is an important intervention for improving their literacy standard and lifetime possibility, which will help them comprehend more easily. According to the USAID EAGRA, nearly 90% Ghanaian youngsters cannot read at a level comparable to that of the third grade. Furthermore, in Ghana, 98 percent of primary school pupils are unable to read or write at a basic level. Consequently, United Way Ghana started the “Nyansapo Literacy Project” in 2019 at the Ayebeng Memorial Primary in Accra, with the caption “Promoting Childhood Literacy”, to enhance literacy levels and foster a reading habit among kids in underprivileged areas from class one to class six. The library will distribute reading materials in every classroom in the recipient school as part of the initiative, which is expected to benefit 667 pupils. Koforidua is a regional capital of the Eastern Region of Ghana. We have two municipalities within Koforidua. That is New Juaben North and South. This study focuses on schools within New Juaben South. New Juaben South has 42 Public Junior High Schools which are divided into seven circuits (New Juaben South Educational Directorate, 2020).

According to the directorate the circuits are Ada, Adweso, Betom, Nsukwao, Nyerede, Oguaa and Srodæ Circuits. The schools in the Municipality are set up to make teaching and learning more accessible to all learners regardless their academic

challenges they present in class in various schools within the Municipality. Learners enroll in the schools in the New Juaben South Municipality are expected to study a number of subjects that would prepare them adequately for life. Among the subjects that are taught in the schools is English language, being one of the core subjects. At the Junior High Level, learners are expected to study some aspects of English language in their various schools, which include composition writing, grammar, reading comprehension, listening and speaking. Reading comprehension appears to pose a lot of challenges to learners which subsequently affects their performance in English Language in general.

Notwithstanding all significance of reading comprehension along with the significant efforts of classroom instructors and other institutions throughout the nation, study results show that several learners have difficulties with reading comprehension. For others, alphabets and phrases cause more perplexity than meaning, while for some, a lack of talent and understanding hinders them from being effective readers that facilitate comprehension (Cain, 2022). To be able to solve the above problem, there is the need as matter of urgency to come out with teaching strategies to assist all learners to approach reading comprehension with ease. Afflerbach, Pearson, and Paris (2017) describe teaching strategies as “deliberate, goal directed attempts to control and modify the reader's efforts to decode text, understand words, and construct meanings of text”. Ahmadi and Pourhossein (2012) posit that different teaching strategies are required to equip readers’ skills to extract meaning from a reading text. Adler (2019) adds that the comprehension technique assists learners in becoming purposeful, active readers who are in charge of their personal reading comprehension task. The poor independent reading comprehension strategies of struggling readers, present issues

regarding reading comprehension performance, since it is problematic for struggling readers to decipher from a text whenever he/ she is working alone (Merga, 2019).

To make reading comprehension much easier to learners with comprehension difficulties McEwan (2020) recommends to teachers to use the following seven cognitive strategies such as “activating”, “inferring”, “monitoring-clarifying”, “questioning”, “searching-selecting”, “summarizing”, and “visualizing-organizing”. McEwan (2020) describes “activating” as priming the “cognitive pump” to bring back previous knowledge and practical encounters from one’s lasting memory to derive and understand the documented sets of writings. McEwan (2020) argues that inferring as a strategy is by combining what is said (i.e., written) within the material, what is not spoken (i.e., not written) in the document, and what the reader already knows to derive and build clear meaning from the manuscript. Again, McEwan (2020) points out in the study that monitoring-clarifying refers to the capacity to deliberate on how and what one is reading both before and subsequent to reading in order to determine whether one is understanding the material, as well as the capacity to explain and correct any anomalies.

Questioning as a strategy according to McEwan (2020) is to through self-questioning, question production, and question responding, participate in learning dialogues with text (writers), classmates, and instructors. To locate the important ideas from the reading text, McEwan (2020) directs the attention of struggling readers to search-select for a given text. The author explains this strategy as browsing a variety of sources to find relevant information to answer queries, describe words and terminology, elucidate misconceptions, address difficulties, or acquire information from a reading material. It is always needful to summarize the reading text as indicates by McEwan in that it maximizes the reading

comprehension performance of the learner. The author further stresses that paraphrasing the meaning of the manuscript one has read (i.e., distinct from but means the same as the original) shows how much mastery the reader has attained, thereby enhancing his or her performance in the reading comprehension text.

McEwan (2020) posits that visualizing-organizing facilitates reading comprehension performance in that it allows the reader to create a picture in the mind or a visual organiser in order to extract and build accurate understanding of the writing. The above teaching strategies suggested by above researchers seem to support good readers who have already demonstrated less difficulties in reading comprehension, while struggling readers to a very large extent will not benefit from them. To be able to include struggling readers to overcome their reading comprehension challenges, Owen and Thomas (2019) recommend Carousel Instructional Strategy as an effective strategy to reinforce knowledge and skills to make reading comprehension much easier to learners with reading comprehension difficulties. Sihombing, Sinambela and Manurung (2022) also advocate for Jigsaw Instructional Strategy as a useful strategy in teaching reading comprehension, because it seeks to offer in-depth knowledge to learners.

Farrell, Hunter, Davidson and Osenga (2019) resort solely to Simple View Reading Strategy which lays emphasis on word recognition (decoding) and language comprehension as a key to success in reading comprehension. Whereas, Wijekumar and Beerwinkle (2018) also advocate for Text Structure Strategy which seeks to recommend that at each stage of reading comprehension instruction, begin with the lesson's introduction, preview the text, and select vital concepts which will not offer the needed support to learners' experience reading comprehension difficulties. Teachers having the desire to equip learners with effective teaching

strategies to learners with reading comprehension difficulties to construct their own ideas from a text, to overcome reading comprehension difficulty, are likely to be aligned themselves to reap the benefits of carousel and jigsaw instructional strategies in teaching and learning of reading comprehension. Experts in the field of reading comprehension (for example, Nasri, 2019; Alexander, 2018; Mansor, 2017) reported that learners who are not equipped and motivated with reading comprehension abilities throughout their formative years, are more likely to experience reading comprehension difficulty. For this reason, it is therefore imperative to put in an intervention for improving their literacy standard and lifetime possibility, which would help them comprehend more easily. Learners with reading comprehension difficulties need rich and conducive learning environment that challenge their reasoning and promote active optimum participation in reading comprehension engagements at the basic schools level in New Juaben South Municipality.

### **1.1 Statement of the Problem**

To be able to motivate learners having challenges with reading comprehension, for example be able to construct their own ideas from a text carousel and jigsaw instructional strategies should be emphasis in teaching and learning process (Sihombing, Sinambela & Manurung, 2022; Owen & Thomas, 2019). Notwithstanding all significance of reading comprehension and the significant endeavours of classroom instructors and other players throughout the nation, study results show that a greater proportion of learners have difficulty with reading comprehension. Some learners also have difficulties to understand what they read because alphabets and phrases confuse them. Others lack the necessary

skills and information to become effective readers and be able to comprehend what they read (Meyer, 2013).

Chief Examiner's reports compiled after the May/June BECE 2018 Basic Education Certificate Examination (BECE) recorded abysmal performance in reading comprehension section by learners nationwide. The report categorizing the following as causative factors to poor performance, candidates demonstrated during the period. Among which were: several of them just copied and pasted sections of the text as responses. It was indeed clear that a significant proportion of the applicants struggled to respond to "wh-questions". In several cases, applicants knew all of the necessary knowledge but misframed their responses.

The report also seeks to bring to bear the remedy of guiding learners to have skills in responding to questions, particularly "wh-questions" on comprehension passages. Also, teachers need to plan their teaching well to challenge learners to think critically to be able to distinguish various ideas presented in a passage. The present inquiry aims to suggest some strategies to alleviate a number of such challenges that candidates face in reading comprehension. Ideally, effective reading comprehension strategies aim at motivating learners to understand concepts and information, engage socially, enquire about topics of interest and research, and communicate coherently (Keshta, 2016). Various scientific investigations have looked at the usefulness of certain defined reading comprehension practices in helping children with reading comprehension issues. Farrell (2019) emphasizes word recognition and language comprehension as a key to success in reading comprehension.

Sönmez and Sulak (2018) find that the adoption of "think aloud" in reading instruction may assist learners in improving their comprehension abilities while reading narrative materials. Wijekumar and Beerwinkle (2018) stressed the need to use Text Structure Strategy to remediate learners' problems in reading comprehension. Redcay and Preston (2016) cited in Almutairi (2018) recommend the use of teacher-guided iPad application instruction to equip learners with comprehension skills to solve reading comprehension task. Learners who were taught using teacher-guided iPad application instructions scored better on reading comprehension than those who did not get instructions guided by iPad application, according to the findings of that quasi-experimental research. Grunke, Wilbert, and Stegeman (2013) conducted another study on the effects of a graphic organising technique (i.e., storey mapping) on the reading comprehension of six learners aged 10-14 who had adequate decoding skillset but lacked academic skills and battled with construction and extraction of sense from documented writings. The method seemed to be quite successful, according to the findings.

However, only a handful of research have investigated effectiveness of Carousel and Jigsaw Instructional Strategies separately for learners with reading comprehension difficulty (Rizal & Susanto, 2021; Thakur & Chauhan, 2021; Recke & Perna, 2021). It seemed there are few studies investigated the effectiveness of Carousel and Jigsaw all together in a single study in solving reading comprehension problem among learners in Public Junior High Schools in Ghana. The current research investigated the effectiveness or otherwise of Carousel and Jigsaw in remediating problems of reading comprehension as experienced by Junior High School (JHS) learners having reading comprehension difficulty at New Juaben South Municipality in Koforidua in Eastern Region of Ghana.



## **1.2 Aim of the Study**

This research sought to examine the effectiveness of Carousel and Jigsaw Instructional Strategies on learners with reading comprehension difficulties in Public JHS Two at New Juaben South Municipality, Koforidua.

## **1.3 Objective of the Study**

1. Examine the effectiveness of (a) Carousel and (b) Jigsaw Instructional Strategies on learners with reading comprehension difficulties in Public JHS Two at New Juaben South Municipality.
2. Indicate how sex influence reading comprehension among learners with reading comprehension difficulties in Public JHS Two who have been taught with (a) Carousel and (b) Jigsaw Instructional Strategies at New Juaben South Municipality.
3. Examine how age affects reading comprehension among learners with reading comprehension difficulties in Public JHS Two who have been taught with (a) Carousel and (b) Jigsaw Instructional Strategies at New Juaben South Municipality.

## **14 Hypotheses**

1. H<sub>0</sub>: There is no statistically significant effect of (a) carousel and (b) jigsaw instructional strategies on learners' performance in reading comprehension.  
H<sub>1</sub>: There is statistically significant effect of (a) carousel and (b) jigsaw instructional strategies on learners' performance in reading comprehension.
2. H<sub>0</sub>: There is no statistically significant sex difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.



H<sub>1</sub>: There is a statistically significant sex difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.

3. H<sub>0</sub>: There is no statistically significant age difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.

H<sub>1</sub>: There is a statistically significant age difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.

### **1.5 Significance of the Study**

This investigation theoretically combines experiential learning, constructivist theory and social model of disability. This study bridges the existing gaps in the literature in the area highlighted and contribute to the existing body of knowledge. The study contributes to the theory of experiential learning, constructivist and social model of disability in a context of strategies that enhance pupils' performance in reading comprehension. This investigation highlights the benefits of reading comprehension, carousel, and jigsaw and how these strategies affect reading comprehension.

The statistical data, suggestions, and conclusions derived from the outcomes of this research are believed to be a useful resource to prospective researchers, teachers and relevant stakeholders. The study's findings also will unearth teaching strategies that can enhance the performance of learners with reading comprehension difficulty at the Junior High School level. This study may serve as a resource for future scholars when they conduct their own research. Generally, this investigation offers rich contribution to effective teaching and learning of reading comprehension

in Public JHSs in New Juaben South Municipality at Koforidua in Eastern Region of Ghana.

### **1.6 Delimitation of the Study**

Although 42 Public Junior High Schools which were put into seven (7) circuits exist in New Juaben South Municipality at Koforidua in Eastern Region of Ghana, the study would focus on only three schools in the circuits. For the purpose of confidentiality, the three selected schools were presented in pseudonyms. Among which were E W Junior High School, in Srodai Circuit, F M Junior High School in the Betom Circuit, SJB Junior High School in the Adweso Circuit and BM Junior High School in the Ada Circuit. Also, the study would focus on the use of Carousel and Jigsaw Instructional Strategies to improve learners' performance in reading comprehension lesson in New Juaben South Junior High Two Schools. The study would involve Junior High Two learners since they are the next target class to be well prepared for Basic Education Certificate Examination in the New Juaben South Municipality at Koforidua. The treatment for the study most especially for the experimental groups by researcher would last for six weeks.

### **1.7 Limitation of the Study**

The investigation dealt much on effectiveness of Carousel and Jigsaw Instructional Strategies on JHS Learners with reading comprehension difficulties. Nevertheless, the study did not investigate possible factors such as reading text factors, socio-economic factors of parents, school and classroom environmental factors. Ideally, any future studies should investigate on these factors to present an in depth and decisive education to policy makers and teachers how to remediate learners with reading comprehension difficulties.

Secondly, the limitation on the design chosen for this current study could not be eliminated. That is to say that the non- equivalent pre-test post- test control design, with delayed post-test which allows pre-test to be conducted for both experimental and control groups pose threat to internal validity of the study. This means that as the learners were exposed to the pre-test, they might have access with the test item will challenge them to work around them. This will offer the learners the advantage to maximize their performance after the post- test which could not be attributed solely on the treatment. Notwithstanding, this limitation is controlled for in this study particularly, with the use of control group. With the use of control group, similar happenings occur not only in the experimental groups, but also in the control group. Therefore, this threat was controlled for. In addition, statistically, the use of MANCOVA helped to reduce the effect the pre-test could have had on the post-test.

## **1.8 Operational Definitions of Terms**

### **1.8.1 Reading comprehension**

In this type of reading, learners demonstrate understanding which resort in the ability to reconstruct meaningful new ideas from a text.

### **1.8.2 Carousel**

This strategy compares learners to move in groups to put their expertise to bear whilst solving a task that has been posted on walls in different stations in the classroom. The answers offered by respective groups are coded by different ink to make it possible to distinguish various answers given by the groups.

### **1.8.3 Jigsaw**

It is a cooperative instructional strategy that allows learners to master a piece of an information from their respective mother groupings, to become an expert and then share such information with their colleagues in a second group known as a group of expert.

### **1.8.4 Learner with reading comprehension difficulty**

They are learners having special educational needs that impede their reading speed thereby preventing them from analysing the texts such as seeing organization, recognizing hidden meanings and identifying components of the texts for effective comprehension. In this study, learners with comprehension difficulties were those identified to have had scores from 0 to 150 on the curriculum-based measurement maze reading comprehension assessment.

## **1.9 Organisation of the Study**

The study is structured into six main chapters. Chapter one, the introduction, covers the background, statement of the problem, the study's objectives, hypotheses, the study's significance, delimitation, operational definition of terms related to the work and the study's organization. Chapter two, the literature review, discusses the relevant literature related to the work based on the themes of the research objectives. The third chapter is research methodology that discusses the methods and intervention used for the study. The fourth chapter, findings, is the summary of the study's results. The fifth chapter, discussion, is based on the implications of the findings and related interpretations. Chapter six is the final chapter and is captioned findings, conclusions and recommendations.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter presents the relevant literature related to the study based on the objectives. It primarily focuses on the themes of the literature which dwells on the study's aims. The study's theoretical context, conceptual framework, concept of inclusion, concept of reading comprehension, relationship between sex and reading comprehension, influence of age in reading comprehension, impact of Carousel and Jigsaw in reading comprehension, empirical evidence of the study, summary of literature review are the major themes covered in this chapter.

#### **2.1 Theoretical Context of the Study**

Numerous theories and models would be suitable for a study of this nature. Nevertheless, Constructivist Social Learning Theory (CSLT) and Social Disability Model (SDM), are the main theories and a model that would drive this study.

##### **2.1.1 Constructivist learning theory**

The constructivist learning theory underscores the need to be actively engage learners with a lot of reading comprehension activities, where learners' skills in comprehension would be deepened. Bada and Olusegun (2015) maintained that constructivist learning theory is intentionally learner-centric which encourages learners to be actively participate and equip with reading comprehension strategies instead of passively listening to and absorbing knowledge. In this theory, therefore, the learner is an active participant in the learning process, and knowledge is a human production (Vygotsky, 1978). To Vygotsky, three principles about learning underpin constructivism. To begin with, learning is the product of an individual's

engagement with their surroundings. The learner constructs knowledge as they make sense of their experiences in the environment. In Vygotsky's view, learning material is not autonomous of how it is gained; what a learner comes to comprehend is a consequence of the learning environment, the learner's objectives, and the activity in which the learner is engaged. According to Morchid (2020), constructivist learning theory translates into diverse learning and teaching strategies that take advantage of sociocultural elements in education. According to Bhattacharjee (2015), the role of the teacher in a constructivist classroom is to function as an experienced learner who can support inexperienced learners in using cognitive methods such as self-testing, expressing knowledge, posing thought provoking questions, and introspection. According to the author, in a typical constructivist learning environment, the instructor's duty is to help arrange knowledge around large concepts that pique learners' attention, to help him/her create fresh perspectives, and to relate them to past learning. Bhattacharjee further submitted that learners are given the opportunity to ask their questions personally, conduct their personal investigations, draw their own connections, and formulate individualised inferences throughout the exercises, which are the important prerequisite for effective reading comprehension.

Rose (2022) points that According to constructivist view, the learner is relatively actively engaged in a collaborative effort with the instructor to “build” interpretations. Learners develop their own view of the environment, and hence their own understanding, according to constructivist learning. Conversely, any learning theory has repercussions that go beyond the domain of learning. Simply said, adopting a constructivist approach to learning has an impact on teaching, classroom procedures, and learner behaviour. Constructivism, according to Rose

(2022), is a theory of knowing rather than a philosophy of knowledge. It is simple to realise the manner constructivism may be regarded as a viewpoint or a lens through which to comprehend or know the world, in his opinion; that is, learners create reality, knowledge, and learning. According to Ross, Piaget is credited for formalising constructivism theory by articulating ways through which knowledge is assimilated by learners. Individuals develop new knowledge from their experiences, according to Piaget, via processes of accommodation and assimilation. Additionally, it is believed that the learner should bear a greater share of the responsibility for learning, according to Rose. Constructivism stresses the significance of the learner being actively participating in the learning process, in contrast to prior educational perspectives in which the instructor is responsible for teaching and the learner was a silent, receptive participant. Learners, according to Rose, develop their own knowledge rather than just mirroring and reflecting what they read. Classroom instructors must conform to the position of “facilitators” rather than “teachers”, according to the constructivist approach (O’Connor, 2022).

### **2.1.2 Social model of disability**

From social model of disability’s perspective, people with disabilities are handicapped by societal obstacles, placed on their active engagement in teaching and learning process in respect to reading comprehension. To break down these boundaries, learners with reading comprehension difficulties should be encouraged to believe in their capability to overcome their challenges in reading comprehension problems (Hughes, Goodley, & Davis, 2012). Hughes, et al. (2012) stressed that “the social model gives us insight and, more importantly to its practical mission which is to dismantle the barriers that blocked disabled people’s participation to pursue academic exercises equitably in society” (p. 23). Similarly, Oliver (2013)

claimed that the social model of disability was inspired by the "Fundamental Principles of Disability" statement, which was initially released in the mid-1970s and claimed that we were handicapped not by our disabilities but by the crippling constraints we encountered in society.

Disability according to the social model cited in Agyei and Kwenin (2016):

*'Is all the things that impose restrictions on disabled people; ranging from individual prejudices to institutional discrimination, from inaccessible public building to unusable transport systems, from segregated education to excluding work arrangements, and so on' (Oliver, 1996: 33 cited in Avoke, 2005 p. 5).*

The significance of the social model lies in its radical challenge to the medical or individual model of disability (Camilleri, 1999 cited in Avoke, 2005). The social model of disability acknowledges that certain individuals are born with physically or mentally flaws that might limit their capacity to function. However, according to this paradigm, such persons are handicapped mostly as a result of obstacles that exist in a culture that ignores their necessities. This model posits that disabled individuals must be given the same freedoms and options as non-disabled people, and they must be given equal rights and responsibilities in determining life choices. For this reason this current study sought to employ carousel and jigsaw instructional strategies, where effective reading comprehension skills for learners with reading comprehension are guaranteed. This model again would guide the teachers in inclusive schools to select teaching strategies that would address the learning needs of individuals with special needs. Having this model in mind, the classroom instructors would then create a learning atmosphere in their various classes where every learner feels secure, supported, and motivated to communicate their opinions and grievances about their academic work (Saunders, 2009 cited in Agyei & Kwenin, 2016).



This model also guides all prospective teachers on how to create and maintain an inclusive atmosphere that allows all learners to realise their full potential without fear of being discriminated or bias. The teachers shall build an outstanding educational environment in the classroom that provides a supportive and challenging intellectual atmosphere, respect for the spectrum of human uniqueness, and true comprehension of individual variations (Bonilla, 2005 cited in Agyei & Kwenin, 2016). This study is linked to the constructivist theory and social model of disability in an attempt to develop an insight on the variables of Carousel and Jigsaw Instructional Strategies, in facilitating the instruction of reading comprehension in Junior High Schools in Koforidua. This study also draws from the social constructivist, learning theories and social model of disability in order to guide the selection of variables that could facilitate the instruction of reading comprehension in Junior High Schools in Koforidua.

The constructivist, learning theories and social model of disability inextricably linked together to establish a desirable learning atmosphere for operative teaching and learning to thrive (Agyei & Kwenin, 2016). Owing to this, it behoves on teachers to be accountable to all learners, those with and without reading comprehension challenges. Teachers would also afford all learners a meaningful opportunity to learn. For teachers, the charge to educate all learners in the inclusive classrooms, call for a wide range of teaching strategies which are credible enough to address the learning needs of special needs individuals (Vaugh, Hughs, Schumm & Klinger, 1998 cited in Agyei & Kwenin, 2016). The authors stressed that, when teachers incorporate various teaching strategies for struggling readers, into lesson planning, struggling readers could work towards individual objectives within the context of large group instruction. In inclusive classrooms, it is

not only what the teachers cover, but, also how it is covered that determines what learners learn (Abrams & Segal, 1998 cited in Agyei & Kwenin, 2016). The constructivist, experiential learning theories and social models of disability recognize the potential in individual learners that could be tapped to boost the academic performance of individual learners in the school. This theory and the model play a pivotal role in removing barriers that impede the academic work of all learners in the Public Junior High Schools, in respect to reading comprehension.

## **2.2 Conceptual Review**

This aspect concentrates on the explanation of the key concepts that were used in this study. Concepts such as carousel and jigsaw instructional strategies have been explained based on literature.

### **2.2.1 Carousel instructional strategy**

Carousels of activities are consistent with Owen and Thomas' (2021) work as well as the social constructivist concept. They use a collaborative and expressive learning technique that divides the class into small groups, each of which is actively engaged in learning and communicating with one another at separate workstations. Cooperative learning is concerned with learners working in small groups to achieve common objectives, and it is generally recognised as a socialisation and learning approach (Fazliddinova, 2021). Because of its apparent effectiveness, Chan, Maneewan, and Koul (2021) believe cooperative learning is one of the most significant educational advances in recent history. According to Sihombing, Sinambela and Manurung (2022), a cooperative method creates a social atmosphere that boosts learners' enthusiasm. To Sihombing, Sinambela and Manurung (2022), cooperative learning also “facilitates learning based on equal partnership in the

learning experience, as opposed to a fixed teacher/ learner ... role and fosters the 'active processing of the information'.

Each group of learners begins at one of the workstations and works collaboratively to finish the exercises in a carousel-style class. All groups rotate to the next workstation after a certain length of period, such that by the conclusion of the class, all tasks have been done. Carousels allow learners to circulate about the classroom in a cyclical motion, similar to how a genuine carousel works. Movement throughout the room while learners engage in a range of activities appeals to all learners, not just those who flourish in a more kinaesthetic setting. The agency involved in going from one activity to the other and taking ownership of the work at each station is very stimulating (Rufon, & Forlaes, 2022), and the brief bursts of activity keep the pace up. As learners discuss activities and reflect on their learning at each workstation, carousels facilitate cooperative learning while also encouraging a communicative approach, which correlates well with foreign language methods.

While social constructivism is the primary component of a carousel-style lesson, past learning must be thoroughly implanted through a series of well-designed classes, in accordance with the objectivist approach, for the carousel model to be genuinely successful. Before organising a carousel of activities, the teacher must organise and execute this sequence by carefully choosing and presenting appropriate information, so making efficient use of the more conventional approach of instruction. The instructor then facilitates the carousel-style session, allowing learners to be actively involved with their own learning, debate it with their classmates, choose personal struggles, and measure their own achievement. Owen and Thomas (2021) address the value of "social family models", which allow for the formation of a learning community and peer contact

and collaboration. Learners develop and implement critical life skills as they learn to collaborate and exchange thoughts and resources with classmates by using a carousel approach to facilitate team and duo work. As learners grow more independent and responsible for their own learning, this reflective approach to learning may assist to build and sustain intrinsic motivation (motivated by internal incentives) (Vanner, Shahzadeh, Holloway, Mitchell, & Altenberg 2022).

Carousel Teaching Strategy allows learners to work collaboratively by learning to be accountable for the success of the group. Tasks are often learnt together which couple with shared responsibility. The group are able to bring their expertise to bear to achieve one common objective (Rufon, & Forlaes, 2022). Johannes and Mahanangingtyas (2021) stressed Carousel Instructional Strategy as a questioning strategy, in which varieties of questions are presented, to encourage learners to come out with lots of ideas, to support group work and allow physical movement. Hasin and Nasir (2021) posited that Carousel Teaching Strategy offer learners the opportunity to abreast with new information that are shared among members in the group, through active and participant-centered pedagogy. The author adds that in Carousel Teaching Strategy, there are effective and efficient collaboration exist among members in the group by consolidating team spirit in solving problems. Denha, Lilik, Boyko and Yudenok (2021) claimed Carousel Instructional Strategy as an effective pedagogical tool which aimed at arranging the order of material in order to present, organize ideas and thoughts, to boost learners' understanding in a concept.

Voloshyna (2021) argued that learners may utilise the Carousel Instructional Strategy to experience assessing, watching, and debating a range of activities, as well as displaying their endeavors, analyzing others' projects, and sharing their

thoughts via the evaluation form. Nadia, Haider and Muhammad (2020) stressed that Carousel Instructional Strategy equips learners with the needed understanding to overcome any given task concerning reasoning in order to extract the exact fact from a text.

Pulgar, Fahler, and Spina, (2021) indicated that in Carousel Instructional Strategy, learners are able to collaborate and discuss with their group members, so that exchange of ideas for their assigned task become possible. Carousel Instructional Strategy offers learners the privilege to be exposed to number of vocabularies which will then consolidate their reading comprehension skills (Johannes & Mahanangingtyas, 2021). Conducive and positive learning environment are created through Carousel Instructional Strategy (Breacháin, & Fagan, 2021). The authors further explained that, stress-free learning environment is created for learners to get connected to achieve the target objective. According to Owen and Thomas (2019), Carousel Instructional Strategy motivated learners to learn when they are offered greater percentage of teaching and learning process. The authors added that whatever subject matter being learnt stick deeper and learners are able to remember them. The authors concluded that for example learners who are not intrinsically motivated to learn are being challenged to take active part in learning through Carousel Instructional Strategy.

Buregyeya, Atusingwize, Nsamba, Nalwadda, Osuret, Kalibala and Bazeyo, (2021) add that Carousel Instructional Strategy offers learners opportunity to critique other group's work based on certain important information lacking in their work. The authors conclude by pointing out that instant corrections are made to broaden the scope of new information being introduced by learners. Carousel Instructional Strategy promotes learners centered learning which guarantees their

active participation in class to achieve a desire goals (Camacho-Minuche, Espinoza-Celinica, & Ulehlova, 2021). Carousel Instructional Strategy fits well in facilitating reading comprehension among the learners, since useful information is transmitted and shared among the learners at a time (Shahzamani & Tahririan, 2021). The authors posit that Carousel Instructional Strategy builds confidence in learners to be able to communicate their thoughts through a wide range of divergent ideas which broaden knowledge base of learners. Suh, Matson, Seshaiyer, Jamieson and Tate (2021) see Carousel Instructional Strategy as a useful methodology for arranging content and ideas along with promoting learners' comprehension of a readable material. Lestari (2014) recommends Carousel Instructional Strategy as an effective strategy in teaching writing as other strategies used to teach writing. Carousel Instructional Strategy places learners at the centre of learning and regards teachers as facilitators who moderate teaching and learning process (Rababah, 2021). To the author Carousel Instructional Strategy empowers learners to be able to cover a wide range of content within the stipulated period.

### **2.2.2 Jigsaw instructional strategy**

The Jigsaw technique is one of the most popular cooperative learning (CL) approaches in the language learning environment nowadays. Jigsaw, according to Sihombing, Sinambela and Manurung (2022), is a great learning environment for language acquisition via relevant material, academic skill development through properly crafted reading and writing tasks, and subject exploration through intentional discourse inside the classroom.

Jigsaw Instructional Strategies facilitates dependency and cooperation which seeks to pull learners along in teaching and learning process. To be able to derive maximum benefit from JIS, the reading comprehension task must be challenging

enough to drive joint effort from group members, to contribute to the lesson. Learners engage in JIS are divided into groups by given equal responsibility where various ideas and skills are brought to bear to solve reading comprehension task (Berger & Hanze, 2015; Devi, Musthafa & Gustine, 2015; Karacop & Doymus, 2013; Voyles, Bailey & Durik, 2015). Ataman and Emine (2017) found out in their studies that JIS promote cooperation by making learners dependent on each other where their learning strategies are constantly enhanced towards attainment a desire goal.

Likewise, Jacobs, Garbrecht, Kneer, and Rohlfs (2021) believe Jigsaw is suited for a programme or subject that requires learners to address complicated, tough themes requiring several bits of knowledge in order to achieve general mastery. The Jigsaw approach, according to Jacobs, Garbrecht, Kneer, and Rohlfs, fosters key cooperative learning characteristics such as positive interdependence and individual responsibility since learners must teach each other to fully grasp the topic.

The Jigsaw approach is part of the paradigm of “Student Team Investigation” (Cohen, Griggs, Kanji, Cohen, Lazzara, Keebler, & Gewertz, 2021). Specifically, Jigsaw II consists of a regular instructional cycle of activities that include reading, expert group discussion, team reporting, testing, and ultimately team acknowledgement (Jones, 2021).

The previous cycle of instructional activities offers beneficial possibilities for expressive language practise in a stress-free and supportive atmosphere. This is in line with current thinking on second language acquisition, as Vygotsky (1978) described, Abdulkader (2019) in the domains of coherent, developmentally suitable, superfluous, and precise input, and functional/communicative, identity congruent,



and frequent output, as described by Abidin (2021). Moreover, the Jigsaw II method's dynamics appear to produce a comfortable and feedback-rich environment, boosting second language learning. Fadila and McKenna (2018) added that JIS exposes learners to benefit from five (5) essential factors that put a learners at the centre of teaching and learning process. According to Fadila and Mckenna (2018) the essential factors are positive autonomy, interaction promotion, individual responsibility, interpersonal and social skills teaching and group processing quality. There are tremendous improvement of learner's long term retention of acquired knowledge and skills as learners engaged in JIS in the classroom (Randa, & Hoda, 2019).

Jigsaw is, in fact, a cooperative learning exercise that requires learners to connect with one another in order to replace missing information and incorporate it with other data. Chang and Benson (2022) pointed that "Jigsaw technique allows learners to actively participate in learning process. By being constantly subjected to this method, learners should feel more comfortable about their roles" (p. 778). According to Haryanto (2012), with the Jigsaw approach, learners take out learning tasks by partnering with their peers in order to achieve their goals. The concept of learning as an active development process rather than a passive absorption of knowledge or rotational memory enhances the advantages of a jigsaw technique focused on encouraging active learning instead of digesting information from a teacher or book. In addition, the jigsaw approach may be used to the reading exercise. According to Aronson (2010), the jigsaw approach is a cooperative learning method in which the group is divided into a team of four to six people. It encourages learners to concentrate on the content they are studying and to collaborate with one another.



Corroborating this, Vyshnevskaya, Bratanykh, Skydan, Hushko and Karimova (2021) believe that the jigsaw approach is designed to be used in a bilingual classroom. It may be used to any teaching materials, but it is particularly useful in bilingual courses where the content, worksheets, and quizzes are frequently in English. Integrating jigsaw approach into the education process, according to Suyanto (2012), will allow learners to be more responsible. As a result, they are directly and effectively involved in recognising an issue and cooperatively fixing it. Similarly, Gladstone (2013) contends that the Jigsaw approach is a collaborative learning exercise in which learners become adept in various disciplines and then teach what they have learned to other learners. Jigsaw is among several exercises used in education, according to Efendi (2021). Every person is equally essential in the Jigsaw exercise since each is accountable for solving the puzzle. Jigsaw, based on the above statements, may help a group learn more cooperatively and mutually.

From all of the above reasons, I see the jigsaw method as a cooperative learning technique that promotes listening, engagement, interaction, teaching, and collaboration by providing each group participant an important role to play in the academic activity. The technique entails dividing the classroom into four to six small groups. Every group is in charge of a certain piece of information, which they will share with their peers.

The jigsaw approach's main advantage as an active learning strategy is that it can be implemented into a variety of planned classroom activities so that no one has to read a full material or perhaps portions from a particular piece of work (Jay, Etchells, & Dimond-Bayir, 2021). It is crucial not to go overboard. Doing some of the tasks at once is preferable than doing too many. It is also applicable to a broad range of curricular contexts, and instructors will find it beneficial in a multitude of

ways. The jigsaw technique has many key effects, including the discovery of strategies for applying results and the development of higher order thinking abilities like analysis, synthesis, and evaluation, together with components of debate and rational reasoning, according to Jay et al. It is thought that they retain a larger proportion of what they read.

As a result, active learning is seen to be equivalent to superior learning since kids remember more knowledge. It fosters a pleasant learning environment by encouraging collaboration and peer teaching, as well as increasing individual responsibility. When each learner is required to read all of the accessible sources autonomously, they will be exposed to a larger range of content. Furthermore, concentrating on one aspect of the text fosters careful reading. Aside from its benefits, the jigsaw technique has drawbacks. Because peer teaching as cooperative learning is learner-centered, it may be detrimental to both timid learners and outspoken learners who are predisposed to competition-based learning. As a result, instructors must ensure that learners with weak study abilities do not give the jigsaw group a negative report. To keep dominating and clever kids from growing bored, they ought to be allocated tasks like group leaders, which should be rotated on a regular basis. The jigsaw method, on the other hand, gives the less eloquent and skilled learners time, space, and practise to absorb the information, as well as the chance to utilise the more competent learners as models for arranging and delivering their comments. Given that several learners are used to assignments in which they are accountable for their own learning and creating connections, they may respond adversely or feel irritated the first few times instructors utilise this method.

### 2.2.3 Concept of reading

Reading is regarded as the simplest and most cost-effective method of obtaining information. Readers may expand their knowledge, extend their viewpoint, and get a better understanding of nature through reading (Nurwanti, Asrifan, & Haedar, 2019). The ability to read is a crucial educational aim. Reading brings up new worlds and possibilities for both youngsters and grown ups. It helps us to absorb new information, appreciate literature, and do daily tasks including reading the newspaper, job listings, instruction booklets, and maps that are all part of contemporary life (Abu-Shamla, 2010). Reading, according to Millrood (2001), is the most crucial activity in any language class. It serves not only as a source of information and a fun hobby, but also as a way to consolidate and expand one's language expertise. In other words, reading provides pupils with a variety of rewards, including information, enjoyment, and knowledge. As a result, pupils are able to not only read but also interpret written language or texts from books, periodicals, and newspapers, as well as study science and technology. The advancement of science requires extensive reading. Numerous English-language textbooks and good reading skills can help pupils meet their needs. Reading English as a habit may help pupils expand their vocabularies, making it easier for them to comprehend the information the reading material tries to send across.

Reading is critical for developing a healthy mind and developing the potential for lifelong learning. Reading skill is essential for having a healthy, happy, and productive life. Reading is seen as a supplement to listening and speaking as a means of interaction. Individuals who do not have the opportunity to converse with native speakers of the target dialect may have accessibility to their literature and periodicals by reading them, and therefore gain a better understanding of their

culture. As such reading is a portal through which different cultures may be observed as more general or specialised information acquired (Kailani & Muqattash, 2008).

Even though the word “reading” has numerous meanings, they all signify the same thing. Millrood (2001), for instance, defined it as “a visual and cognitive process that involves reading the written language, processing information, and comparing it to prior experience” (p. 45). Subsequent to the explanations, it is clear that reading is a complicated cognitive activity that aims to make a written language text accessible so that notions and conclusions may be communicated. Moreover, Abu-Shamla (2010) explains reading as “the cognitive process of understanding a written linguistic message and a mental representation of the meaning” (p. 12). In Schmidt and Richards’ (2002) view, “reading means perceiving a written text in order to understand its contents. This can be done silently (silent reading)” (p. 443). To Nasri and Namaziandost (2019), it is a certain method in which readers comprehend texts, sections, paragraphs, and even whole books, as well as the capacity to comprehend and locate information supplied in written material (Nasri & Namaziandost, 2019).

Reading, according to Willis (2009), is the behavioural result of the interplay of many brain areas through dispersed connections. Audio and visual reactions, relational processing, long-term memory capacity, and executive function processing all seem to have networks that are metabolically upright. In the attempt to make meaning of the text, Nunan (1993), as referenced in Khaghaninejad and et al. (2015), described reading as a process of decoding a succession of written symbols into their auditory counterparts. This is what Nunan refers to as the "bottom-up" approach of reading, which develops as the reader continues to read.

Reading is also characterised as a nuanced and complicated procedure involving feeling, interpretation, and integration. It is the magical key to a world of insight and pleasure, as well as the most fundamental instrument for learning in all subjects (Abu-Youniss, 2013).

Reading, according to Chen and Chen (2015), is a complicated cognitive activity that aims to comprehend a written language text and share opinions and resources. Reading is a hands-on activity. It is not only a matter of deciphering alphabets and phrases. When pupils read, they are involved in visual decoding, cerebral analysis of what has been processed, and applying it to their own experiences. It is a participatory skill in which the reader engages with the text and applies their prior knowledge and experience to understand the meaning. Reading, according to Al Udaini (2011), is an interactive activity in which the reader engages with the text and uses his or her prior experience and knowledge to derive meaning. As a result, it may be stated that reading is a fundamental, goal-oriented skill in which the instructor must help children encode signals and comprehend meaning.

Reading is a difficult task. It entails the interplay of reader and text features, which interact to create meaning. Reading in a second or foreign language is much more difficult than reading in one's home language due to a variety of variables such as linguistic competence, cultural understanding, mentality, and drive (Al-Mahrooqi, 2012). Reading, as a mental activity of comprehending a documented linguistic text, is clearly a way of language learning, interaction, and information and thought exchange. Reading is a conversation between the documented words and the reader's mental understanding.

#### 2.2.4 Reading comprehension

Reading comprehension is important for learners because they can absorb information from English resources if they have the talent of reading comprehension, which can be acquired by reading more and asking questions to estimate what is truly included in that documented text. Freaan (2022) further supports the idea that comprehension refers to what a person who captures a concept understands. Reading comprehension, according to some reading educators, is linked to readers' answering questions, recounting, or summarising what they have read. Others believe that reading comprehension is achieved in the service of learning, comprehending, memorizing, reacting, and inferring. These two assumptions reflect a key gap in educators' perceptions of what constitutes reading comprehension (Iwai, 2010).

Reading comprehension is the process of reconstructing an information a writer intends to present by way of writing (Alexander, 2018). To understand a reading text very well Halamish and Elbaz (2019) recommended the strategy of skimming and scanning as crucial skills in mastering the reading text. Mansor (2017) also added that reading comprehension is the capacity to comprehend and derive all of the information included in a reading material. Reading comprehension becomes less challenges as we consider five components of reading comprehension that facilitate understanding of a reading text by Iman (2016). According to the author these components of reading comprehension include, determining the text's key idea, identifying a specific information, drawing the text's inferences, finding the text's references, and understanding a word meanings of a text. Learners need to abreast with reading comprehension components so as to minimise the difficulties learners' have in reading comprehension.

According to Puskorius (2011), comprehension in reading is the understanding gained from a text. It is the process of constructing meaning, and it is one of the key goals of reading education for pupils. Reading comprehension, according to Kustaryo (1988), as mentioned in Syatriana (2011), implies comprehending what one studied. Understanding the diction, seeing the relationship between words and terms, organising ideas, recognising author's judgement, and evaluating is an active thinking process that hinges not only on comprehension skill but also on learners' experience and prior knowledge comprehension means recognizing the vocabulary, seeing the relationship between words and concepts, organising ideas, recognising author's judgement, and evaluating. On the same tangent, Badr El Deen (2011) explained reading comprehension as the “ability to communicate a text leading to an integrated process that involves decoding vocabulary and sentences, employing prior knowledge relevant to the text and using cognitive and meta cognitive strategies in order to make sense and to get the target message the author wants to convey” (p. 11). More so, Narayanrao (2012, p. 21) claimed “reading comprehension is the ability to understand or to get meaning from any type of written material. It is the reason for reading and the critical component of all content learning.”

Furthermore, reading comprehension is the process of thinking and generating meaning before, during, and after reading by combining the author's material with the reader's prior understanding (Kirmizi, 2010). Comprehension is a process in which readers generate meaning by engaging with text using a mix of prior knowledge and past experience, information in the material, and the reader's posture in relation to the text, according to a standard definition for instructors (Walters, 2022). Prior knowledge, meaning, and cognitive methods are all key terms



in the descriptions listed above. To summarise, simply word comprehension is insufficient to grasp a document while reading. Good readers use techniques including linking their prior experience with the text, summarising information, making inferences, and putting questions at the text to improve reading comprehension. Kirmizi affirms that comprehension entails generating acceptable and correct meaning by linking previous reading experience and what the reader already knows, and thinking about all of this information until it is fully comprehended. The ultimate objective of reading teaching is comprehension.

Reading comprehension, according to Suparman (2012), relates to comprehending that which has been read. Essentially, reading comprehension is an interactive thinking procedure that depends on learners' understanding abilities, past knowledge, and experience. Reading comprehension, according to Yunita (2016), is the capacity to “communicate a text through an integrated process including decoding vocabulary items and sentences, applying prior knowledge related to the text, and employing cognitive and meta-cognitive strategies to make sense of the text and obtain the intended message from the writers” (p. 76). According to Ahmadi and Pourhossein (2012), reading comprehension entails a complex integration of the reader's past knowledge, linguistic skills, and meta-cognitive methods, in addition to understanding words, phrases, or even texts. Reading comprehension also refers to the process of thinking and building meaning before, during, and after reading by combining the writer's material with the reader's prior knowledge, according to Etemadfar et al. (2019) and Kirmizi (2010).



Reading comprehension, according to Sahin (2010), is the capacity to derive meaning from what is read. Reading comprehension requires the rapid application of many reading abilities including word recognition, fluency, semantic knowledge, and pre-existing information in order for the reader to gain knowledge from the material. Furthermore, Tompkins (2011) espoused that reading comprehension is the degree to which a document is understood. This understanding is the result of the interaction between written words and how they stimulate information outside of the message. Comprehension, according to Tompkins, is a creative process based on four skills: “phonology”, “syntax”, “semantics”, and “pragmatics”.

In Grabe's (2009) perspective, there are numerous objectives for reading, including searching for information, learning, integrating knowledge, evaluating, criticising, and using information, and reading for general comprehension (i.e., usually reading to satisfy one's interest or for entertainment). As a result, reading serves a variety of objectives. One of the goals of reading is to get information, gain knowledge, or comprehend something. Suparman (2012) outlined four ways to read. These are:

1. “Skimming” is reading a text rapidly to acquire the essence of a concept.
2. “Scanning” is the process of swiftly skimming over a text in order to locate a certain section.
3. “Extensive Reading” entails reading a lengthy material for leisure, with a focus on general knowledge.
4. “Intensive reading” is a technique for extracting particular information from shorter texts. This is a more precise task that requires you to read for specific information.

Nonetheless, the most essential aspect to remember while teaching reading is to grasp the text, acquire vocabulary, and recognise the text's meaning. According to Yunita (2016), teaching reading should include identifying pronominal connections, primary ideas, supportive facts, the kind of text concerned, the subject, and forming conclusions. Reading, based on the criteria above, is unquestionably a crucial activity for growing a language's knowledge. Reading also has a link with the author's messages and the facts the reader will discover. Reading serves a number of objectives. Reading serves a variety of functions, including obtaining information, gaining knowledge, and gaining understanding.

### **2.2.5 Sex in reading comprehension**

In studies conducted in an area of reading comprehension, the issue of gender more often than not is explored. Ahmed, Othman, Gardi, Sabir, Ismael, Hamza, Sorguli, Aziz, Ali, Anwar (2021) added that males and females have been shown the substantial variation in their performance in reading comprehension. Yet, Korkmaz and Öz, (2021) reported that males and female shown no significance difference in the performance in reading comprehension. A study by Ay and Bartan (2012) corroborate Ahmed et al. (2021) report that during Progress in International Literacy Study (PIRLS), observed that a marked variation in performance existed between females and males. Apparently according to Ay and Bartan (2012) females obtained greater scores as against males in 35 nations. As Yadollah, Afsar and Manouchehr (2015) indicated in their studies, t-test analyses of male and female reading comprehension skills in the descriptive macro-genre revealed no marked differences between the groups. On the contrary, Stann (2020) noted that boys' weak reading abilities throughout adolescence were discovered by researchers at the University of Missouri and the University of Essex in the United Kingdom.

Anjum (2015) conducted a study on the topic “relationship between mathematics achievement and reading comprehension and gender difference in mathematics achievement of children at upper primary stage”. A purposive convenient sampling approach was used to collect a sample of 307 upper primary school pupils (i.e., 160 females and 147 boys). The data was gathered using a math achievement exam and a reading comprehension test. The data was analysed using the mean, standard deviation, and t-test. The outcomes of the study indicated that at the upper primary school level, there was a considerable disparity in math proficiency between boys and girls. At the upper elementary school level, there was a huge discrepancy in reading comprehension between males and girls.

Karizak and Khojasteh (2016) also looked at the impact of teaching three different reading techniques on L2 learners' reading comprehension abilities, along with the role of gender in the intervention. The participants in this quasi-experimental research were 100 Iranian English as a Foreign Language (EFL) learners who were selected conveniently. These people were separated into two groups: experimental and control. Over the course of 16 sessions, 50 learners (i.e., experimental group) were taught three reading comprehension methods while reading English texts, where as the other 50 learners (i.e., control group) were taught reading comprehension in the usual manner. The study's findings demonstrated that using reading techniques had a considerable impact on L2 learners' reading comprehension abilities. It also revealed that not only did male learners use reading methods more often than female learners, but that male learners also had better reading comprehension scores than female learners. As a result, it seems that reading strategy training increased learners' knowledge of these methods

and may have encouraged some learners to employ them, perhaps improving learners' reading comprehension skills.

Pae (2004) examined the effect of gender on Korean EFL learners' English reading comprehension. A Differential Item Functioning (DIF) technique was used to determine the gender impact. The gender DIF of 14,000 Korean examinees (i.e., 7,000 men and 7,000 females) who took the English subtest of the Korean National Entrance Exam for Colleges and Universities in 1998 was studied. There were 38 questions on the English Reading Comprehension subtest (i.e., Items 18-55). According to the findings, items categorised as Mood/Impression/Tone were simpler for females, but those classed as Logical Inference favoured men more often, independent of item content.

Sahin (2013) also determined the impact of narrative and informative text styles on reading comprehension skills in 4th and 5th grade pupils in Primary Education. The application was completed with 134 pupils at a primary school in Kirsehir during the 2011-2012 academic period. The study's data gathering technique was reading comprehension tests designed according to text kinds. When comparing reading comprehension marks of learners according to text kinds, t-tests were used for related samples, while t-tests were used for unrelated samples when analyzing reading comprehension scores of learners in terms of sex. According to the research's findings, learners grasp narrative writings better than informational texts they read. Also, with the exception of 5th grade informative texts, there was a substantial difference in favour of female learners in the narrative texts reading comprehension grades of male and female learners for all tests.

Using audio-tape and customised teaching methodologies, Adediran and Eni-Olorunda (2013) investigated gender differences in reading comprehension success of learners with intellectual disabilities. The research used a quasi-experimental approach with a pretest and post-test. Ten learners were randomly recruited from three Ibadan special schools and divided into two groups: experimental and control. Slossan's Intelligence Test and the Reading Comprehension Achievement Test were employed. For the two experimental groups, two teaching materials were employed equally (i.e., audio-tape and individualised instructional strategies). Analysis of Covariance (ANCOVA), Multiple Classification Analysis (MCA), and Duncan post hoc were used for data analysis. The findings demonstrated that therapy had a substantial primary influence on learners' reading comprehension performance. Nevertheless, there was no substantial gender influence on student reading comprehension performance, and there was no marked treatment-gender interaction effect on learners' reading comprehension accomplishment.

Miñoza and Montero (2019) analysed the respondents' comprehension levels and identified the instructors' teaching reading techniques to draw implications for the construction of a reading programme in the Western Mindanao State University's Integrated Laboratory School, Elementary Department. The investigation utilized the descriptive correlation research design. The total population approach of sampling was used to choose 271 intermediate learners for the research. The numerical data on the respondents' level of reading comprehension in silent and oral reading came as a result of administering the Philippine Informal Reading Inventory (Phil-IRI), a reading inventory that determines learners' reading performance levels in both oral and silent reading. The independent sample t-test

was performed to evaluate if there was a significant difference in the degree of understanding of the respondents in silent and spoken readings in terms of sex. There was no notable variation between boys and girls in terms of comprehension in silent reading, according to the results. Nonetheless, there was a notable gender variation in oral reading comprehension, with girls outperforming boys.

### **2.3 Empirical Review**

This chapter of the appraisal of the literature concentrates mainly on studies that have been carried out by other scholars. The studies reviewed are relevant to the study as they present significant contributions towards the discussions of the findings of the present study. Carousel Teaching Strategy allows, learners to learn cooperatively and be accountable for the success of the group. Tasks are often learnt together which couple with shared responsibility. The group are able to bring their expertise to bear to achieve one common objective (Paolini, White, Tropp, Turner, Page-Gould, Barlow & Gómez, 2021). Johannes and Mahanangingtyas (2021) stressed Carousel Instructional Strategy as a questioning strategy, in which varieties of questions are presented, to encourage learners to come out with lots of ideas, to support group work and allow physical movement.

Hasin and Nasir (2021) posited that Carousel Teaching Strategy offer learners opportunity to abreast with new information that are shared among members in the group, through active and participant-centered pedagogy. The author adds that in Carousel Teaching Strategy, there are effective and efficient collaboration exist among members in the group by consolidating team spirit in solving problems. Denha, Lilik, Boyko and Yudenok (2021) claimed Carousel Instructional Strategy as an effective pedagogical tool which aimed at arranging the order of material in order to present, organize ideas and thoughts, to boost learners'

understanding in a concept. Voloshyna (2021) argued that learners may utilise the Carousel Instructional Strategy to experience assessing, watching, and discussing a range of activities, as well as displaying their endeavours, assessing others' projects, and communicating their thoughts via the review form.

Pulgar, Fahler, and Spina, (2021) indicated that in Carousel Instructional Strategy, learners are able to collaborate and discuss with their group members, so that exchange of ideas for their assigned task become possible. Carousel Instructional Strategy offers learners the privilege to be exposed to number of vocabularies which will then consolidate their reading comprehension skills (Johannes & Mahanangingtyas, 2021). Conducive and positive learning environment are created through Carousel Instructional Strategy (Breacháin, & Fagan, 2021). The authors further explained that, stress-free learning environment is created for learners to get connected to achieve the target objective. According to Owen and Thomas (2019), Carousel Instructional Strategy motivated learners to learn when they are offered greater percentage of teaching and learning process. The authors added that whatever subject matter being learnt stick deeper and learners are able to remember them. The authors concluded that for example learners who are not intrinsically motivated to learn are being challenged to take active part in learning through Carousel Instructional Strategy. Carousel Instructional Strategy equipped learners to be actively engaged in completing an assigned activities posted at each station within the classroom. A high level of autonomy and a greater sense of responsibility are exhibited as learners are well motivated to complete each task posted on wall in the classroom (Owen & Thomas, 2019).



Agustina (2017) investigated the the impact of utilising Carousel Brainstorming to teach reading comprehension to second-year learners at SMP Negeri. The substantial impact was investigated using a one-group pre-test post-test design. Pre-test, treatments, and post-test were used to collect statistical or numerical data. The findings demonstrated an increase in learners' learning achievements related to reading comprehension, which includes the primary concept, specific information, reference and vocabulary. Rizal and Susanto (2021) also investigated whether or not implementing Carousel brainstorming strategy could enhance reading comprehension of learners of Institute Agama Islam Negeri (IAIN), Bengkulu especially Constitutional law programme learners of IAIN in the 2019/2020 academic year. The study employed both the descriptive qualitative and data. There were 30 participants in all, (i.e., girls = 23; boys = 7), who took part in the research. Reading tests, student observation checklists, lecturer observation checklists, field notes, and interviews were used in this study. The study's findings revealed that adopting the Carousel brainstorming technique enhanced learners' reading comprehension, with the improvement impacted by the use of attractive content and the lecturer's involvement with the learners. Ace and Estet (2022) investigated the effectiveness of carousel strategy on pupils' achievement in studying Earth and Space Science. They found out that pupils who were exposed to carousel strategy performem very well than those who were exposed to the conversional approach in teaching.

Rufon and Forlales (2022) assessed the effectiveness of using the Carousel Brainstorming instructional strategy to improve the narrative reading skills of learners of MA Ar-Rosyidiyah Bandung during the 2013-2014 academic year. The investigation employed the one-group pre-test post-test experimental design. In all,



40 learners were engaged. The investigation's result proved that the achievement of narrative reading skill test increased or improved significantly after using Carousel Brainstorming technique. Rufon and Forlaes (2022) concluded that Carousel Brainstorming technique is effective to improve student's narrative reading skill. A study conducted by Simon (2013) found that an effective use of Carousel Instructional strategy place learners to be the centre of learning. The author added that as the result of this engagement, learners are placed in a position to explore many areas of a concept learnt, thereby facilitating their creative and innovative credentials. Bellal (2015) discovered in the study on the contribution of Carousel Instructional Strategy for promoting socialization and team- spirit which serve as a catalyst to drive the attainment of an organisational goal. The author indicated that such goal attainment would challenge members in the organisation to support one another at all times to achieve a common goal for the organisation.

Nadia, Haider, and Mohammed (2020) in their studies on effects of carousel on acquisition of historical skills by fourth-grade learners, found the Carousel Strategy to be helpful which recorded a significance difference of 2.02. The authors indicated that the female learners who were in experimental group were motivated through Carousel Strategy to develop historical thinking skills to connect their previous ideas to the topic learnt. Thakur and Chauhan (2021) found in their study that Carousel Instructional Strategy inculcates in learners' the knowledge and skills after teaching and learning process. Tunrayo, Kayode and Samson (2021) corroborate Turner, Logan and Wilks (2021) and stress that knowledge and skills gained from Carousel Instructional Strategy enable learners to explore many challenging task in their academic pursuit.

Slapac (2021) in the studies found that Carousel Instructional Strategy equips learners with varieties of creative activities that support effective teaching and learning, during the contact hours in the classroom. Lestari (2014) also found Carousel Instructional Strategy as an efficient and effective strategy with average marks of learners who were instructed with Carousel Instructional Strategy of about 77 better than those who were instructed with Mind mapping strategy of about 74. The author ended that utilising the Carousel Instructional Strategy to teach writing is more successful than using the Mind Mapping approach. Recke and Perna (2021) found out that the Carousel Instructional Strategy encourages learners to become fully engaged readers in order to study in an atmosphere that is favourable to good teaching and learning.

Over the years, many scholars have attempted to compare the effectiveness of jigsaw instructional strategy with the traditional strategy of instruction on learners' reading comprehension capability and noted different results. This section appraises some of the studies that compared jigsaw and the traditional instructional strategies on learners' reading comprehension prowess. The efficacy of the cooperative Jigsaw II approach on enhancing literal and high ordered reading comprehension in EFL was investigated by Revathy and Kamalakkannan (2022). A pretest-posttest control group experimental design was used in the investigation, which included 48 EFL learners. To answer the study's questions, descriptive statistics (i.e., means and standard deviations) were produced, as well as a multivariate analysis of covariance test (MANCOVA). Regarding the dependent variables of total reading comprehension and literal understanding, there were no major changes between the control and experimental groups. Nevertheless, on the

measure of higher order understanding, the findings indicated a substantial variation in favour of the experimental group.

Sabbah (2016) investigated the impact of adopting the jigsaw cooperative technique on ELS learners' reading comprehension success. A quasi-experimental pre-posttest design was adopted in the investigation. Female learners enrolled in the fourth Level of the reading courses in the Foundation Programme at Qatar's Community College (CCQ) were utilised for convenience sample of the two classes. The experimental group ( $n = 16$ ) was taught seven units in the “Real Reading Textbook” using the jigsaw technique, whereas the control group ( $n = 10$ ) was taught using the usual strategy-no grouping. The posttest scores of the pupils were analysed using ANCOVA. The findings showed that the experimental group had a considerable advantage.

Keshta (2016) investigated the effect of applying the Jigsaw Strategy on increasing reading comprehension and communication skills of Rafah learners in their 11th grade. The research used an experimental design and a group of 76 EFL female learners from Al-Quds secondary school in Rafah as participants. Keshta divided the learners into two groups of six: one was classified as an experimental group with 36 learners, while the other was labeled as a control group with 40 participants. In the school years' first term, the control group was taught using the usual approach, whereas the experimental group was taught using the jigsaw strategy. The data was analysed using means and standard deviations, along with t-test. The research found substantial variations in acquiring English reading comprehension and communication skills between the experimental and control groups, with the experimental group outperforming the control group owing to the use of the jigsaw technique.

Namaziandost, Gilakjani and Hidayatullah (2020) also studied impact of the Jigsaw approach on the reading comprehension of Iranian EFL learners. Fifty Iranian pre-intermediate EFL learners with ages 16-18 attended 20 lessons (i.e., 2 lessons taught every week). The jigsaw method was used to teach half of the pupils (i.e., experimental group). Those in the next group were taught in a conventional manner (i.e., control group). Learners were re-evaluated after 10 weeks with pre-test post-test design. The Oxford Quick Placement Test (OQPT) and a reading comprehension pre-test were employed. The researchers used both dependent and independent samples t-test. Means testing indicated that the experimental group outperformed the control group on a posttest of L2 reading comprehension. According to Namaziandost et al., supervisors should offer training sessions for English instructors to enhance their understanding of the necessity of employing the Jigsaw technique in delivering lesson regarding reading comprehension and communication skills.

Kazemi (2012) as well conducted a thorough investigation on the impact of the jigsaw teaching approach on the performance of Iranian EFL learners regarding reading comprehension. The jigsaw puzzle instruction was given to a total of 38 people. Learners were separated into groups in the experimental class, each with its own reading subject to explore. Following the reading, each home group was divided into new groups, with one member from each of the original groups. Each learner in the expert group was accountable for incorporating his or her subject knowledge into the understanding of the new group he or she was in when the new groups were formed. The TOEFL exam was delivered to the participants for both proficiency and reading accomplishment goals. Following the collection of the

relevant data, a dependent samples t-test revealed that the learners' post-test reading marks improved considerably when matched against their pre-test reading marks.

Kardaleska (2013) looked at the impact of adopting the Jigsaw method on reading comprehension, specifically in an ESP learning setting. The examined subject included presidential elections in the United States, presidential powers, restrictions, and other connected issues. The study's participants were split into two groups: experimental and control, each with a similar number of pupils. The Jigsaw technique was used to read many texts to the experimental group. Individually, the control group read the identical texts. After reading each text, the participants in both groups were asked the identical questions to test their understanding. A variety of items connected to the lesson's theme were discovered. The choices ranged in complexity and sophistication. There were four separate portions chosen. The class was divided into four-person cooperative teams. Both the experimental and control groups were made up of 16 people. Both the experimental and control groups were given 12 questions, six of which were clear and six of which were indirect. After the investigation, it was discovered that the experimental group that was exposed to the jigsaw strategy had better performance.

Rahmawati, Poba, Magfirah and Burase (2022) investigated the effects of jigsaw technique in collaborative learning and that of classical learning method on the academic performance of the learners on the learning of concepts in the principles of methods and teaching course. Eighty second year learners of the Ataturk University Kazim Karabekir Education Faculty taking the teaching principles and methods course participated. The participants were separated into two groups namely the collaborative (experimental) group (n = 40) using the collaborative learning (i.e., jigsaw approach) and the other group employing the

traditional learning method (control) group (n = 40). The study employed the Programme Development Success Test (PGBT). Means and standard deviations, and independent samples t-test were used in analysing data. Kilic observed that the experimental group's average success was greater than the control group's. The researcher recommended that the jigsaw technique ought to be employed in all educational spheres.

By comparing jigsaw teaching to standard lecture instruction, Pan and Wu (2013) evaluated the influence of employing jigsaw to improve EFL freshmen's English reading comprehension and learning motivation. Over the course of a semester, this experiment was conducted in a Freshman English Reading course, a two-credit course with two hours of teaching every week. The research included 78 EFL learners enrolled in Freshman English Reading classes, 44 of whom were in the experimental group and 34 in the control group. The research used a quasi-experimental pretest-posttest comparison group design. The experimental group was given a reciprocal jigsaw lesson, whereas the control group was given a regular lecture lesson. Three English reading achievement tests and an English learning motivation rating were given to the two groups. Means, standard deviations, t tests, and one-way ANCOVA helped in analysing data. The results showed huge variations in favour of jigsaw teaching on English reading comprehension, especially among learners with a medium or low competence level.

In addition, cooperative learning instruction had a considerable favourable impact on student desire to acquire English reading. In university-level EFL reading classrooms, Pan and Wu highly urged that instructors adopt cooperative learning teaching. By contrasting cooperative learning instruction with standard lecture teaching, Nejad and Keshavarzi (2015) evaluated the impact of jigsaw on L2

reading comprehension capacity for pre-university learners. This research included 70 pre-university learners in Shiraz majoring in experimental sciences (i.e., 35 individuals in the experimental group, 35 individuals in the control group). For an eight-week period, the experimental group utilised the cooperative learning strategy “Ask together, learn together”, while the control group used the standard method, which is traditional lecture teaching, to teach four reading comprehension lessons from a pre-university textbook. Three tools were used to obtain the necessary data for the study: two reading comprehension achievement tests and an attitude questionnaire. In comparison with the impacts of standard teaching approaches, the research found that jigsaw had a greater impact on L2 reading comprehension abilities.

Similarly, Revathy and Kamalakkannan (2022) examined the impact of the cooperative jigsaw II approach and the standard teacher-centered teaching method on enhancing vocabulary knowledge, active–passive voice, and learners' perspectives toward learning English in EFL for engineering learners. A pre-test–post-test control group experimental design was used in the investigation, which included 66 engineering learners. The participants were divided into two groups at random: an experimental and a control group. The experimental group employed cooperative Jigsaw II as their mode of education, whereas the control group used conventional teacher-centered instruction. As a pre-, post-, and delayed post-test, the groups were given an accomplishment test. Regarding the dependent variables of developing vocabulary knowledge and learning active–passive voice in English, the findings indicated huge variations in favour of the experimental group.

Nurwanti, Asrifan, and Haedar (2019) also conducted a study with the goal of determining the usefulness of the Jigsaw II approach in teaching reading



comprehension of expository texts. In gathering and analysing the data, Nurwanti et al. used a quantitative technique based on a quasi-experimental design. The experimental group and the control group were both included in the study's design. The experimental group was taught with the Jigsaw II methodology, whereas the control group was taught with the traditional way or without utilising the Jigsaw II technique at all. Sixty-four eleventh grade learners of SMAN 8 Takalar were selected from a population of 93 learners with the cluster sampling technique. To determine learners' reading comprehension in terms of literal, inferential, and critical of expository text, data from the test were analysed using the t-test. The questionnaire data was analysed with descriptive statistics to determine the learners' interest in participating in an expository text reading lesson utilising the Jigsaw II approach. According to the data, the Jigsaw II strategy contributed more to learners' reading comprehension of expository content.

Contrary to the observations presented above, Jezikova (2020) looked at how the cooperative Jigsaw technique and previous beliefs about the issue affected understanding and integrating contradictory information in numerous sources. As a result, 78 Dutch pre-vocational learners were divided into two groups: experimental and control. All participants were instructed to read four texts offering different viewpoints regarding broiler chicken alone or in groups to test multiple documents reading comprehension. As a result, they each wrote a brief essay in which they shared their thoughts on the subject. In addition, participants' views regarding this issue were examined before and after the experiment. In addition, the experimental group completed the reading task using the jigsaw approach and had their collaboration quality assessed. The essays were scored on content elements, main messages, and the number of articles they were retrieved from, resulting in an

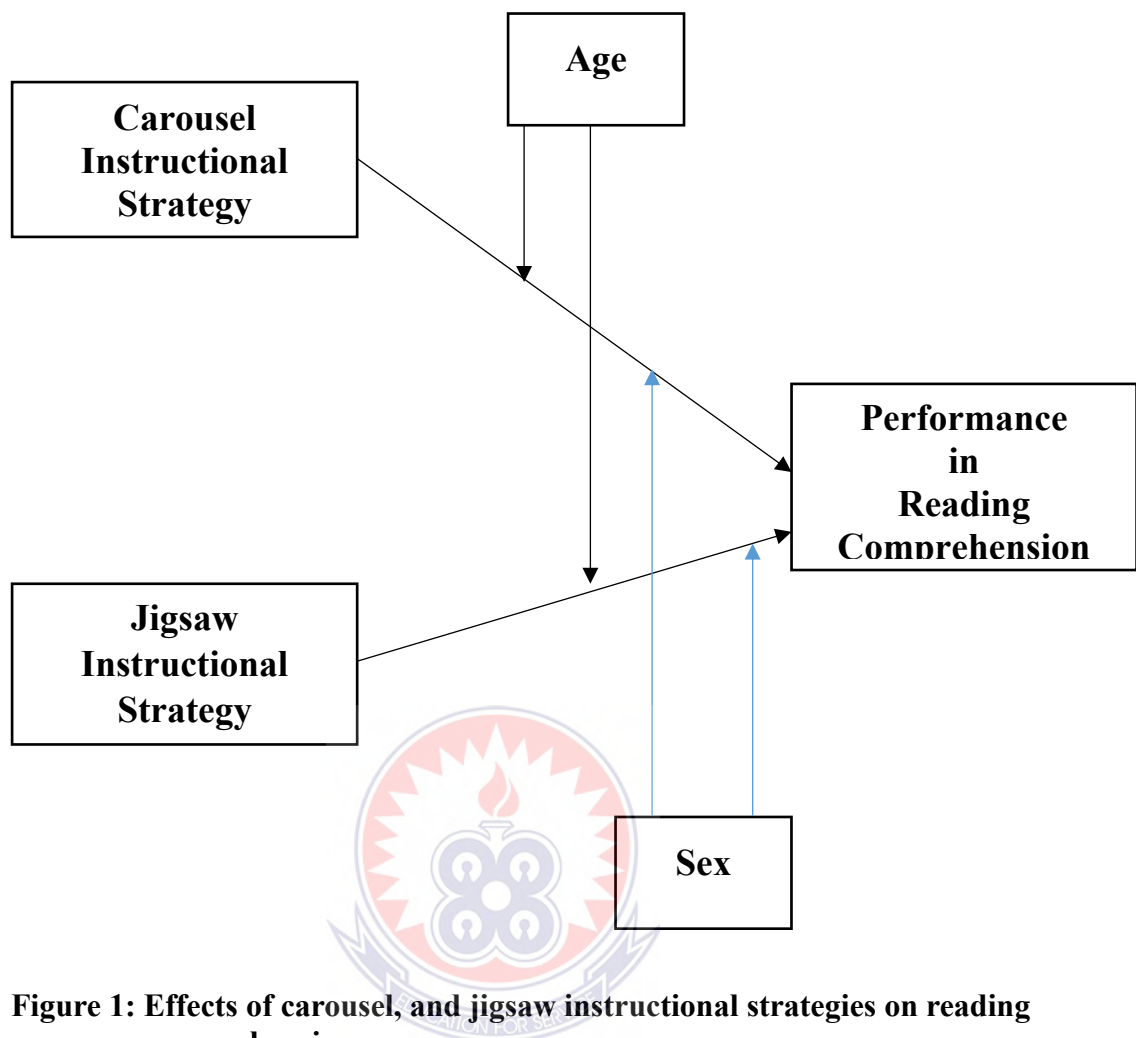


overall score of multiple documents reading comprehension. The reading comprehension of learners executing the test jointly or separately did not change significantly as a result of hierarchical regression.

Ruyter (2020) also looked at whether the Jigsaw technique has an effect on task motivation and multiple document reading comprehension. A pre-test-post-test experiment was undertaken with 83 Dutch prevocational education learners in their first and second years. Reading comprehension level was assessed with the SALSA-test. Means, standard deviations and regression analyses were conducted. Among the Jigsaw group and the individual group, there were no substantial variations in multiple documents reading comprehension results.

## **2.4 Conceptual Framework**

Based on the literature reviewed, the study models the hypotheses in a conceptual framework, as presented in Figure 1. From the conceptual framework, the study proposes that each of the two instructional strategies, namely, carousel, and jigsaw, when applied to learners struggling in reading comprehension would improve. This investigation further proposes that after learners with reading comprehension difficulties have been taken through carousel, and jigsaw instructions, their performance in reading comprehension would differ with respect to sex. That is, males and females are not likely to perform at par. Similarly, the study proposes that after carousel, and jigsaw interventions have been administered to learners with reading comprehension difficulties, their performance would differ in terms of their age categories. In sum, the study sought to examine whether the effectiveness of the two instructional strategies can be moderated by age and sex.



**Figure 1: Effects of carousel, and jigsaw instructional strategies on reading comprehension**

## 2.5 Summary of Literature Review

The variables for the literature review were carousel and jigsaw instructional techniques on the performance of learners with reading comprehension difficulties. An effort was made to explain these variables. Each group begins at one of the workstations and works collaboratively to finish the tasks in a carousel-style class. All groups cycle to the next workstation after a certain length of period, so that by the conclusion of the class, the learners have finished all tasks. Carousels offer learners the option to travel about the classroom in a circular pattern, similar to a genuine carousel. Movement throughout the room while learners engage in a

range of activities is attractive to all learners, not just those who flourish in a more kinaesthetic setting.

Jigsaw instructional strategy creates an ideal learning atmosphere for language acquisition via relevant material, academic skill development through carefully designed reading and writing tasks, and subject exploration through intentional discourse in the classroom. Moreover, researchers such as Jacobs et al. (2021) consider that Jigsaw is suited for a course or subject that requires learners to apply problem-solving abilities to complicated, tough issues containing several bits of knowledge required for comprehensive mastery.

The study was based on the following theories: ELT, SDM, and CSLT. Moreover, this study hypothesised that jigsaw, and carousel instructional strategies will significantly improve the English reading comprehension skills of school pupils. Basically, this investigation compared the effects of jigsaw and carousel instructional techniques in improving learners' English reading comprehension skills. Additionally, a number of studies were appraised to help in confirming or refuting the observations that have been made by other scholars in literature. This made is possible in in arriving at the study's hypothesis.

## CHAPTER THREE

### METHODOLOGY

#### 3.0 Introduction

This chapter described the different procedures that would be followed and the methods that would be used for the study. Research approach: Quantitative approach- refers to research which uses quantitative elements in a single study (Creswell, 2014).

#### 3.1 Research Paradigm

This study is driven by the positivists' view. In an epistemological perspective, positivist described knowledge in a systematic way and which could verify hypotheses that could be regarded as facts or law. From an ontological standpoint, positivists believe that there is an objective genuine reality that is regulated by unchanging inherent cause-effect principles.

#### 3.2 Research Approach

This study adopted the quantitative approach. This approach has certain believes that drive the research and that is known as objectivism and positivism, hence, known as “the scientific research” (Creswell, 2014). There is only one actual fact that is isolated from the researcher's views, according to the quantitative method. The researcher is unaffected by the phenomena under inquiry, and he is neither impacted nor affected by it. The basic purpose of quantitative research is to use a value-free paradigm to quantify causal correlations (Creswell, 2014).

### 3.3 Research Design

Quasi experiment nonequivalent groups pretest - posttest control group design with delayed posttest was adopted for this study. This design was appropriate because of its practicality offered in real life when dealing with learners who were already in schools (Ace & Ester, 2022). The researcher used already established intact groups of participants. The participants were not allocated to the groups at random. Three groups were used, out of which two were assigned each to carousel and jigsaw intervention groups. The third group was, however, assigned to the control group (traditional method). Pre-test was administered to both experimental and control groups, after which intervention was meted out on participants in the experimental groups. Both the experimental and control groups were given a post-test (Creswell, 2014). A delayed posttest was administered three weeks after the posttest. This was to confirm the sustainance and relative stability of the teaching interventions given to the participants.

In the nonequivalent pretest-posttest control-group design with delayed posttest, the researcher used unaltered groups that were identical (Trochim, 2020). With this type of design, as Creswell (2014) put it, there is no randomization of subjects for the study. Owing to no randomization of subjects to represent in the study, Trochim (2020) suggested, that researchers ought to make every effort to choose groups that are as comparable as feasible so that they may compare the treatment and control groups properly. Again, the investigator would be able to analyse any changes that could have happened to the groups after treatment by comparing the pre-test and post-test measures to the control group to determine the changes after the intervention in a non-equivalent pretest-posttest control-group design. Finally, this approach allowed the investigator to assess the effectiveness of

each therapy and provide recommendations for its use in teaching reading comprehension in the Public Junior High Schools in New Juaben South Municipality, Koforidua.

### **3.4 Population**

The population comprised JHS Two Learners in the New Juaben South Municipality, Koforidua who were identified through Maze Reading Comprehension Achievement Test as having difficulty in RC. Specifically, the study targeted LWRCD (Learners with Reading Comprehension Difficulties) from among 21 schools randomly sampled from the 42 schools in the New Juaben South Municipality through the multi-stage sampling procedure.

#### **3.4.1 Identifying the population for the study**

Since there was no readily available list identifying learners with reading comprehension difficulty in the municipality, a multistage procedure was used to identify learners with reading comprehension difficulty. Multi-stage sampling, according to Kaplan (2014), is a more complex kind of cluster sampling in which larger clusters are further broken into tinier and more focused groups for survey reasons. Kaplan further explained that multi-stage sampling may be simpler to administer and result in a more representative sample of the population than single sampling techniques.

In this study, the schools in the New Juaben South Municipality in Koforidua were put into seven strata known as circuits. The schools in each of the circuits were stratified based on specific characteristics called strata. Each stratum was then sampled and simple random sampling with the aid of table of random numbers generated by the researcher to select the twenty-one (21) schools out of

forty-two schools (42) for the study (Thomas, 2020). The researcher was able to select three (3) each of the schools from the seven circuits which were Srodae, Betom, Ada, Adweso, Nsukwao, Nyeredede and Oguaa Circuits within the municipality. These 21 schools had a total of 698 learners. These learners were screened to identify those with difficulty in reading comprehension as the targeted population for the study.

Further, in determining the population, the curriculum-based measurement maze assessment was conducted on all the 698 JHS Two learners from the 21 schools selected. Learners who obtained scores ranging from 0 to 150, out of a total of 300 were considered as LWRCD (Learners with Reading Comprehension Difficulties), and this constituted the population for the study. From the maze assessment, 215 learners had scores of 150 or below, and they became the focus of the study since they were identified as LWRCD. Therefore, the population for the study was 215 LWRCD (Learners with Reading Comprehension Difficulties). Table 1 shows the distribution of 698 learner from the 21 schools.

**Table 1: Distribution of Learners in the Selected 21 Schools**

S/N	Circuit	No. of Schools	Male	Female	Total
1	Ada	6	40	60	100
2	Srodae	8	44	56	100
3	Betom	3	49	51	100
4	Adweso	6	47	53	100
5	Nyeredede	4	52	47	99
6	Nsukwao	8	41	58	99
7	Oguaa	7	48	52	100
<b>Total</b>		<b>42</b>	<b>321</b>	<b>377</b>	<b>698</b>

Source: Field survey (2020).

From Table 1, 321 of the learners are males while 337 are females.

### 3.5 Selection of Participants

In determining the participants for the study, the 21 schools were ranked in terms of the proportion of LWRCD. The top three schools were selected because they had majority been identified as LWRCD. The participants of three selected schools were fifty-one (51). Table 2 shows the distribution of the schools and the number of learners identified with reading comprehension difficulty.

**Table 2: Distribution of Learners with Reading Comprehension Difficulty**

School	Sex		Total	Percent (%)
	Male	Female		
XXX1	10	7	17	7.9
XXX2	8	5	13	6.0
XXX3	5	3	8	3.7
XXX4	3	3	6	2.8
XXX5	5	2	7	3.3
XXX6	9	8	17	7.9
XXX7	2	5	7	3.3
XXX8	4	3	7	3.3
XXX9	10	7	17	7.9
XXX10	5	4	9	4.2
XXX11	6	2	8	3.7
XXX12	7	3	10	4.7
XXX13	3	7	10	4.7
XXX14	5	3	8	3.7
XXX15	6	6	12	5.6
XXX16	3	5	8	3.7
XXX17	5	7	12	5.6
XXX18	8	5	13	6.0
XXX19	5	3	8	3.7
XXX20	4	6	10	4.7
XXX21	5	3	8	3.7
<b>Total</b>	<b>118</b>	<b>97</b>	<b>215</b>	<b>100</b>

Source: Field data (2020); \*XXX1 – XXX21 = Pseudonyms of schools



Based on the distribution of learners with reading comprehension difficulty as shown in Table 2, the following schools: XXX1, XXX6, and XXX9 were purposively selected because they had the highest proportion of learners with reading comprehension difficulty, thus 7.9% each. Purposive sampling was chosen because it offered the researcher the opportunity to choose schools that have relatively higher number of LWRCID resulting in an impartial depiction of a group (Hayes, 2020). Additionally, these schools were selected because the treatment package for the interventions required learners to interact among themselves which place them at the centre of the learning process. Schools with relatively smaller number of LWRCID could not be considered because their numbers would not facilitate the effective implementation of the treatment package. The three selected schools were assigned to the experimental and control groups. Two were given carousel and jigsaw treatment interventions, whereas the other group (control group) went through their usual activity on reading comprehension.

### **3.7 Instrument**

Achievement test was designed for purposes of data collection in this study. The curriculum-based measurement (CBM) Maze passages were used to gather data for both pretest and posttests for participants assigned for Carousel, Jigsaw Experimental Groups and Traditional method of teaching reading comprehension as Control Group. The CBM Maze passages were drawn from Golden English for JHS Two and English Language Text Book for JHS Two Learners, both of which were based on the current Ghana Education Service Standard-based Curriculum released by the National Council for Curriculum and Assessment (NACCA) in 2019. The Maze can be administered to a whole class at one time. Passages used for Maze should be at least 300 words in length. The first sentence of the Maze passage is left

intact. In the text following the first sentence, every seventh word from the passage is selected to be incorporated into a response item that consists of the original word plus two foils (words that would not make sense if substituted in the passage in place of the original, correct word). These three choices are randomly arranged and inserted back into the text. During a timed Maze administration, the reader silently reads the Maze passage; whenever he or she encounters a response item, the reader circles the word from the three choices that best restores the meaning of that segment of the passage. The reader continues until time expires (Conoyer, Lembke, Hosp, Espin, & Poch, 2017). Twenty (20) test items were generated from Curriculum-based Measurement Maze Passages used to screen experiencing reading comprehension difficulties. The twenty (20) CBM Maze Passage test items were shown to my supervisors for guidance and direction before they were administered to learners. Some senior lecturers in the English Language Department, Winneba and Legon were also sought by the researcher to critique the items and inputs made. The items were piloted to establish its reliability before pretest and posttests were initiated. The scheme of work, APPENDIX D1 lesson notes (APPENDIX D2, sample passage selected for Maze Achievement Test (APPENDIX D3), Maze Passage Test Items (APPENDIX D4) and Marking Scheme was also displayed at the (APPENDIX D 5).

### **Procedure for Curriculum-Based Measurement Maze Reading Comprehension Test**

Curriculum-Based Measurement Maze Reading Comprehension is a simple, time-efficient tool used to screen learners with reading-comprehension difficulty and to monitor their progress while receiving an intervention to improve text comprehension (Gutierrez, Jimenez & de Leon, 2022). According to the authors, the

first sentence of the Maze passage is left intact. In the remainder of the passage, every seventh word is selected to be incorporated into a response item that consists of the original word plus two foils (words that would not make sense if substituted in the passage in place of the original, correct word). These three choices are randomly arranged by maze generator and inserted back into the text. When reading the Maze passage, the reader reviews each response item and circles the word from the three choices that best restores the meaning of that segment of the passage.

**Directions:** This Maze Passage Generator largely automates the work of creating a Maze passage with user-entered content. To get started, type or paste the passage that you would like to convert in the Passage box below. You can also optionally type in the Author and/or Title of the passage. NOTE: To compute readability, click on the COMPUTE button below your computer under 'Readability Estimates'. Selecting Foils for the Maze Passage. The application allows you three choices in selecting foils to be included in the Maze responses:

- **Basic list of common English words.** The application selects foils from a list of common words; this is the default outcome if the user does not select another choice.
- **Words selected randomly from your passage.** The application uses words randomly pulled from your passage as foils. This can be a good choice for more technical text, to ensure that foils are consistent with the overall passage content.
- **Your own word list.** You can enter a word list of your own that the application will use in selecting item foils for the Maze passage.

## STEP 1

### **Distractor Source**

Select the source that the Maze passage will use to select distractors for choice items:

- ◆ Basic list of common English words
- ◆ Words selected randomly from your passage
- ◆ Enter your own word list

## STEP 2

**Directions:** Below you will see the original words (**in boldface**) selected from every seventh word in the passage that are to be incorporated into response items. Next to each original word in bold appear two foils highlighted in red selected by the application to be displayed in random order to fill out a Maze 3-word response item.

Compare each boldface original word to the pair of foils that appears next to it in parentheses. If either of the two foils in a pair could actually make sense if substituted for the original word that foil needs to be replaced. To replace any of the foils that appear in red highlight, simply click the cursor once over a specific pair of foils. New foils will appear to replace them while the remainder of the document remains unchanged. Continue this process until you are confident that no foils make semantic sense in context in the paragraph.

## STEP 3

**Directions:** Look over the ‘preview’ version of your generated Maze passage below. (TIP: Click on any of the ‘readability estimate’ formulas below to include these readability estimates in the final version of your passage.) Readability estimates (a minimum of 75 words is needed to reliably estimate readability.) Tick

the appropriate readability estimates you want to use, which will suit the passage. Examples of selected Maze passages from learners' course book and its respective marking scheme see APPENDIX D4 and D5 respectively.

### Picture Illustration of Maze Reading Comprehension Passage Generator

The screenshot displays the 'INTERVENTION CENTRAL' website interface. The header includes the logo and the tagline 'Your source for RTI resources'. A navigation menu lists: Home, Academic Interventions, Behavior Interventions, Videos, Products, Workshops, CBM/Downloads, Blog, and Contact. The main content area is titled 'Test of Reading Comprehension - Maze Passage Generator'. It features social media sharing buttons for Like, Tweet, Print, and Email. A note states: 'If you have any suggestions or comments about this tool, please mail me.' Below this, three numbered options are listed for selecting foils: 1. 'Basic list of common English words', 2. 'Words selected randomly from your passage', and 3. 'Your own word list'. A 'Next' button is visible. The form includes fields for 'Title', 'Author', and a large 'Passage' text area. Below the text area, it shows 'Word Count: 0 (Min: 20 Max: 900)' and a checkbox to 'Remove all line breaks to create a single-paragraph passage'. A section titled 'Distractor Source' has three radio button options: 'Basic list of common English words [?]' (selected), 'Words selected randomly from your passage [?]', and 'Enter your own word list [?]'. At the bottom, there is a 'Next' button and a 'Readability Estimates (?)' section with a note '(A minimum of 75 words is needed to reliably estimate readability.)' and two checkboxes: 'Treat semi-colon as new sentences (?)' and 'Treat colons as new sentences (?)'. A large watermark for the University of Education, Winneba is overlaid on the page.

### **3.8 Procedures for Data Collection**

The research procedure for this study was segregated into: (a) pre-treatment stage, (b) treatment stage and (c) post-treatment stage.

#### **3.8.1 Pre - treatment**

A consent was sought from the three JHS Head Teachers as well as Form Teachers in these respective schools, in New Juaben South Municipality for data collection process. Learners who scored 50% and below of CBM maze test were selected to participate in this current study. English Language Teachers in these three JHS were also selected as research assistance for the study. The teachers' inclusion in the study were necessary to be able to pinpoint number of comprehension passages which should be reserved purposely for the study. The selected passages were used for the scheme of work as well as lesson note preparation. For the scheme of work and the lesson notes for the groups were also displayed at the APPENDIX D1 and D2 respectively. The researcher administered the twenty (20) test items to all the groups. Thus, Jigsaw Experimental Group, Carousel Experimental Group, together with Control Group (Traditional Method). The three (3) sets of CBM Maze Reading Comprehension Achievement Test was used as pre-test items were administered to the learners to ascertain the baseline performance across the groups before treatment was carried out to the experimental groups. The test items were administered to all the groups the same day and the same time. This was done to ensure that the objective set for this study would not be compromised. The marked scripts of all the groups for the pretest and the scores of the learners were kept by the researcher before treatment was initiated to the experimental groups. The treatment lasted for six (6) weeks argued by Blickenstaff, Hallquist and Kopel (2013) in their studies found a significant difference of



strategies which were used for treatment lasted within the same six (6) weeks period. The researcher assigned Carousel Instructional Strategy to XXX1, XXX6 was also assigned to Traditional method (Control group), and XXX9 was assigned to Jigsaw Instructional Strategy.

### **3.8.2 Treatment phase**

The treatment was followed soon after the pretest was conducted for two experimental groups.

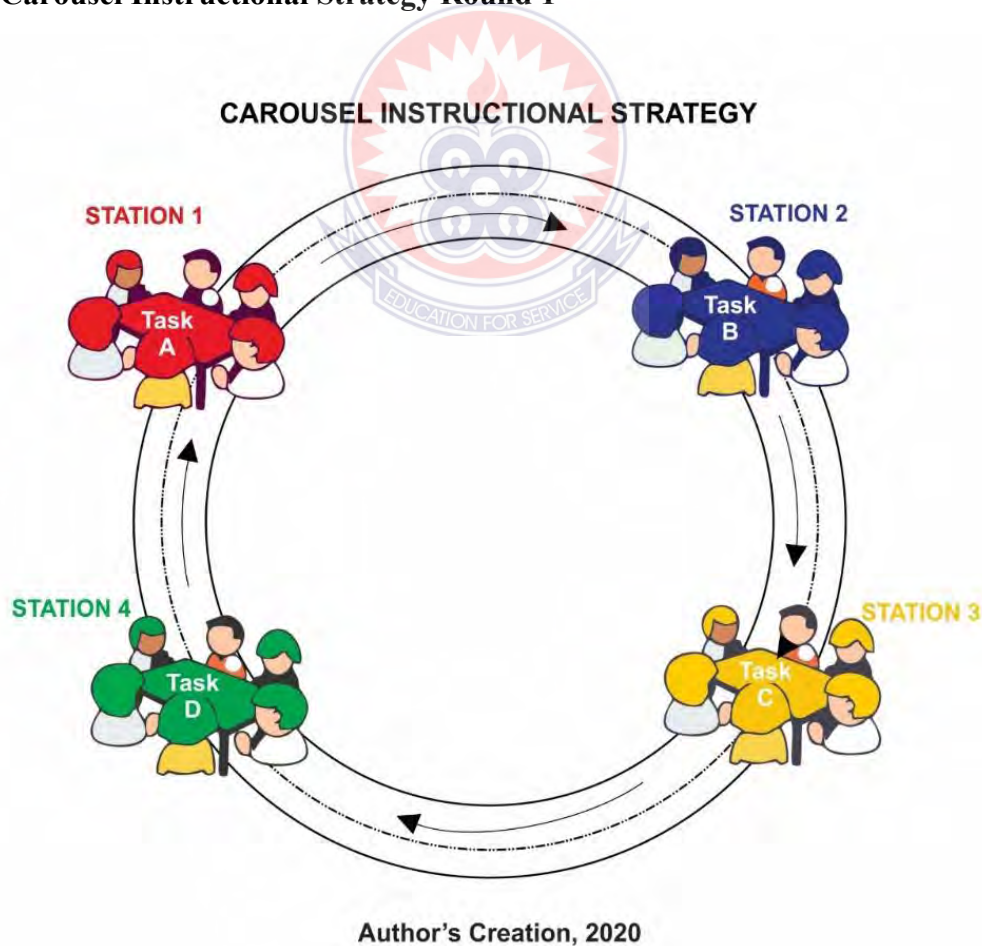
#### **3.8.2a. Carousel experimental group (KPA JHS)**

##### **WEEK ONE (Orientation and Model Practice of Carousel Title: A Market Place Paragraph One (1))**

Learners were guided to have in depth knowledge on how to engage in Carousel Instructional Strategy in the classroom on Monday 5<sup>th</sup> October to 9<sup>th</sup> October, 2020. The researcher then selected five Learners to form a group to engage in Carousel Instructional Strategy. Generally, the researcher created 4 numbered “stations” around the classroom (Gray, 2016). Based on the above passage, the researcher arranged the first paragraph into four different themes. Each themes represented one station to initiate the carousel model activity for the above passage. *For instance, “Station A”, “Station B”, “Station C” and “Station D”*. Each station consisted of a piece of chart with a reading comprehension task given for learners to response which was broken into paragraphs and its corresponding questions written beneath each of the paragraphs posted on the wall (Gray, 2016). Each group began at a different station in the classroom to read the passage carefully and respond to the questions under the passage. The Researcher sets a timer, and learners stayed at each station for that set period of time. The researcher sets 5 minutes for each

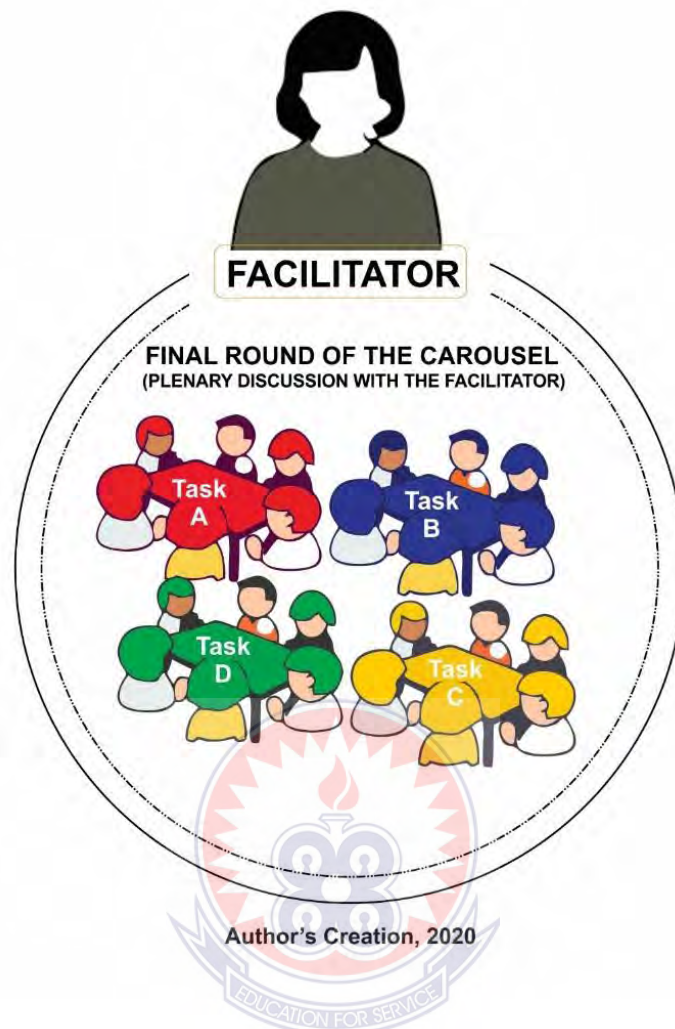
station. Gray (2016) argued that the 5 minutes period facilitates brisk pace which thereby keeping learners motivated to be fully participated in the whole activity. Learners spent 5 minutes at each station, read the questions and skimmed over any previous answers giving by other groups, and the groups then added their own ideas on the chart. When the timer went off, they moved to the next station to complete the comprehension task that had been posted on the wall. For the comprehension questions and the passage, see (APPENDIX D3 and D4 respectively). The researcher guided all the learners in the class had hands- on engagement in Carousel Instructional Strategy which lasted for 30 minutes. Below was the illustration of the Carousel Instructional Strategy used for week one treatment period.

#### Carousel Instructional Strategy Round 1





## Carousel Instructional Strategy Round 2

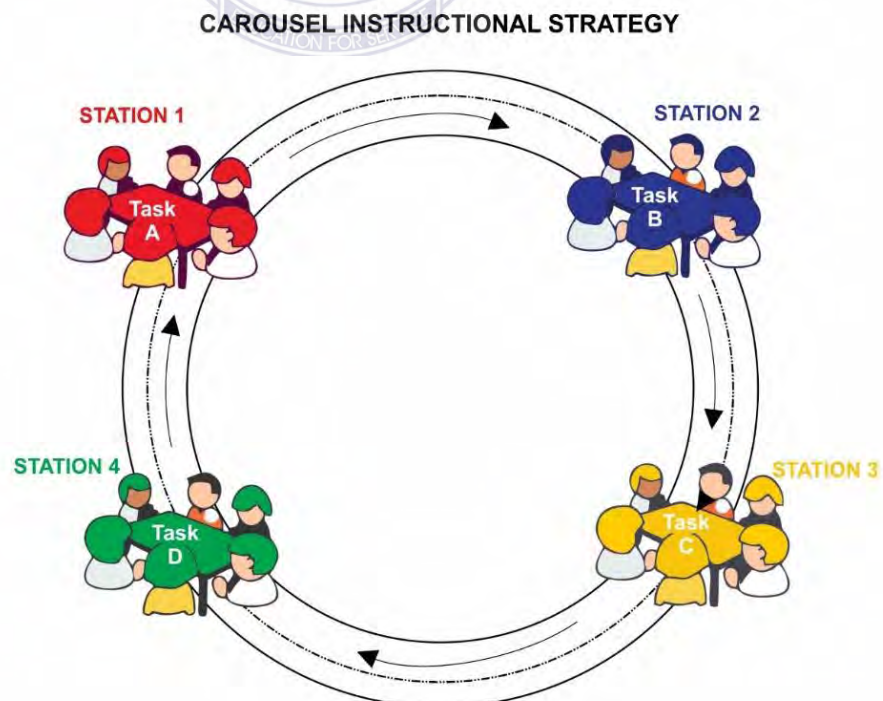


### WEEK TWO (Title: Adolescence (Paragraph Two (2)))

After a week of healthy practical engagement of learners through Carousel Instructional Strategy, the various groups were able to develop experiential knowledge and gain mastery on how to participate meaningfully in carousel activity. On 12<sup>th</sup> October to 16<sup>th</sup> October 2020, the comprehension passage used to gather the pre-test data were studied by learners through Carousel Instructional Strategy. The researcher labelled the passage into four stations owing to four paragraphs connected the whole passage. *For instance, “Station A”, “Station B”, “Station C” and “Station D”.* As stated earlier, Learners were divided into five small groups with four stations. Each station displayed four different paragraphs of

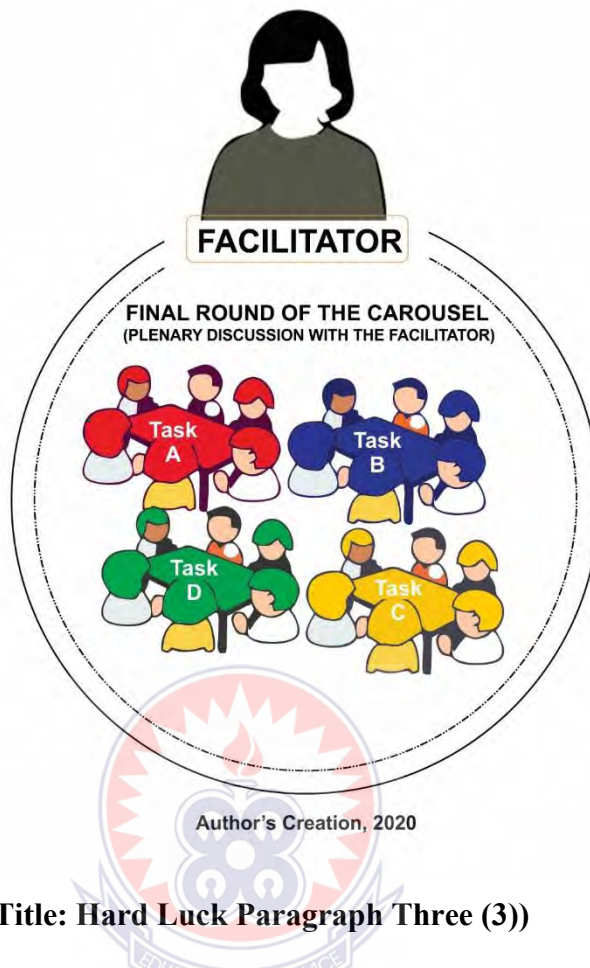
comprehension passage with it corresponding questions. Each group appointed a designated student as a group leader to be in charge for writing the corrective response from the group. The group leader otherwise known as designated student would carry along a designated coloured marker chosen purposely to show a distinction of various responses which would be given, at different stations labelled in the classroom (Gray, 2016). The researcher guided all the groups to continue rotating until all groups have the chance to visit to each one of the stations and responded to every questions posted at each of the stations. Finally, the researcher facilitated a class discussion to pinpoint areas of concern that needed further explanation to the various groups. The final discussion that ended the carousel session was vital that allowed all the groups to have deeper meaning of the whole passage. Below was the illustration of the Carousel Instructional Strategy used for week two treatment period.

### Carousel Instructional Strategy Round 1



Author's Creation, 2020

## Carousel Instructional Strategy Round 2

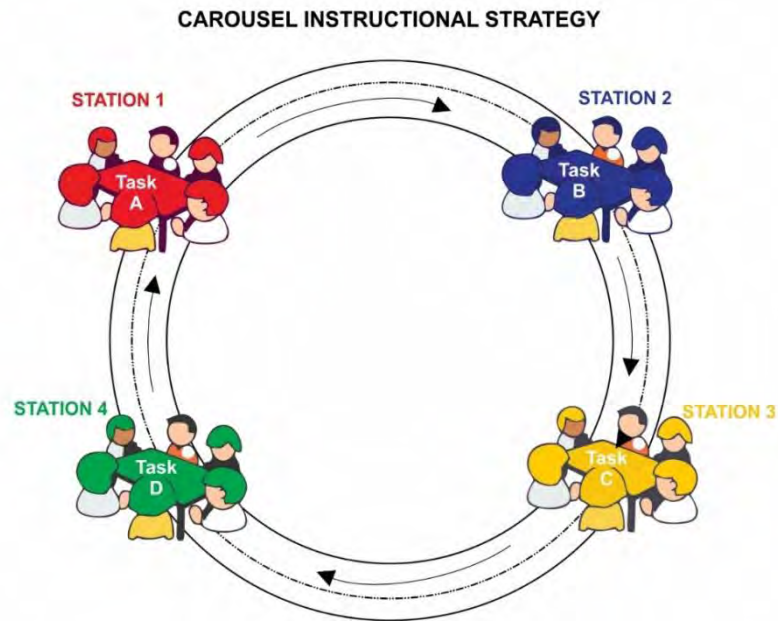


### WEEK THREE (Title: Hard Luck Paragraph Three (3))

This session of the treatment took place from 19<sup>th</sup> October to 23<sup>rd</sup> October, 2020. The above procedure for Carousel activity was carried out. The stations were five because the passage had only five paragraphs. *For instance, "Station A", "Station B", "Station C", "Station D", "Station E", "Station F" and "Station G".* The researcher carefully aligned all the comprehension questions to its appropriate paragraphs that would challenge the thinking level of the various groups. At this point of the third week, various groups demonstrated mastery and be able to understanding the carousel principles very well. The groups were guided to visit each of the stations and the necessary responses were offered by various groups.

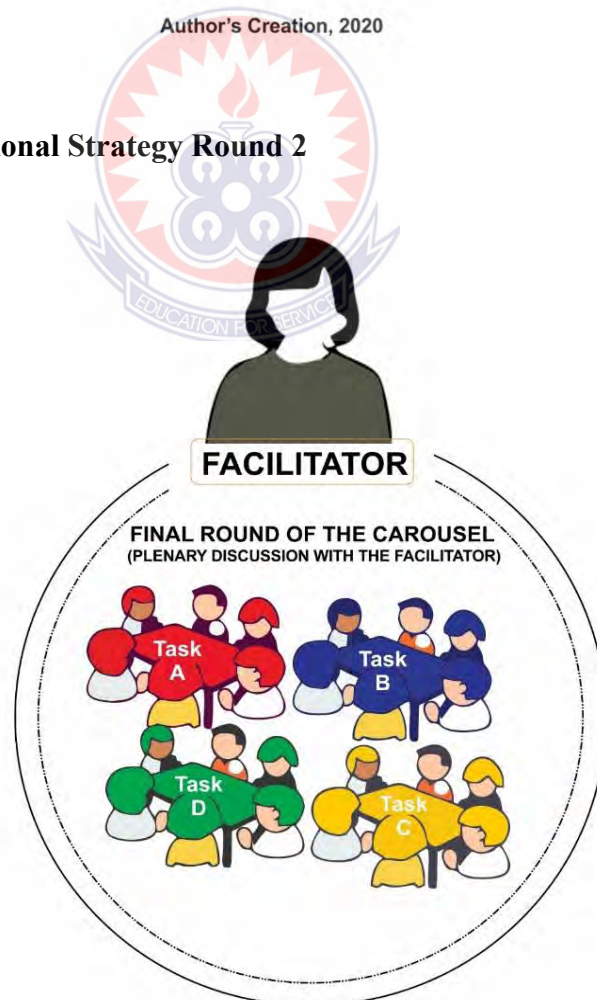
Below was the illustration of the Carousel Instructional Strategy used for week three treatment period.

## Carousel Instructional Strategy Round 1



Author's Creation, 2020

## Carousel Instructional Strategy Round 2



Author's Creation, 2020

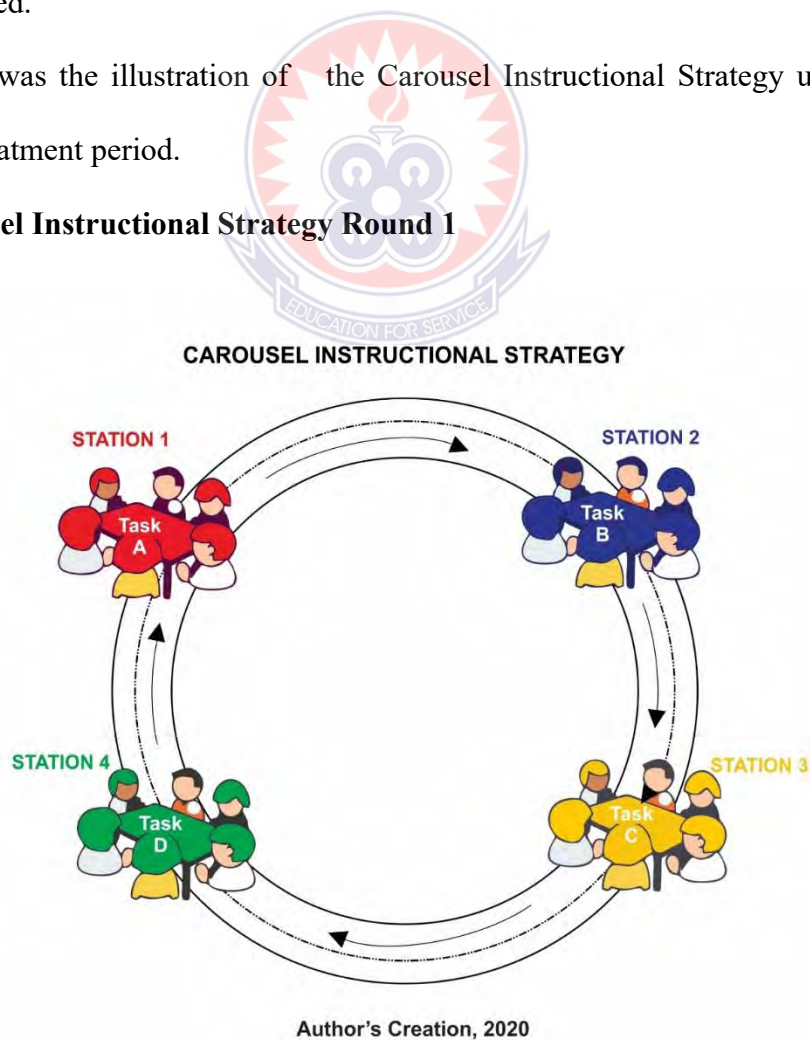


## WEEK FOUR (Title: Election Day at Dwenewoho Paragraph Four (1))

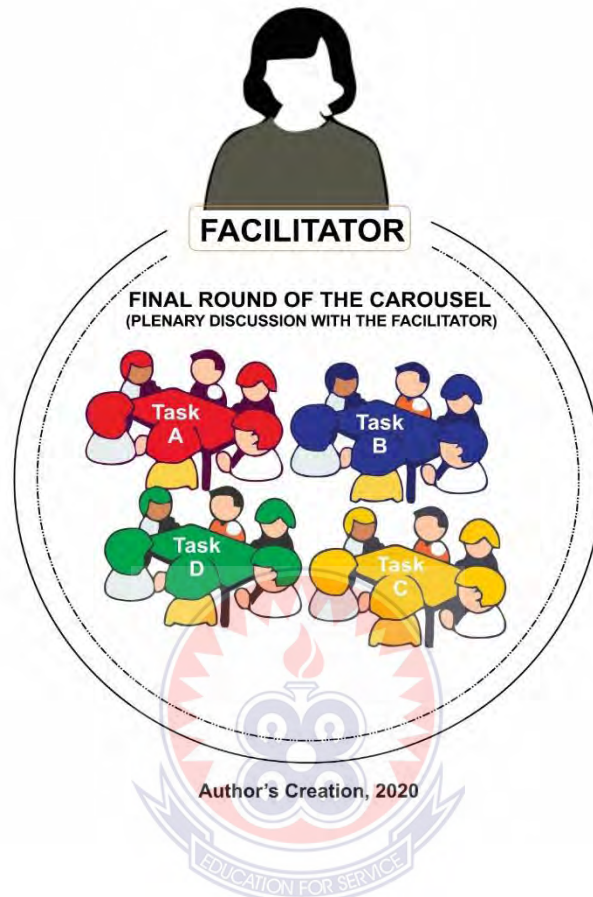
The treatment continued for the fourth week with different comprehension passage selected from the scheme of work as it was done throughout the six weeks' period slated for the treatment. The treatment took place from 26<sup>th</sup> through to 30<sup>th</sup> October, 2020. The researcher was committed to have seven stations with Carousel Instructional Strategy. The various groups were able to communicate their ideas intelligibly to critique the work of other group members to generate a healthy discussion among the group. Only few mistakes were recorded by the researcher from groups' responses. The groups were guided to visit all the stations and offered their responses to questions posted below each of the comprehension passages' presented.

Below was the illustration of the Carousel Instructional Strategy used for week four treatment period.

### Carousel Instructional Strategy Round 1



## Carousel Instructional Strategy Round 1



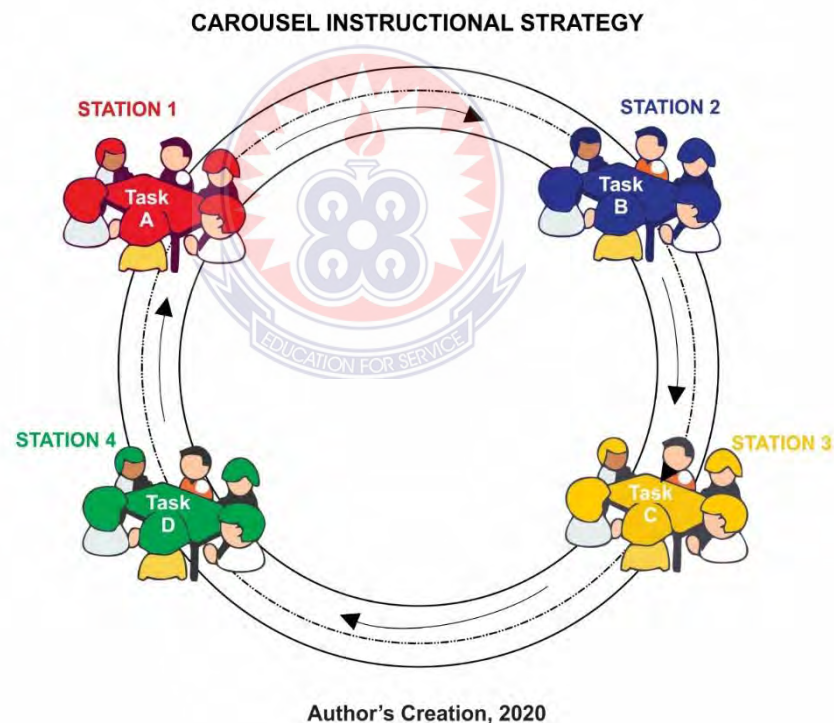
### WEEK FIVE (A Family by the Sea Paragraph Five (1))

The researcher devoted week five and six for treatment of the above passages. The treatment took place from 2<sup>nd</sup> November to 6<sup>th</sup> November, 2020. The researcher repeated week two carousel activities to give opportunity to quite number of learners who demonstrated difficulties when that passage was taken. *For instance, “Station A”, “Station B”, “Station C”, and “Station D”.* As stated earlier, Learners were divided into five small groups with four stations. Each station displayed seven different paragraphs of comprehension passage with it corresponding questions. Each group appointed a designated student as a group leader to be in charge for writing the corrective response from the group. The group

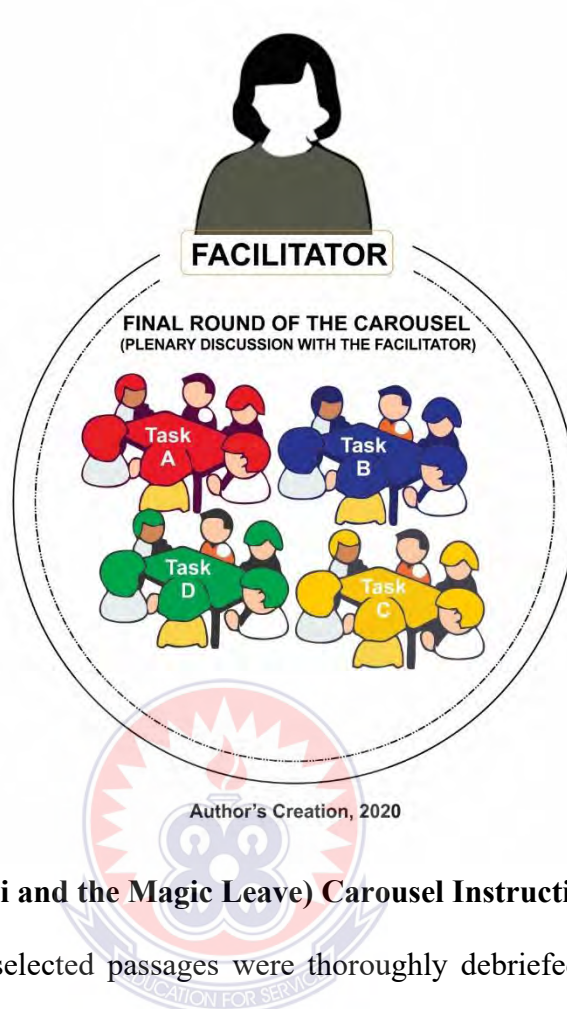
leader otherwise known as designated student would carry along a designated coloured marker chosen purposely to show a distinction of various responses which would be given, at different stations labelled in the classroom (Gray, 2016). Repeated the above passage would also afford learners with reading comprehension difficulty to also contribute meaningfully to the set of questions aligned for the passage.

Below was the illustration of the Carousel Instructional Strategy used for week six treatment period.

### Carousel Instructional Strategy Round 1



## Carousel Instructional Strategy Round 2



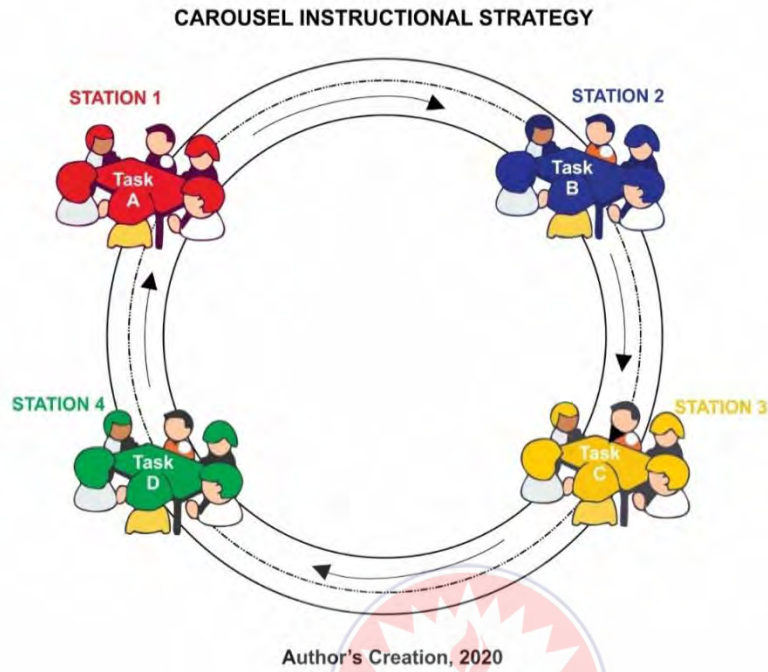
### WEEK SIX (Mondi and the Magic Leave) Carousel Instructional Strategy)

All the six selected passages were thoroughly debriefed which took place from 8<sup>th</sup> November to 13<sup>th</sup> November 2020. The various groups were guided to critique the information provided by other groups based on task which was assigned to each of the station. The researcher together with the groups started the debriefing activities right from station one through to station seven. Incorrect answers presented by the group were identified and correct responses were substituted. The researcher summarized all the five passages with the groups and the questions groups presented were all addressed to ascertain that all the five passages were understood by the whole class.

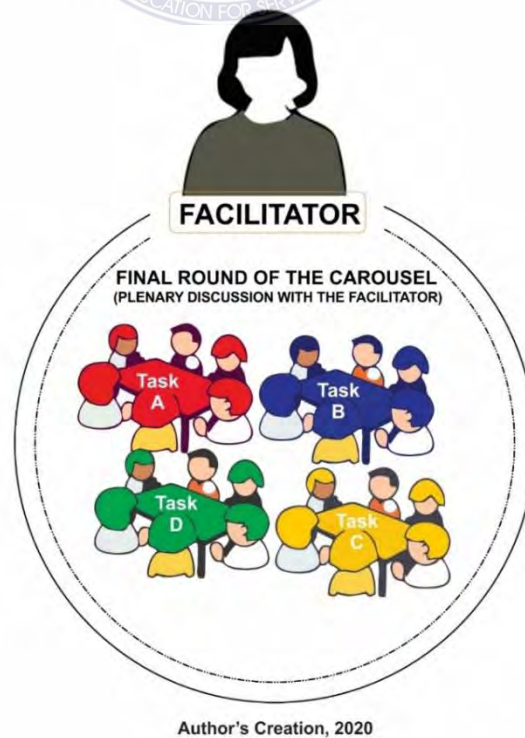
Below was the illustration of the Carousel Instructional Strategy used for week six treatment period.



## Carousel Instructional Strategy Round 1



## Carousel Instructional Strategy Round 2



**3.8.2b Jigsaw Instructional Strategy (ST J B Junior High School)****WEEK ONE (Orientation and Model Practice of Jigsaw Instructional Strategy****– A Market Place Paragraph One (1))**

The researcher started the above treatment with orientation and model practice on how learners could well engaged in Jigsaw Instructional Strategy without much difficulty. The process of learners got oriented in Jigsaw Instructional strategy took place on Monday 5<sup>th</sup> October to 9<sup>th</sup> October, 2020. Learners were guided to note that, in Jigsaw Instructional Strategy, learners are put into smaller groups in the class. The learners were informed that these groups are formed through issuing of cards with two different symbols on it. For example, a number and a letter on each side.

<b>1 A</b>	<b>1 B</b>	<b>1 C</b>	<b>1 D</b>	<b>1 E</b>	<b>1 F</b>	<b>1 G</b>	<b>1 H</b>
------------	------------	------------	------------	------------	------------	------------	------------

<b>2 A</b>	<b>2 B</b>	<b>2 C</b>	<b>2 D</b>	<b>2 E</b>	<b>2 F</b>	<b>2 G</b>	<b>2 H</b>
------------	------------	------------	------------	------------	------------	------------	------------

<b>3 A</b>	<b>3 B</b>	<b>3 C</b>	<b>3 D</b>	<b>3 E</b>	<b>3 F</b>	<b>3 G</b>	<b>3 H</b>
------------	------------	------------	------------	------------	------------	------------	------------

<b>4 A</b>	<b>4 B</b>	<b>4 C</b>	<b>4 D</b>	<b>4 E</b>	<b>4 F</b>	<b>4 G</b>	<b>4 H</b>
------------	------------	------------	------------	------------	------------	------------	------------

<b>5A</b>	<b>5B</b>	<b>5C</b>	<b>5D</b>	<b>5E</b>	<b>5F</b>	<b>5G</b>	<b>5H</b>
-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

<b>6A</b>	<b>6B</b>	<b>6C</b>	<b>6D</b>	<b>6E</b>	<b>6F</b>	<b>6G</b>	<b>6H</b>
-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

The researcher carefully guided the learners each one in the class to pick a card which were arranged serially. The symbol which appeared first was a number which was used to form a “Mother group”. Mother grouping simply defined the very core groups which were formed through different distinct numbers. For example, “Mother group”

1	1	1	1	1	1	1	1
---	---	---	---	---	---	---	---

2	2	2	2	2	2	2	2
---	---	---	---	---	---	---	---

3	3	3	3	3	3	3	3
---	---	---	---	---	---	---	---

4	4	4	4	4	4	4	4
---	---	---	---	---	---	---	---

5	5	5	5	5	5	5	5
---	---	---	---	---	---	---	---

6	6	6	6	6	6	6	6
---	---	---	---	---	---	---	---

The researcher guided the learners to move to the second round which entitled “a group of expert.” In “a group of expert” what each member from the “mother group” had studied and mastered qualify him or her to become an expert. The Jigsaw Instructional Strategy ended with the round three that marked the plenary discussion by the researcher and the learners.

Below was the illustration of the Carousel Instructional Strategy used for week six treatment period.

## Jigsaw Instructional Strategy Round 1

### JIGSAW INSTRUCTIONAL STRATEGY

MOTHER GROUPING (ROUND ONE)



Author's Creation, 2020

## Jigsaw Instructional Strategy Round 2

WEEK TWO (Title: Adolescence)

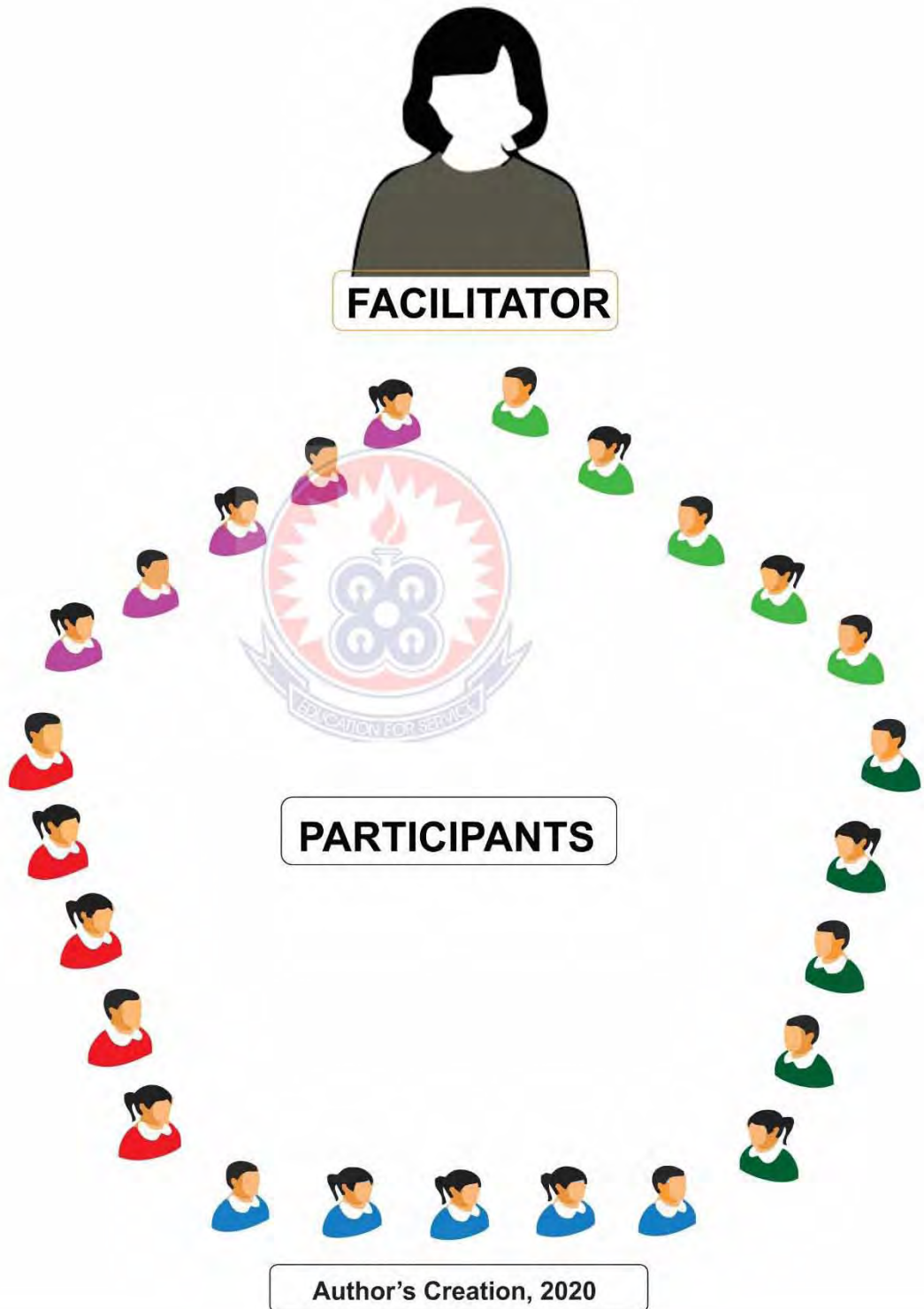
### GROUPS OF EXPERT

(ROUND TWO)



Author's Creation, 2020

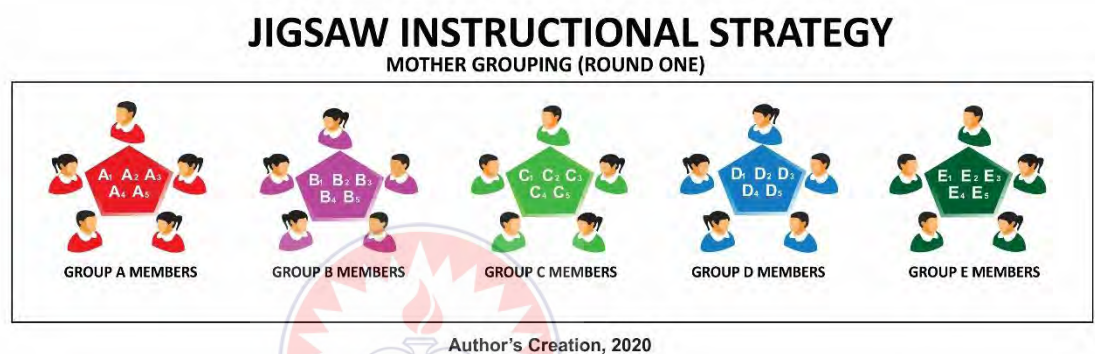
## FINAL ROUNDS (ROUND THREE) PLENARY DISCUSSION



**Jigsaw Instructional Strategy Round One**

On 12<sup>th</sup> October to 16<sup>th</sup> October 2020, the above passage used for pre- test was studied through Jigsaw strategy by the researcher. To be able to facilitate the above passage well, the researcher has to put the whole passage was put into six paragraphs. Each paragraph would form “one mother group”. Therefore, six mother groups were formed to begin Jigsaw Instructional Strategy.

Jigsaw Instructional Strategy Round One. Below illustrated how the participants engaged in Jigsaw Instructional activities.

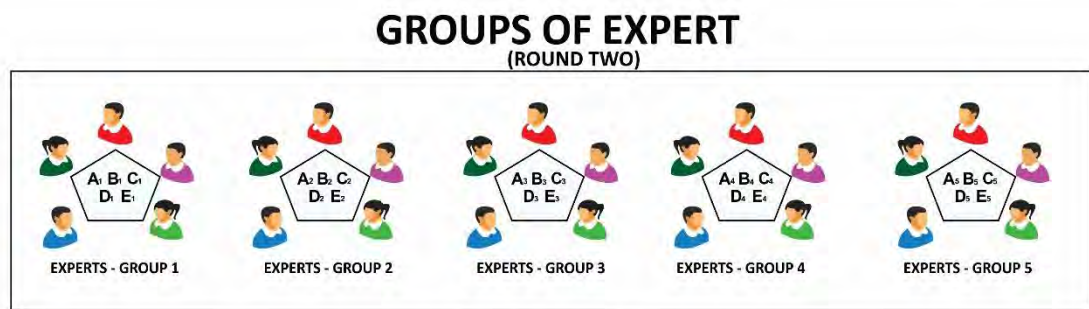


### Jigsaw Instructional Strategy Round Two

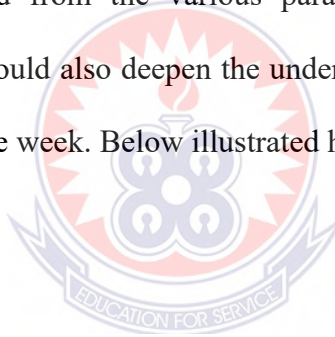
The group of expert comprised of each member from mother grouping formed in round one. They assumed the qualification of expert because of the mastery of various paragraphs assigned to them. At this point each member would now have the chance to share whatever he/she has discovered from their mother group to the rest. This process of sharing would continue till all members have their turn to share. Below illustrated the group of expert after they have successfully completed round one of the mother group.



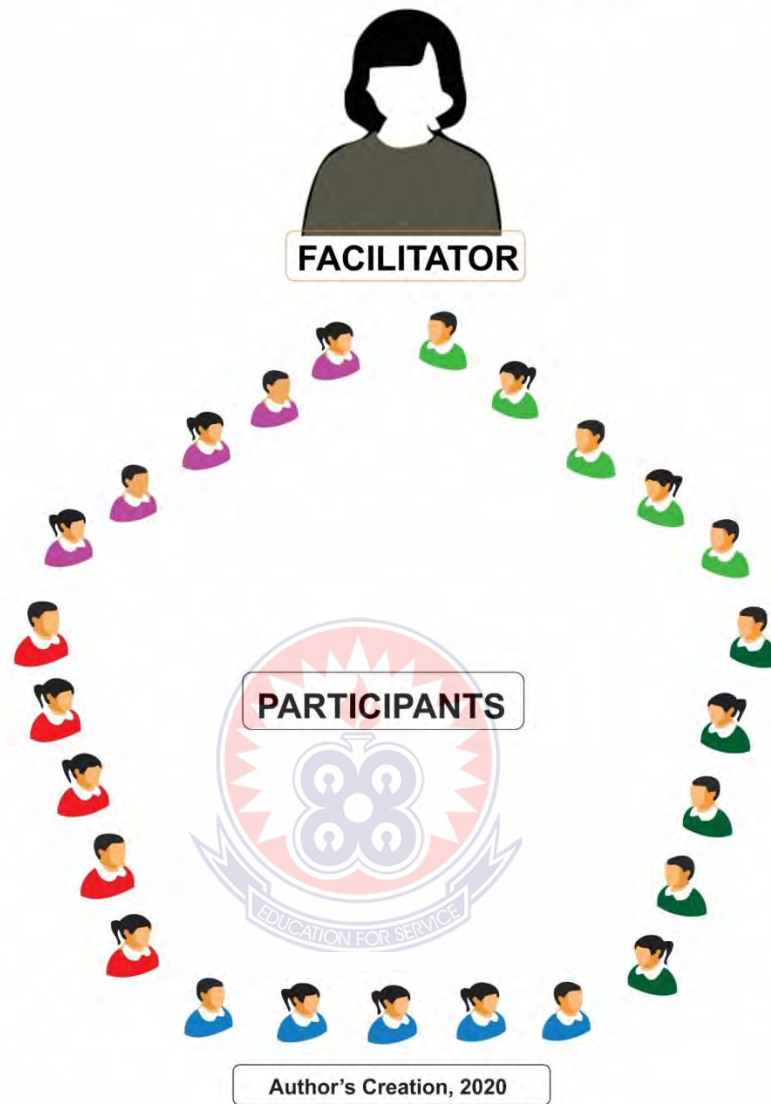
## Jigsaw Instructional Strategy Round Three



This session ended the Jigsaw Instructional Strategy with the plenary discussion with the facilitator or researcher. As this point, issues which were not properly handled by groups were discussed in detail. Incorrect responses given by the groups for questions generated from the various paragraphs were changed for better options. This session would also deepen the understanding of learners on the whole passage learnt within the week. Below illustrated how the session was organised.



## FINAL ROUNDS (ROUND THREE) PLENARY DISCUSSION



### **WEEK THREE (Title: Election Day at Dwenewoho)**

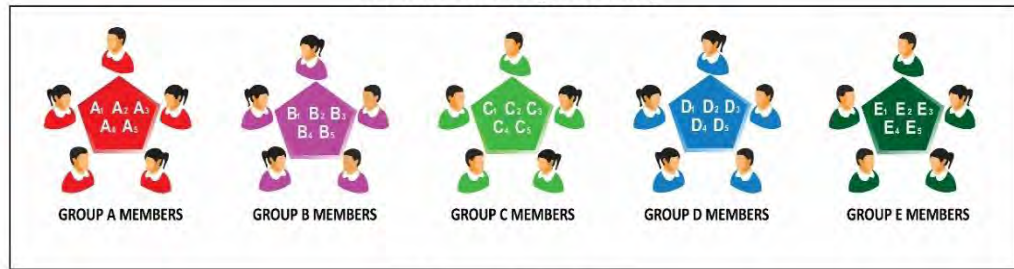
#### **Jigsaw Instructional Strategy Round One**

This session of the treatment took place from 19<sup>th</sup> October to 23<sup>rd</sup> October, 2020. The passage in week three was divided into paragraphs with its corresponding questions for each of the mother groupings to work with. The mother group stayed on for 20 minutes to master the passage and were able to give credible responses to all the respective queries being asked.



## JIGSAW INSTRUCTIONAL STRATEGY

### MOTHER GROUPING (ROUND ONE)

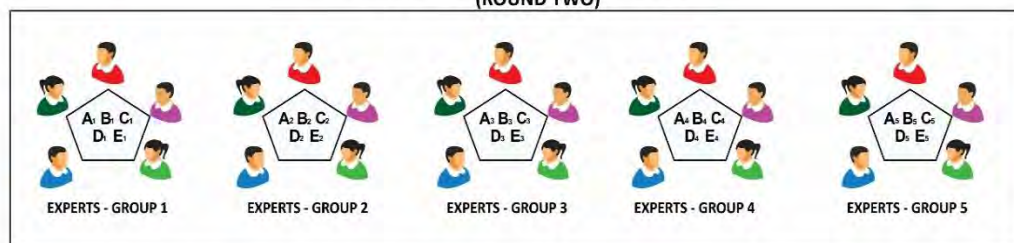


Author's Creation, 2020

### Jigsaw Instructional Strategy Round Two

The group of expert comprised of each member from mother grouping formed in round one. They assumed the qualification of expert because of the mastery of various paragraphs assigned to them. At this point each member would now have the chance to share whatever he/she has discovered from their mother group to the rest. This process of sharing would continue till all members have their turn to share. Below illustrated the group of expert after they have successfully completed round one of the mother group.

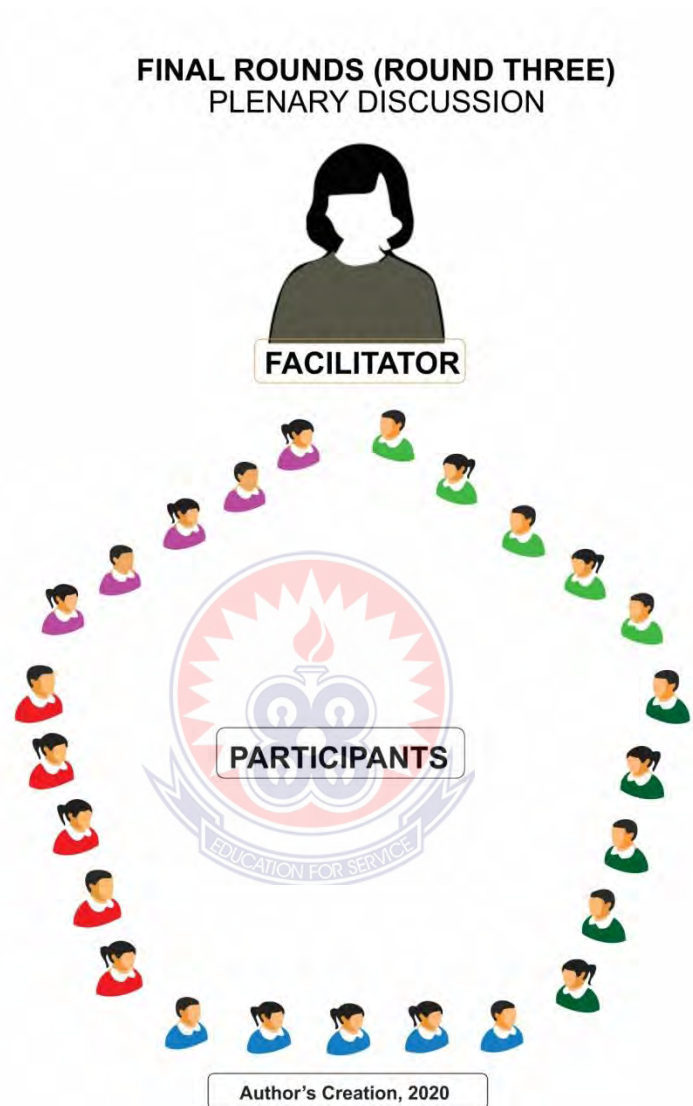
### GROUPS OF EXPERT (ROUND TWO)



Author's Creation, 2020

This session ended the Jigsaw Instructional Strategy with the plenary discussion with the facilitator or researcher. As this point, issues which were not properly handled by groups were discussed in detail. Incorrect responses given by the groups for questions generated from the various paragraphs were changed for

better options. This session would also deepen the understanding of learners on the whole passage learnt within the week. Below illustrated how the third session was organised.



#### **WEEK FOUR (Title: Mondri and the Magic Leave (1))**

##### **Jigsaw Instructional Strategy Round One**

The treatment continued for the fourth week with different comprehension passage selected from the scheme of work as it was done throughout the six weeks' period slated for the treatment. The treatment took place from 26<sup>th</sup> through to 30<sup>th</sup> October, 2020

## JIGSAW INSTRUCTIONAL STRATEGY

### MOTHER GROUPING (ROUND ONE)



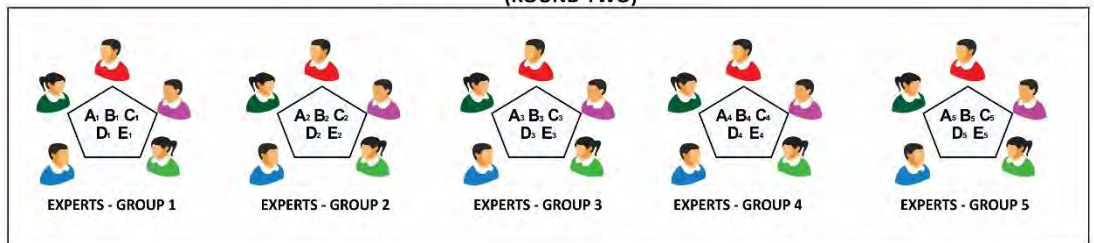
Author's Creation, 2020

### Jigsaw Instructional Strategy Round Two

The group of expert comprised of each member from mother grouping formed in round one. They assumed the qualification of expert because of the mastery of various paragraphs assigned to them. At this point each member would now have the chance to share whatever he/she has discovered from their mother group to the rest. This process of sharing would continue till all members have their turn to share. Below illustrated the group of expert after they have successfully completed round one of the mother group.

## GROUPS OF EXPERT

### (ROUND TWO)

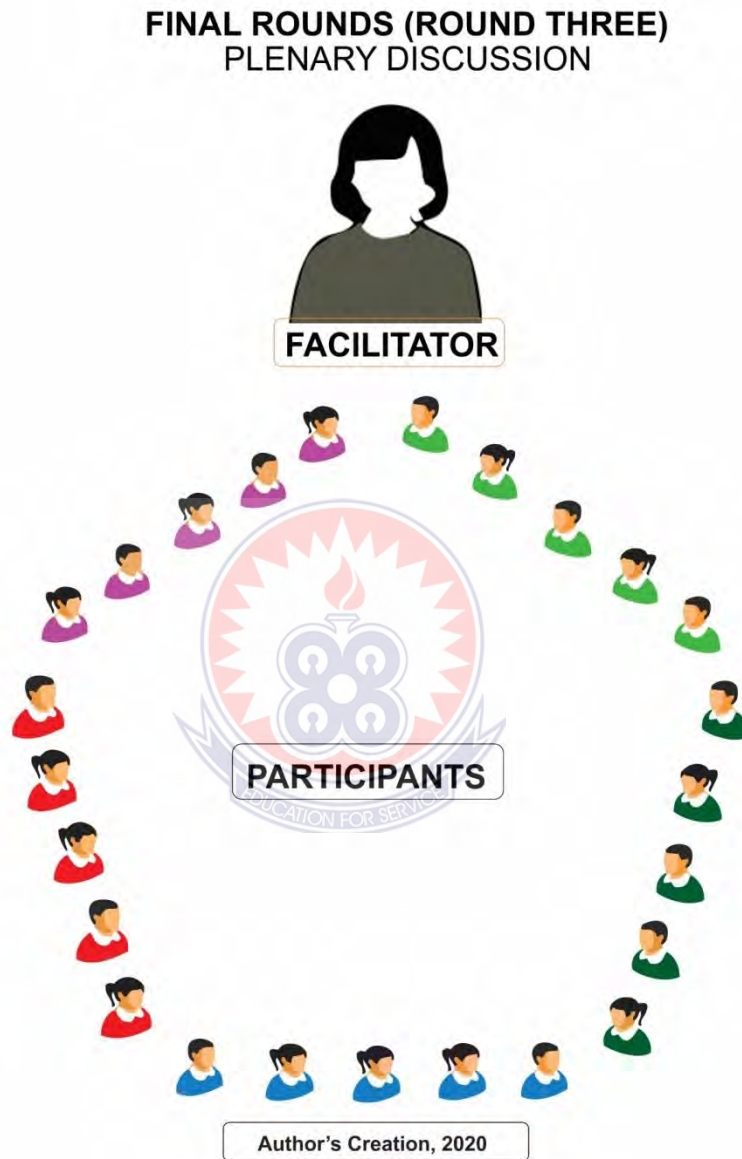


Author's Creation, 2020

### Jigsaw Instructional Strategy Round Three

This session ended the Jigsaw Instructional Strategy with the plenary discussion with the facilitator or researcher. As this point, issues which were not properly handled by groups were discussed in detail. Incorrect responses given by the groups for questions generated from the various paragraphs were changed for

better options. This session would also deepen the understanding of learners on the whole passage learnt within the week. Below illustrated how the third session was organised.



## **WEEK FIVE (A Family by the Sea)**

### **Jigsaw Instructional Strategy Round One**

The researcher devoted week five and six for treatment of the above passages. The treatment took place from 2<sup>nd</sup> November to 6<sup>th</sup> November, 2020. The passage in week five was divided into paragraphs with its corresponding questions



for each of the mother groupings to work with. The mother group stayed on for 20 minutes to master the passage and were able to give credible responses to all the respective queries being asked

## JIGSAW INSTRUCTIONAL STRATEGY

MOTHER GROUPING (ROUND ONE)



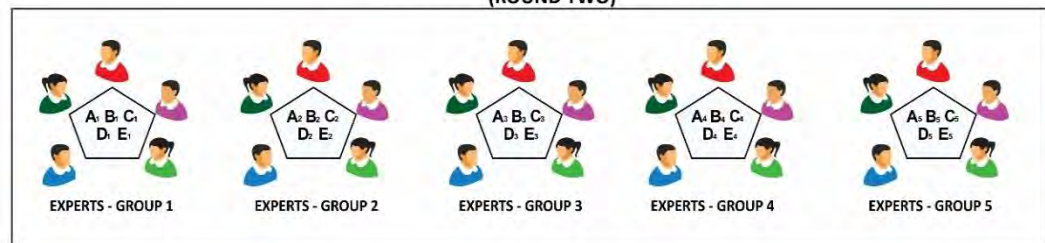
Author's Creation, 2020

### Jigsaw Instructional Strategy Round Two

The group of expert comprised of each member from mother grouping formed in round one. They assumed the qualification of expert because of the mastery of various paragraphs assigned to them. At this point each member would now have the chance to share whatever he/she has discovered from their mother group to the rest. This process of sharing would continue till all members have their turn to share. Below illustrated the group of expert after they have successfully completed round one of the mother group.

## GROUPS OF EXPERT

(ROUND TWO)

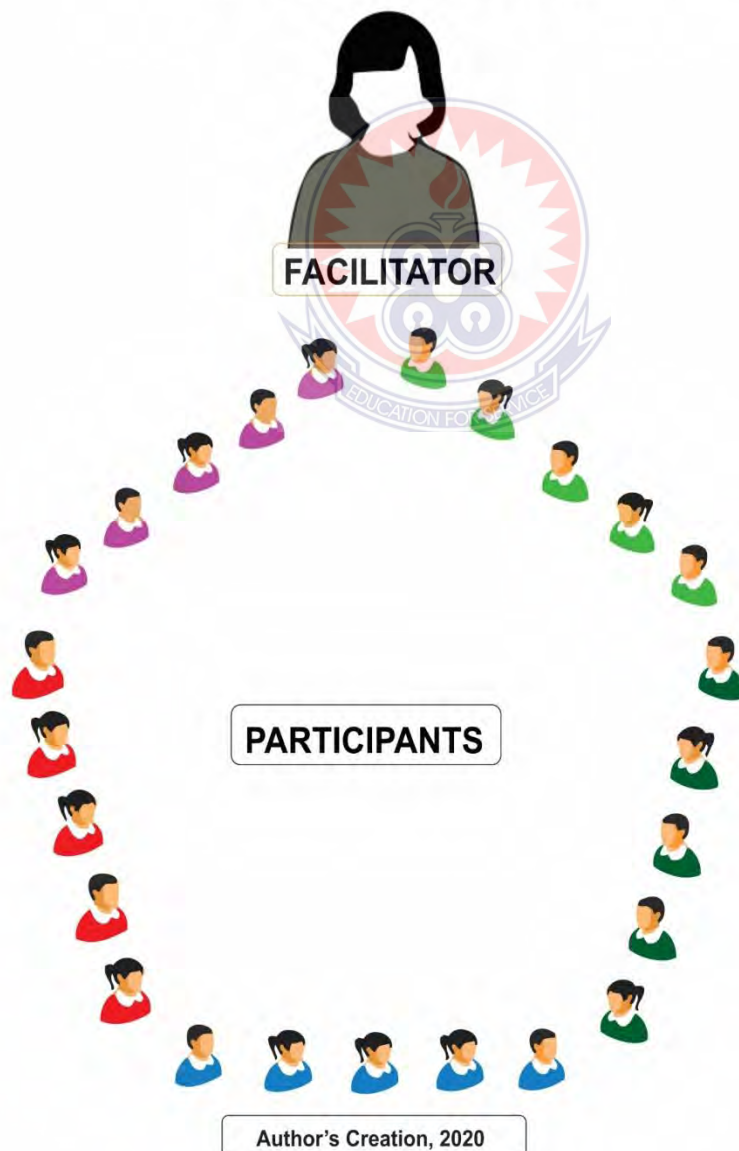


Author's Creation, 2020

### Jigsaw Instructional Strategy Round Three

This session ended the Jigsaw Instructional Strategy with the plenary discussion with the facilitator or researcher. As this point, issues which were not properly handled by groups were discussed in detail. Incorrect responses given by the groups for questions generated from the various paragraphs were changed for better options. This session would also deepen the understanding of learners on the whole passage learnt within the week. Below illustrated how the third session was organised.

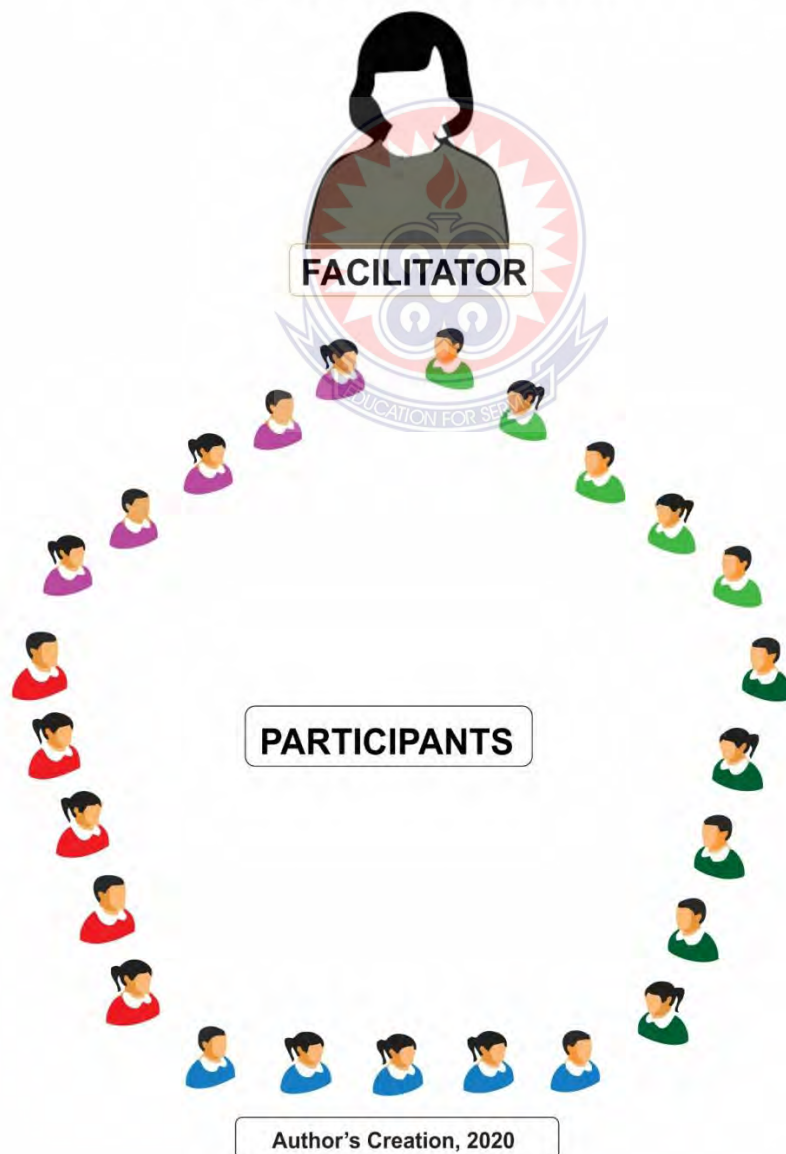
### FINAL ROUNDS (ROUND THREE) PLENARY DISCUSSION



## WEEK SIX (Plenary discussion of Jigsaw Instructional Strategy)

All the six selected passages were thoroughly debriefed which took place from 8<sup>th</sup> November to 13<sup>th</sup> November 2020. This debriefing of the six reading comprehension passages with the learners ended with posttest. The same pre- test items used at the beginning were given to the learners as post- test. This was done to ascertain the performance of the learners before and after the treatment of the experimental groups.

### FINAL ROUNDS (ROUND THREE) PLENARY DISCUSSION



The researcher would use six weeks for the treatment in the three selected schools. The researcher considered the six weeks necessary, because for that time the treatment seemed would have been served the intended purpose it was used. This would involve the use of Carousel instructional strategy for learners in the experimental 1 the Jigsaw Instructional Strategy for learners in the experimental group 2 and the use of the Traditional Method (Conventional Method) of teaching reading comprehension for the learners in the control group. There would be no contact between the learners in the treatment and control groups, whose schools are in separate locations which is far from each other in New Juaben South Municipality during the treatment period. The researcher considered it necessary to check cross over effect that would have adverse impact on the study.

### **3.8.2c Post-treatment phase**

The researcher compared the pre-test and post-test and ascertained which instructional strategy had maximized pupils' performance in reading comprehension.

### **3.9 Validity and Reliability of Instruments**

Validity according to De Vaus (1996) is based on the view that a particular instrument actually measures what it seeks to measure. In ensuring the comprehension test items' validity, the researcher would show the comprehension test items to three Senior Lecturers in English Language Department and my supervisor of this thesis for in-depth scrutiny. Again, the comprehension passage selected for pre-tests and post-tests would be selected from the approved English Readers by Ghana Education Service for Junior High Two Learners.



### **3.9.1 Reliability**

Comprehension tests items was pilot tested in SDA Demonstration JHS Two, and their responses were analyzed using KR-20. This was used to estimate the full-length test reliability using all questions on an instrument. This helped in estimating the internal consistency of the items. The reliability coefficients achieved were .80, .78, and .78, respectively for each of the three passages. The overall reliability of all the three passages was .89. This is above the .70 threshold suggested by Pallant (2010). The items could be, therefore, be said to be reliable.

### **3.10 Access and Ethical Considerations**

According to O'Reilly-Jacob, Vicini and Duggan (2022), it is critical to recognize the location where research is conducted. According to the authors, this reverence is demonstrated by obtaining approval before accessing the location. As a result, prior to the start of the research, informed consent was sought from the school's authorities. This was substantiated with an introductory letter obtained from the Department of Special Education, UEW see (APPENDIX A). Another letter was secure from the Municipal Director for New Juaben South see (APPENDIX B) for a pre-visit to the schools to arrange with teachers, school heads as well as learners. The arrangements were scheduled in such a way that all of the learners interested in the research could met as a group in one location at once. During the pre-visit, the investigator took the letter to the school (APPENDIX B) detailing the purpose of the study. Aside from the letter, the principal investigator described the study's goal, purpose, and application of the results, as well as the anticipated social effects on their life and the school. Another concern was also sought from the Head Teacher and the Form Tutor see (APPENDIX C1 and C2 respectively for permission before the study was started. The researcher indicated why their site was chosen and

detailed the duration at the site. The researcher met the potential participants in the school and explained the rationale and the procedures of the study to them. They were fully told that their involvement in the research is entirely optional, and that they would be allowed to abstain or even withdraw from it if they so desired. Furthermore, in order to maintain anonymity, they would not put their names on the comprehension question sheets.

In research, ethics refers to the steps taken to safeguard and respect participants' rights and welfare and other people involved in the process (Reynolds, 1982). Respondents' rights and that of other entities participating in this research were addressed with extreme caution at every level. At various phases of the research, the following considerations were taken to promote and/or safeguard the rights and interests of participants.

An introductory letter issued by the Department of Special Education, UEW see (APPENDIX A) was presented to the school authority to gain entry into the schools involved. In addition to the permission letter, another letter was sent to the school asking for authorization from the class teachers and learners. The letter helped the researcher gained access and established rapport with staff and learners of the school. The participants were informed of their right to enroll willingly or to withdraw their participation at any time if they so desired. Before each session, the goal of the research, including how results would be communicated and or utilised after the study, were explained verbally to make participants aware before signing the forms of informed consent. Participants were told that any data or information gathered from them would be handled in a confidential manner. The researcher reported exactly the findings without exaggerations. Pseudonyms were used to represent the learners' names when analysing data.

### 3.11 Data Analysis

The 25<sup>th</sup> version of the Statistical Package for Social Sciences (SPSS) software was used to analyse the data gathered in this research. The data on the demographic characteristics of the participants were analysed using frequencies and percentages. Mean and standard deviation were used to analyse the data from all of the pretest and posttests values. This helped to provide a descriptive picture of the performance of the participants before and after the experiment. Further, preliminary analyses were performed by comparing the pretest scores for the three groups. One-way ANOVA was performed to compare the mean scores of the pretest scores upon satisfying the homogeneity of variance assumption.

For the hypotheses, multivariate analysis of covariance (MANCOVA) was utilised. MANCOVA was used because the dependent variables were more than one: posttest and delayed posttest. Specifically, hypothesis one was tested using one-way MANCOVA test. The independent variable was group. The independent variable has three levels, namely, carousel, jigsaw, and control groups. The dependent variables were posttest and delayed posttest scores on English comprehension test for learners. The covariate in the model was the pretest scores on English comprehension test for learners.

Hypotheses two and three were tested each using two-way MANCOVA. In the case of hypothesis two, the independent variables were group and sex. The first independent variable, group, had three levels, which were, carousel, jigsaw, and control groups. Sex had two levels: male and female. For hypothesis three, the independent variables were group and age category. Group had three levels, namely, carousel, jigsaw, and control groups. Age category, however, had two levels, namely, 12 – 15 years and 16 – 19 years. The dependent variables for both

hypotheses were learners' posttest and delayed posttest scores on English comprehension test. The pretest scores on the on English comprehension test was used as the covariate in the model for both hypotheses.

MANCOVA is a kind of MANOVA that detects differences in the means of three or more independent groups while adjusting for scale factors. A covariate is a variable that is not normally part of the primary research question but has the potential to impact the dependent variable and must be accounted for. The main and interaction effects of categorical factors on continuous dependent variables are tested using MANCOVA, which controls for the effects of other continuous variables that co-vary with the dependent variables (Kareen- Kadhim, & Naji, 2022). The 'covariates' are the control variables. MANCOVA is used to control for factors that cannot be randomised but can be measured on an interval scale in experimental designs; to eliminate the impact of variables that modify the relationship of the categorical independents to the interval dependent in observational designs; and to fit regressions with both categorical and interval independents in regression models. The covariate is a continuous (i.e., interval-level) independent factor.

MANOVA must be used instead of MANCOVA if there were no covariates, and MANCOVA must be used if there are covariates. Control variables are widely employed as covariates. For example, in a MANCOVA research, a baseline pretest score may be used as a covariate to adjust for starting group differences in arithmetic ability or whatever else is being measured. Thus, after controlling for the effects of interval covariates, MANCOVA examines the effects of categorical independents on the dependent (i.e., response) variables. This is comparable to regression, in which the data weights of category independents inserted after

interval independents are treated as dummy variables to indicate the control impact of these independent (Finch, 2022).

In MANCOVA analysis, the F-test is used. For multiple interval dependent and multiple (more than 2) groups defined by a categorical independent, the F-test of significance is employed to evaluate each main and interaction effect. F is the difference in variance between groups divided by the difference in variance within groups. Significant correlations exist if the calculated p-value is minimal (Zhang, 2022). If the F-test reveals significant correlations, adjusted means are normally included in the MANCOVA output and analysed. The influence of the variables may be deduced by comparing the original and adjusted group means. The adjustment demonstrates how the "k" means were changed to correct for the covariates for "k" groups generated by categories of the categorical independents and assessed on the dependent variables. The assumption behind MANCOVA is that the connection between the dependent variables and the covariate is linear, and that the gradient connecting the dependent variable and the covariate does not alter throughout the many circumstances in the experiment (Howell, 2010). As a result, it is advised that the assumption of slope homogeneity be checked prior to doing an MANCOVA. This assumption was met before MANCOVA was used in this study.

## CHAPTER FOUR

### RESULTS AND ANALYSIS OF DATA

#### 4.0 Introduction

This study sought to examine the effects of carousel and jigsaw instructional strategies on learners' performance in reading comprehension. The study adopted the quasi-experiment pretest-posttest design (non-equivalent groups) with delayed posttest. The study had three groups, out of which two were assigned the experimental groups that separately received comprehension tuition using carousel and jigsaw instructional strategies. The last group, control group, did not receive any novel treatment, however, they went through their usual tuition. This chapter presents the results of the data collected from the field. In addition, the results of the study were also discussed accordingly. The results are presented in two parts. The first part presents the background of the second of the participants, while the second part presents the main results.

#### 4.1 Background Information of Learners

This part presents information of the participants. The background information covered include sex and age. Table 3 presents the gender distribution of the respondents.

**Table 3: Sex Distribution of Learners**

Group	Sex					
	Male		Female		Total	
	N	%	N	%	N	%
Carousel	10	58.8	7	41.2	17	100.0
Jigsaw	10	58.8	7	41.2	17	100.0
Control	9	52.9	8	47.1	17	100.0
<b>Total</b>	<b>29</b>	<b>56.9</b>	<b>22</b>	<b>43.1</b>	<b>51</b>	<b>100.0</b>

Source: Field data (2020)

From Table 3, the study had more males (56.9%) than females (43.1%). Similarly, among all the groups, there were more males than females. Thus, carousel, jigsaw, and control groups had 58.8%, 58.8%, and 52.9%, respectively, as males. These formed a majority across the aforementioned groups. Table 4 presents the age distribution.

**Table 4: Age Distribution of Participants**

Group	Age					
	12 – 15 years		16 – 19 years		Total	
	N	%	N	%	N	%
Carousel	15	88.2	2	11.8	17	100.0
Jigsaw	9	52.9	8	47.1	17	100.0
Control	12	70.6	5	29.4	17	100.0
<b>Total</b>	<b>36</b>	<b>70.6</b>	<b>15</b>	<b>29.4</b>	<b>51</b>	<b>100.0</b>

Source: Field data (2020)

As shown in Table 4, the majority of the participants (70.6%) are within the ages of 12 – 15 years, whereas 29.4% of the participants were within the ages of 16 – 19 years. Further, the majority of the participants were within the ages of 12 – 15 years among the participants in jigsaw (52.9%), carousel (88.2%), and control groups (70.6%).

#### 4.2 Descriptive Information on Pretest and Posttest

This section presents information on the scores of participants before and after the intervention. All the scores were scored out of 100. Details of the scores are presented in Table 5.

**Table 5: Descriptive Statistics on Pretest, Posttest, and Delayed Posttest**

Group	Pretest		Posttest		Delayed Posttest	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Carousel	40.53	6.76	91.27	6.44	88.33	10.46
Jigsaw	33.04	11.66	84.51	13.84	80.78	14.73
Control	38.61	7.48	60.49	15.04	54.60	15.78

Source: Field data (2020)

From Table 5, among the pretest scores for the groups, participants in jigsaw group had the lowest score ( $M = 33.04$ ,  $SD = 11.66$ ), whereas those in the carousel group had the highest score ( $M = 40.53$ ,  $SD = 6.76$ ). Regarding the posttest, participants in the various groups had scores ranging from 60.49 to 91.27; and 54.60 to 88.33 in the delayed posttest.

### Test for Normality and Preliminary Analyses

The normality assumption was checked using the normal Q-Q plots see (APPENDIX E) Visual examination of the Q-Q plots confirmed the data for both the pretest, posttest, and delayed posttest scores were normally distributed (see Appendix C). Based on this, parametric test can be performed upon meeting other assumptions specific to the various statistical procedures.

This section further presents a preliminary analysis that compares the pretest scores of the three groups. The homogeneity of variance assumption was not violated, Levene ( $2, 48$ ) = 2.57,  $p = .087$ . Therefore, one-way ANOVA test was performed to compare the pretest scores of the groups. Table 6 presents the results.

**Table 6: Test Comparing Pretest Scores ANOVA**

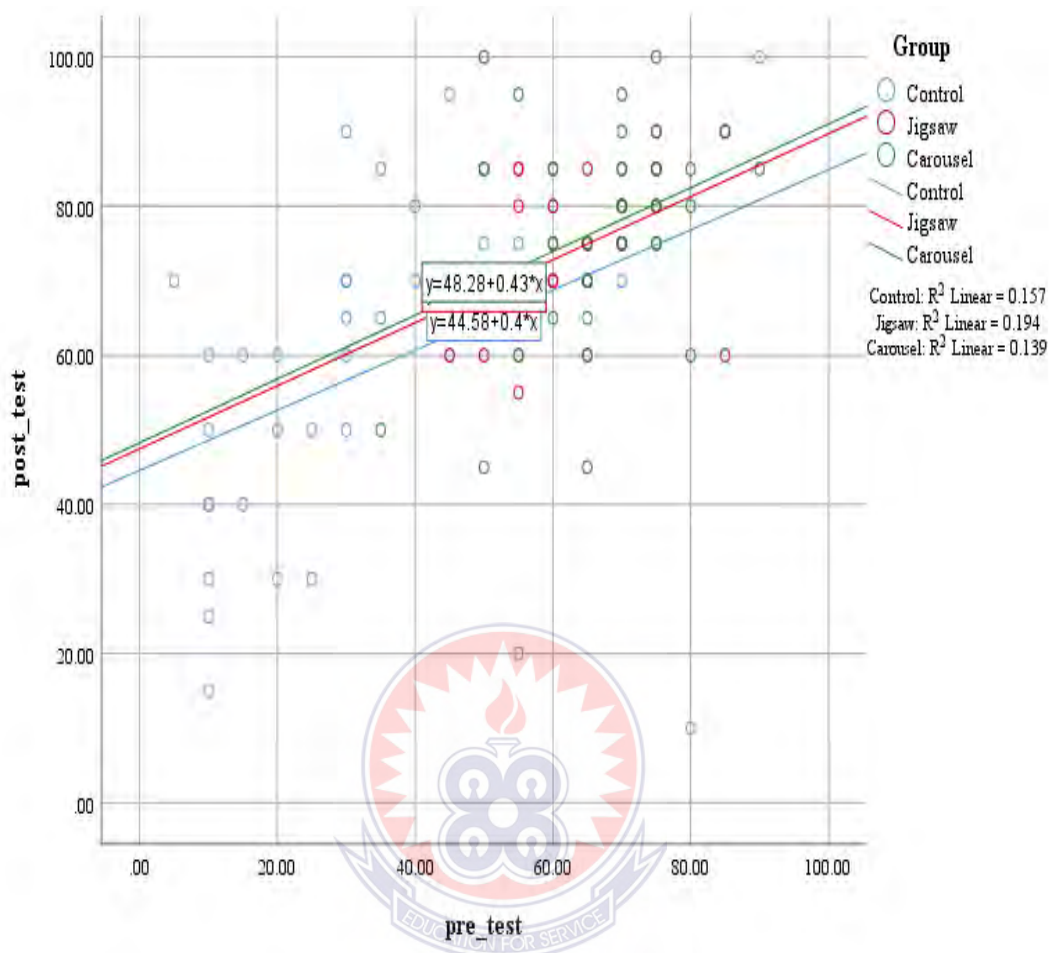
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	514.481	2	257.241	3.247*	.048
Within Groups	3802.961	48	79.228		
Total	4317.442	50			

Source: Field data (2020); \*Significant,  $p < .05$

The result in Table 6 shows a statistically significant difference in the pretest scores of participants across of the groups,  $F (2, 48) = 3.247$ ,  $p = .048$ . The result implies that, at least, there exist a difference in pretest scores among the groups. This suggests that the groups were not equal on their pretest score and therefore, therefore, analysis of covariance (ANCOVA) test was performed to compare the posttest score, while controlling for the effect of the pretest.



To perform ANCOVA test, homogeneity of regression slopes assumption was checked (see Figure 2).



**Figure 2: Regression slopes**

The regression plots in Figure 2 show no interaction among the slopes for three experimental groups, hence homogeneity of slopes assumption was not violated. Based on this, ANCOVA test can be performed.

### **Hypothesis 1**

*H<sub>0</sub>: There is no statistically significant effect of (a) carousel and (b) jigsaw instructional strategies on learners' performance in reading comprehension.*

*H<sub>1</sub>: There is statistically significant effect of (a) carousel and (b) jigsaw instructional strategies on learners' performance in reading comprehension.*

This hypothesis sought to determine the effect of each of (a) carousel and (b) jigsaw instructional strategies on learners' performance in reading comprehension. This hypothesis was tested using one-way multivariate analysis of covariance (MANCOVA) test. The independent variable was group. The independent variable has three levels, namely, carousel, jigsaw, and control groups. The dependent variables were posttest and delayed posttest scores on English comprehension test for participants. The covariate in the model was the pretest scores on English comprehension test for participants.

The assumption of covariance-variance was violated, Box's  $M = 14.51$ ,  $F(6, 57422.77) = 2.27$ ,  $p = .034$ . Owing to this violation, Pillai's Trace multivariate test was conducted. The results of the test are presented in Table 7.

**Table 7: Multivariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension**

Effect	Value	F	df1	df2	Sig.	Partial Eta	
						Squared	
Intercept	Pillai's Trace	.584	32.323	2	46	.000	.584
	Wilks' Lambda	.416	32.323	2	46	.000	.584
	Hotelling's Trace	1.405	32.323	2	46	.000	.584
	Roy's Largest Root	1.405	32.323	2	46	.000	.584
Pretest	Pillai's Trace	.177	4.932	2	46	.011	.177
	Wilks' Lambda	.823	4.932	2	46	.011	.177
	Hotelling's Trace	.214	4.932	2	46	.011	.177
	Roy's Largest Root	.214	4.932	2	46	.011	.177
Group	Pillai's Trace	.623	10.638*	4	94	.000	.312
	Wilks' Lambda	.377	14.467	4	92	.000	.386
	Hotelling's Trace	1.653	18.602	4	90	.000	.453
	Roy's Largest Root	1.653	38.854	4	47	.000	.623

\*Significant,  $p \leq .05$

From Table 7, there is a statistically significant difference on the combined posttest and delayed posttest scores,  $F(4, 94) = 10.64$ ,  $p < .001$ , partial eta squared = .31. Further univariate analyses are presented in Table 8.

**Table 8: Univariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension**

Source	Dependent Variable	df	Mean		Sig.	Partial Eta Squared
			Square	F		
Corrected Model	Posttest	3	3368.895	25.783	.000	.622
	Delayed Posttest	3	4017.035	24.166	.000	.607
Intercept	Posttest	1	8592.899	65.764	.000	.583
	Delayed Posttest	1	6968.078	41.919	.000	.471
Pretest	Posttest	1	1207.882	9.244	.004	.164
	Delayed Posttest	1	1392.427	8.377	.006	.151
Group	Posttest	2	4586.280	35.100*	.000	.599
	Delayed Posttest	2	5483.615	32.989*	.000	.584
Error	Posttest	47	130.662			
	Delayed Posttest	47	166.227			
Total	Posttest	51				
	Delayed Posttest	51				
Corrected Total	Posttest	50				
	Delayed Posttest	50				

\*Significant,  $p \leq .025$  (Bonferroni's adjusted alpha)

As shown in Table 8, there are statistically significant differences among the groups on their posttest,  $F(2, 47) = 35.1, p < .001$ , partial eta squared = .599; and delayed posttest scores,  $F(2, 47) = 32.99, p < .001$ , partial eta squared = .584 while controlling for the pretest scores. The results imply that, nearly 60% of the variations each in posttest and delayed posttest scores are attributed to group. The magnitude of the effects is very large. Post hoc analysis was conducted using Bonferroni's pairwise comparison as shown in Table 9.

**Table 9: Bonferroni's Pairwise Comparisons for Carousel and Jigsaw Instructional Strategies**

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval for Difference	
						Lower Bound	Upper Bound
Posttest	Carousel	Jigsaw	2.543	4.159	1.000	-7.783	12.870
		Control	29.700*	3.937	.000	19.926	39.474
	Jigsaw	Carousel	-2.543	4.159	1.000	-12.870	7.783
		Control	27.157*	4.054	.000	17.091	37.222
	Control	Carousel	-29.700*	3.937	.000	-39.474	-19.926
		Jigsaw	-27.157*	4.054	.000	-37.222	-17.091
Delayed Posttest	Carousel	Jigsaw	3.017	4.691	1.000	-8.630	14.664
		Control	32.573*	4.440	.000	21.548	43.597
	Jigsaw	Carousel	-3.017	4.691	1.000	-14.664	8.630
		Control	29.556*	4.573	.000	18.203	40.909
	Control	Carousel	-32.573*	4.440	.000	-43.597	-21.548
		Jigsaw	-29.556*	4.573	.000	-40.909	-18.203

\*Significant,  $p \leq .025$  (Bonferroni's adjusted alpha)

In determining the effects of carousel, and jigsaw, the posttest and delayed posttest scores for each of these groups was compared with those of the control group. From the results in Table 9, comparison between carousel and control was statistically significant for the posttest (mean difference = 29.70,  $p < .001$ ) and the delayed posttest (mean difference = 32.57,  $p < .001$ ). Similarly, comparison between jigsaw and control was statistically significant for the posttest (mean difference = 27.16,  $p < .001$ ) and the delayed posttest (mean difference = 29.56,  $p < .001$ ). However, comparison between carousel and jigsaw for both posttest and delayed posttest showed no significant difference ( $p > .025$ ). Table 10 shows the adjusted posttest mean scores.

**Table 10: Adjusted for Posttest Means for Groups**

Dependent Variable	Group	Mean	Std Error
Posttest	Carousel	89.506 <sup>a</sup>	2.833
	Jigsaw	86.963 <sup>a</sup>	2.887
	Control	59.806 <sup>a</sup>	2.781
Delayed Posttest	Carousel	86.435 <sup>a</sup>	3.195
	Jigsaw	83.418 <sup>a</sup>	3.257
	Control	53.862 <sup>a</sup>	3.137

a. Covariates appearing in the model are evaluated at the following values: pretest = 37.3915.

From Table 10, it can be said that both carousel and jigsaw instructional strategies were effective because the adjusted posttest mean score for participants in carousel group (adjusted mean = 89.51, SE = 2.83) is greater than those in the control group (adjusted mean = 59.81, SE = 2.78). These results were further confirmed when same comparisons were done on the delayed posttest scores. Based on the results, it can be said that carousel and jigsaw instructional strategies were effective in enhancing learners' performance in English language comprehension. Relatively both carousel and jigsaw instructional strategies were equally effective. None was better than the other. Following the results of this study, the null hypotheses (1a & b) was rejected in favour of its alternative hypothesis. It can therefore be said that both carousel and jigsaw instructional strategies are effective in improving learners' performance in English language comprehension.

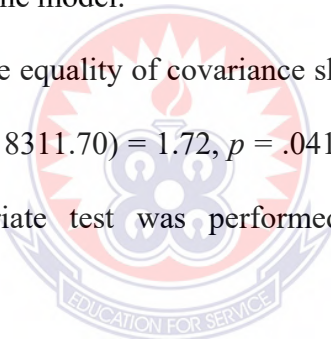
## Hypothesis 2

*H<sub>0</sub>: There is no statistically significant sex difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.*

*H<sub>1</sub>: There is a statistically significant sex difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.*

The aim of this hypothesis was to determine whether each of (a) carousel and (b) jigsaw discriminates in their effectiveness in terms of sex. This hypothesis was tested using two-way MANCOVA. The independent variables were group and sex. The first independent variable, group, had three levels, which were, carousel, jigsaw, and control groups. Sex had two levels: male and female. The dependent variables were participants' posttest and delayed posttest scores on English comprehension test. The pretest scores on the on English comprehension test was used as the covariate in the model.

The results on the equality of covariance showed a violation the assumption, Box's  $M = 29.21$ ,  $F(15, 8311.70) = 1.72$ ,  $p = .041$ . Upon violating this assumption, Pillai's Trace multivariate test was performed. The multivariate results are summarised in Table 11.



**Table 11: Multivariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension based on Sex**

Effect		Value	F	df1	df2	Sig.	Partial Eta
							Squared
Intercept	Pillai's Trace	.604	32.859	2	43	.000	.604
	Wilks' Lambda	.396	32.859	2	43	.000	.604
	Hotelling's Trace	1.528	32.859	2	43	.000	.604
	Roy's Largest Root	1.528	32.859	2	43	.000	.604
Pretest	Pillai's Trace	.172	4.480	2	43	.017	.172
	Wilks' Lambda	.828	4.480	2	43	.017	.172
	Hotelling's Trace	.208	4.480	2	43	.017	.172
	Roy's Largest Root	.208	4.480	2	43	.017	.172
Group	Pillai's Trace	.652	10.636	4	88	.000	.326
	Wilks' Lambda	.349	14.908	4	86	.000	.409
	Hotelling's Trace	1.866	19.594	4	84	.000	.483
	Roy's Largest Root	1.865	41.037	2	44	.000	.651
Sex	Pillai's Trace	.073	1.700	2	43	.195	.073
	Wilks' Lambda	.927	1.700	2	43	.195	.073
	Hotelling's Trace	.079	1.700	2	43	.195	.073
	Roy's Largest Root	.079	1.700	2	43	.195	.073
Group *	Pillai's Trace	.083	.951	4	88	.439	.041
Sex	Wilks' Lambda	.918	.946	4	86	.442	.042
	Hotelling's Trace	.090	.940	4	84	.445	.043
	Roy's Largest Root	.085	1.867	2	44	.167	.078

From Table 11, there is no statistically significant interaction effect of group and sex on the combined posttest and delayed posttest,  $F(4, 88) = .951, p = .439$ , partial eta squared = .041. Separate univariate analysis using Bonferroni's alpha of .025 used. Table 12 presents details of the results on the univariate analysis.



**Table 12: Univariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension based on Sex**

Source	Dependent	df	Mean		Sig.	Partial Eta
	Variable		Square	F		Squared
Corrected	Posttest	6	1760.250	13.621	.000	.650
Model	Delayed Posttest	6	2183.305	14.203	.000	.659
Intercept	Posttest	1	8535.049	66.043	.000	.600
	Delayed Posttest	1	6956.708	45.254	.000	.507
Pretest	Posttest	1	1053.462	8.152	.007	.156
	Delayed Posttest	1	1192.245	7.756	.008	.150
Group	Posttest	2	4617.645	35.731	.000	.619
	Delayed Posttest	2	5462.214	35.532	.000	.618
Sex	Posttest	1	105.636	.817	.371	.018
	Delayed Posttest	1	481.225	3.130	.084	.066
Group*Sex	Posttest	2	173.335	1.341	.272	.057
	Delayed Posttest	2	279.716	1.820	.174	.076
Error	Posttest	44	129.234			
	Delayed Posttest	44	153.726			
Total	Posttest	51				
	Delayed Posttest	51				
Corrected	Posttest	50				
Total	Delayed Posttest	50				

As shown in Table 12, no statistically significant interaction effect of group and sex on both the posttest,  $F(2, 44) = 1.34$ ,  $p = .272$ , partial eta squared = .057; and delayed posttest,  $F(2, 44) = 1.82$ ,  $p = .174$ , partial eta squared = .076. These results imply that there is difference in the effectiveness of the carousel and jigsaw on the basis of sex. By implication, it can be said that sex does not discriminate the effectiveness of carousel and jigsaw instructional strategies. This means that both carousel and jigsaw equally worked for both male and female learners with reading

comprehension difficulty. Table 13 presents the group by sex distribution of mean scores.

**Table 13: Adjusted for Posttest Means for Groups based on Sex**

<b>Dependent Variable</b>	<b>Group</b>	<b>Sex</b>	<b>Mean</b>	<b>Std. Error</b>
Posttest	Carousel	Male	87.865 <sup>a</sup>	3.672
		Female	92.052 <sup>a</sup>	4.312
	Jigsaw	Male	88.711 <sup>a</sup>	3.734
		Female	84.185 <sup>a</sup>	4.332
	Control	Male	63.805 <sup>a</sup>	3.850
		Female	55.375 <sup>a</sup>	4.029
Delayed posttest	Carousel	Male	85.229 <sup>a</sup>	4.005
		Female	88.414 <sup>a</sup>	4.703
	Jigsaw	Male	87.395 <sup>a</sup>	4.072
		Female	77.380 <sup>a</sup>	4.724
	Control	Male	59.496 <sup>a</sup>	4.199
		Female	47.611 <sup>a</sup>	4.394

a. Covariates appearing in the model are evaluated at the following values: pretest = 37.3915.

The adjusted mean scores for the posttest ranges from 55.38 to 92.05, while that of the delayed posttest range from 47.61 to 88.41 (Table 13). Based on the evidence gathered from the study, the null hypothesis that “there is no statistically significant sex difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners” was rejected in favour of the alternative hypothesis. Therefore, it can be said that both carousel and jigsaw equally worked for both male and female learners with reading comprehension difficulty.

### Hypothesis 3

*H<sub>0</sub>: There is no statistically significant age difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.*

*H<sub>1</sub>: There is a statistically significant age difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.*

The focus of this research question was to determine the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension with respect to age category. Data gathered on this hypothesis was tested using two-way MANCOVA test. The independent variables were group and age category. Group had three levels, namely, carousel, jigsaw, and control groups. Age category, however, had two levels, namely, 12 – 15 years and 16 – 19 years. The covariate was pretest scores of participants. The result violated homogeneity of covariance assumption, Box's  $M = 24.01$ ,  $F(12, 3130.64) = 1.76$ ,  $p = .050$ . Following this violation, Pillai's Trace multivariate test was used to test the hypothesis. Details of the multivariate test are shown in Table 14.

**Table 14: Multivariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension based on Age**

Effect		Value	F	df1	df2	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.650	39.882	2	43	.000	.650
	Wilks' Lambda	.350	39.882	2	43	.000	.650
	Hotelling's Trace	1.855	39.882	2	43	.000	.650
	Roy's Largest Root	1.855	39.882	2	43	.000	.650
Pretest	Pillai's Trace	.232	6.506	2	43	.003	.232
	Wilks' Lambda	.768	6.506	2	43	.003	.232
	Hotelling's Trace	.303	6.506	2	43	.003	.232
	Roy's Largest Root	.303	6.506	2	43	.003	.232
Group	Pillai's Trace	.691	11.613	4	88	.000	.345
	Wilks' Lambda	.313	16.960	4	86	.000	.441
	Hotelling's Trace	2.189	22.982	4	84	.000	.523
	Roy's Largest Root	2.184	48.040	2	44	.000	.686
Age category	Pillai's Trace	.179	4.703	2	43	.014	.179
	Wilks' Lambda	.821	4.703	2	43	.014	.179
	Hotelling's Trace	.219	4.703	2	43	.014	.179
	Roy's Largest Root	.219	4.703	2	43	.014	.179
Group * age category	Pillai's Trace	.094	1.087	4	88	.368	.047
	Wilks' Lambda	.906	1.084	4	86	.369	.048
	Hotelling's Trace	.103	1.081	4	84	.371	.049
	Roy's Largest Root	.098	2.150	2	44	.129	.089

There was no statistically significant effect of group and age category interaction,  $F(4, 88) = 1.09$ ,  $p = .368$ , partial eta squared = .047 (Table 14). Using Bonferroni's adjusted alpha of .025, univariate analysis was conducted and presented in Table 15.

**Table 15: Univariate Tests on the Effect of Carousel and Jigsaw Instructional Strategies on Learners' Performance in Reading Comprehension based on Age Category**

Source	Dependent Variable	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	Posttest	6	1968.748	19.531	.000	.727
	Delayed Posttest	6	2366.538	18.382	.000	.715
Intercept	Posttest	1	7968.581	79.051	.000	.642
	Delayed Posttest	1	6517.391	50.625	.000	.535
Pretest	Posttest	1	1166.277	11.570	.001	.208
	Delayed Posttest	1	1360.150	10.565	.002	.194
Group	Posttest	2	4109.656	40.769	.000	.650
	Delayed Posttest	2	5054.967	39.265	.000	.641
Age category	Posttest	1	907.543	9.003	.004	.170
	Delayed Posttest	1	860.810	6.686	.013	.132
Group * age category	Posttest	2	136.113	1.350	.270	.058
	Delayed Posttest	2	269.693	2.095	.135	.087
Error	Posttest	44	100.802			
	Delayed Posttest	44	128.740			
Total	Posttest	51				
	Delayed Posttest	51				
Corrected Total	Posttest	50				
	Delayed Posttest	50				

From the univariate analysis, no statistically significant interaction effect of group and age category on both the posttest,  $F(2, 44) = 1.35, p = .270$ , partial eta squared = .058; and delayed posttest,  $F(2, 44) = 2.10, p = .135$ , partial eta squared = .087 (Table 15). Basically, the results mean that there no differences in the effectiveness of carousel and jigsaw interventions based on the age category of the respondents. Table 16 presents the adjusted means for the groups.

**Table 16: Adjusted for Posttest Means for Groups based on Age Category**

<b>Dependent Variable</b>	<b>Group</b>	<b>Age category</b>	<b>Mean</b>	<b>Std. Error</b>
Posttest	Carousel	12-15 years	89.732 <sup>a</sup>	2.661
		16-19 years	87.906 <sup>a</sup>	7.100
	Jigsaw	12-15 years	92.844 <sup>a</sup>	3.385
		16-19 years	80.312 <sup>a</sup>	3.674
	Control	12-15 years	64.846 <sup>a</sup>	2.900
		16-19 years	47.723 <sup>a</sup>	4.515
Delayed posttest	Carousel	12-15 years	86.124 <sup>a</sup>	3.007
		16-19 years	88.772 <sup>a</sup>	8.024
	Jigsaw	12-15 years	90.575 <sup>a</sup>	3.826
		16-19 years	75.362 <sup>a</sup>	4.153
	Control	12-15 years	59.184 <sup>a</sup>	3.277
		16-19 years	41.090 <sup>a</sup>	5.102

a. Covariates appearing in the model are evaluated at the following values: pretest = 37.3915.

As indicated in Table 16, the adjusted mean scores for the posttest ranges from 47.72 to 92.84, whereas that of the delayed posttest range from 41.09 to 90.58. Based on the evidence gathered from the study, the null hypothesis that “there is no statistically significant age difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners’ was rejected in favour of the alternative hypothesis. Following this, it can be concluded that both carousel and jigsaw equally worked for both learners with reading comprehension difficulty, irrespective of their age category.

## CHAPTER FIVE

### DISCUSSION OF FINDINGS

#### 5.0 Introduction

This chapter presents the major findings of the study where inferences were drawn in the view of findings from other previous studies. The findings are discussed in line with the hypothesis which were raised in the study.

#### 5.1 Hypothesis 1

*H<sub>0</sub>: There is no statistically significant effect of (a) carousel and (b) jigsaw instructional strategies on learners' performance in reading comprehension.*

*H<sub>1</sub>: There is statistically significant effect of (a) carousel and (b) jigsaw instructional strategies on learners' performance in reading comprehension.*

This hypothesis sought to determine the effect of each of (a) Carousel and (b) Jigsaw Instructional Strategies on learners' performance in reading comprehension. The study revealed a statistically significant difference in posttest scores for participants across the groups. The results showed that 60% of variations in the posttest scores was accounted for by the groups. The results further showed that carousel and jigsaw instructional strategies were effective in enhancing learners' performance in English language comprehension.

The result of this study implies that Carousel Instructional Strategy places learners in a position to construct their ideas coherently without difficulties. This is because through this strategy, learners are motivated and well informed to carry out any task that demands reasoning. As learners move from one station to the other to attempt each of tasks presented, new concepts are formed in order to provide meaningful argument from any reading text. Learners are being exposed to varied



ways to approach problems that demand comprehension since a lot of ideas unfold out of learners' interaction. The findings of this strategy challenge learners to make the best options from a lot of available possible options, which should not have been possible without Carousel Instructional Strategy. The findings also boost learners' confidence level as they move from one station to another to complete a given task, which seems to be important catalyst to elevate learners from their academic difficulties. As learners start moving from one station to another in Carousel Instructional Strategy, arouses and sustains them in learning, since they see learning as student centred. Maximum control of learners learning is being ensured in Carousel Instructional Strategy couple with inner drive of each student to support the group to achieve a desire goal. The finding that Carousel Instructional Strategy is very efficacious in teaching reading comprehension corroborates Thomas and Owen's (2019) study. They found Carousel Instructional Strategy an effective pedagogical strategy that motivates basic school learners in England to learn Foreign Language.

The observations of this investigation are supported by researchers who have done extensive work in the field of Carousel Instructional Strategy (Tunrayo et al., 2021; Turner et al., 2021). In their study, Tunrayo et al. (2021) corroborate Turner et al. (2021) found out that Carousel Instructional Strategy seeks to bring to bear its result driven pedagogy, seems to bring hope to learners with reading comprehension difficulties. According to the authors, Carousel Instructional Strategy drives learners to assume and sustain maximum control in teaching and learning process. They continue to add that culture of learning and for that matter long-life learning is one of the important ingredients that propel Carousel Instructional Strategy to achieve its desire objective for learners who have difficulties in reading comprehension.

Mubarok (2014) confirmed that Carousel Instructional Strategy equip learners with needed skills of communication and reporting as they move from one station to another station, to complete their reading comprehension task. Voloshyna (2021) added that in Carousel Instructional Strategy learners are being equipped with the needed skills of practice of evaluating other student's work through constructive criticism. Team building is other ingredient that defines Carousel Instructional Strategy as indicated by Pulgar, Fahler and Spina (2021) that shared responsibilities always produce a better result no matter how difficult a task may be. According to the authors, this team building brings about a behavioural change in the life of every student to give his/ her best to regards to the assigned responsibility. It can be argued that because Carousel Instructional Strategy is more participatory in nature, the individuals actively partake and also learn from their peers and hence, its ability to enhance learners' reading ability.

Denha, Lilik, Boyko and Yudenok (2021) claimed that Carousel Instructional Strategy offers learners the opportunity to own their work. They continued to admit that the activities that go into Carousel Instructional Strategy are fully participant centred where learners are always be in the position to explore more concepts and allows them to exercise maximum control on their work. Hasin and Nasir (2021) observed that Carousel Teaching Strategy offer learners opportunity to abreast with new information that are shared among members in the group, through active and participant-centered pedagogy. The author adds that in Carousel Teaching Strategy, there are effective and efficient collaboration exist among members in the group by consolidating team spirit in solving problems. Carousel Instructional Strategy ensures useful peer interaction. This useful peer interaction and cooperation coupled with in-depth analysis of the demand of

assigned task provided at the various stations are easily managed and properly solved. The useful peer interaction and cooperation as observed by Owen and Thomas (2021) is capable of building a learning community. The learners in this learning community, according to the authors, seeks to tap various views and ideas from each member in the group to answer those comprehension questions, being posted at each station. In Carousel Instructional Strategy learners learn in the atmosphere of peace and harmony. Each student in the group contributes immensely to the assigned task to the group. There is effective cooperative learning coupled with equal partnership in the learning environment (Danserean, 2014). Tunrayo et al. (2021) and Turner et al. (2021) and stress that knowledge and skills gained from Carousel Instructional Strategy which enable learners to explore many challenging tasks in their academic pursuit. As learners go through Carousel Instructional Strategy, lot of vocabularies are developed as they move from one station to another station as this corroborate Johannas and Mahanangingtyas (2021) indicate that Carousel Instructional Strategy offers learners privilege to be exposed to a lot of vocabulary. This vocabulary acquisition of the learners facilitates reading comprehension among them.

The activity based of Carousel Instructional Strategy places learners at the centre of learning and regards teachers as facilitators who moderate teaching and learning process (Rababah, 2021). Learners who are below average intellectual functioning are being challenged through Carousel Instructional Strategy to learn from those who are above average intellectual functioning. The nature of Carousel Instructional Strategy does not permit learners domineering in the teaching and learning process. Carousel Instructional Strategy allows every student in the group to be entitled to support the entire group's activity dispassionately to achieve a

desire objective. Carousel Instructional Strategy promotes unity of purpose and for that matter shared responsibility to achieve a common goal for the group. Carousel Teaching Strategy allows, learners to learn cooperatively and be accountable for the success of the group. Tasks are often learnt together which couple with shared responsibility. The group are able to bring their expertise to bear to achieve one common objective (Paolini et al., 2021). Johannes and Mahanangingtyas (2021) stress that Carousel Instructional Strategy as a questioning strategy, in which varieties of questions are presented, to encourage learners to come out with lots of ideas, to support group work and allow physical movement which seeks to arouse and sustain learners' interest in the lesson. The debriefing nature ending Carousel Instructional Strategy, pulls all learners along in the path of having equal access of the subject matter learnt throughout the contact hours (Kayode & Samson, 2021).

Again, in the current study, it was also revealed that Jigsaw Instructional Strategy was not effective to enhance learners' performance in reading comprehension. This finding corroborates the study by Serdyukov (2017) indicated that in Jigsaw Instructional Strategy when each individual student fails to assume a sense of responsibility to learnt aspect of a topic or subject and then teach it to other student, Jigsaw Instructional Strategy loses its usefulness. The success of the group lies on how committed and motivated each student has to execute the task being assigned to various groups (Serdyukov, 2017). Sulisworo, Ishafit and Firdausy (2016) supported that the objective of the whole activity of Jigsaw Instructional Strategy, becomes counter-productive when learners demonstrate weak intelligent footing. This weak intellectual footing to the large extent impedes the success of each Jigsaw Instructional Strategy. The authors concluded that a healthy active cooperation and participation need to be established first and foremost to drives

maximum application of Jigsaw Instructional Strategy to attain its desire goal (Sulisworo, Ishafit & Firdausy, 2016). A situation where active participation and cooperation are lacking, the outcome of the whole Jigsaw Instructional Strategy would be purposeless (Aydin & Biyikli, 2017). According to Berger and Hanze (2015) in Jigsaw Instructional Strategy in a situation when learners believe that their individual efforts are not in line to their group's performance, some negative or lackadaisical attitude group procedures like social rejection may occur in jigsaw activity. Another study by Musthafa and Gustine (2015) corroborate Berger and Hanze (2015) indicated that when the cooperative duties assigned to teammates are not difficult enough to need joint effort, group members may consider their individual efforts to be superfluous.

## 5.2 Hypothesis 2

***H<sub>0</sub>: There is no statistically significant sex difference in the effectiveness of (a) carousel, (b) and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.***

***H<sub>1</sub>: There is a statistically significant sex difference in the effectiveness of (a) carousel, and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.***

In the current study, it was revealed that in reading comprehension, both male and female performance did not differ significantly, therefore, the null hypothesis was not rejected. The findings of this study that males and females did not differ statistically is in support with a couple of studies (Korkmaz & Öz, 2021; Yadollah, Afsar & Manouchehr, 2015). The findings of the studies stated earlier equally found both male and females performing at the same level. This means that both males and females who were exposed to all the two instructional strategies,

such as carousel and jigsaw produced no significant difference among the groups. The results imply that the two instructional strategies do not discriminate in terms of their efficacy, they work equally for both male and female struggling readers.

In studies conducted in an area of reading comprehension, the issue of gender more often than not is explored. Ahmed et al. (2021) added that males and females have proven to be significantly different in their performance in reading comprehension. However, Korkmaz and Öz, (2021) reported that males and females shown no marked variation in reading comprehension performance. Yadollah, Afsar and Manouchehr (2015) indicated in their studies the results of comparisons drawn between males and females' reading comprehension performance in the descriptive macro-genre showed that there was no significant difference between the groups involved. On the contrary, Stann (2020) noted that researchers from the University of Missouri and the University of Essex in the UK discovered that males had worse reading abilities than girls throughout adolescence. According to the author, poor reading skills as shown earlier by the researchers produce a significant difference between boys' and girls' reading comprehension performance.

Furthermore, there was no gender impact on reading comprehension accomplishment of children, according to Adediran and Eni-Olorunda (2013), and there was no marked interaction effect of treatment and gender on reading comprehension performance of learners. Moreover, in the Integrated Laboratory School, Elementary Department of the Western Mindanao State University, Miñoza and Montero (2019) determined the respondents' comprehension levels and identified the teachers' teaching reading practices in order to draw implications for the development of a reading programme. There was no notable change between

males and females in the research. However, there was a sex difference in the level of comprehension on oral reading with females performing better as against males.

On the contrary, couple of studies disconfirmed this current study in respect to gender difference in reading comprehension. Anjum (2015) performed research to determine the association between arithmetic performance and reading comprehension, as well as gender differences in math success among learners in the upper primary grades. The data demonstrated that at the upper primary school level, there was a considerable gap in math proficiency between girls and boys. At the upper elementary school level, there was also a significant disparity in reading comprehension between boys and girls. In the same vein, Karizak and Khojasteh (2016) looked at the impact of teaching three different reading techniques on foreign language (L2) learners' reading comprehension abilities, as well as the influence of gender in this intervention. The study's findings demonstrated that using reading techniques had a considerable impact on L2 learners' reading comprehension abilities. It also revealed that not only did male learners use reading methods more than female learners, but that male learners also had better reading comprehension scores than female learners. As a result, it seems that reading strategy training increased learners' knowledge of these methods and may have encouraged some learners to employ them, perhaps improving learners' reading comprehension skills.

Again, Sahin (2013) explored the impact of narrative and informative text styles on reading comprehension skills in 4th and 5th grade pupils in Primary Education. The application was completed with 134 pupils at a primary school in the province of Kirsehir during the 2011-2012 academic year. The study's data gathering technique was reading comprehension tests designed according to text



kinds. When analyzing reading comprehension marks of learners according to text kinds, t-tests were used for dependent samples, while t-tests were used for independent samples when analyzing reading comprehension marks of learners in terms of sex. According to the findings of the research, learners grasp narrative writings better than informational texts they read. Additionally, with the exception of 5th grade informative texts, there was a substantial difference in favour of female learners in the narrative texts reading comprehension marks of male and female learners for all tests.

### **5.3 Hypothesis 3**

*H<sub>0</sub>: There is no statistically significant age difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.*

*H<sub>1</sub>: There is a statistically significant age difference in the effectiveness of (a) carousel and (b) jigsaw instructional strategies in teaching and learning of reading comprehension among Junior High Two Learners.*

The results of this current study show that neither carousel nor jigsaw discriminates in their effectiveness in terms of age. Thus, age category does not moderate the effectiveness of the aforementioned instructional strategies such as carousel and jigsaw. The study's results imply that carousel and jigsaw instructions equally work for struggle readers. This means that junior high school learners who struggle with reading can be helped using carousel instructional strategy. This result is possible because, when the rudiments of the two instructional strategies are examined, it appears none of them is age sensitive, signifying that struggle readers of all ages can be aided with the instructional strategies. Another possible explanation for the results could be due to the fact that participants in this were

cohorts and their ages were between 12 and 19 years. The disparities in terms of their ages were not that much, and for that matter, appear to be homogenous. This could account for the non-significant difference in the effectiveness of the instructional strategies with regards to age category. Regarding the ages of the participants, majority of them were drawn from ages of 12 to 15 having 70.6%. The implication is that, irrespective of learners' age, their performance in English language comprehension do not differ with Carousel and Jigsaw. Again, as far as age is concerned, all the strategies chosen were suitable for the learners to work with.

### **Relationship between the result of the study with constructivist learning theory with respect to Carousel Instructional Strategy**

The result of this study aligned well with constructivist learning theory with Carousel Instructional Strategies. In that this theory seeks to bring the learning environment as close as possible for effective teaching and learning. The theory put learners in a position to explore and dig deep with the resources at their disposal to solve problem. In this theory, therefore, learners are guided to construct knowledge and build new knowledge on the foundation on the previous learning. It is inextricably linked to Carousel Instructional Strategy. In Carousel Instructional Strategy, learners are engaged meaningfully through an activity. The activity seeks to allow the learners to explore various options available to provide solution to the task assigned to the learners. Self-directed learning is being enforced in this strategy which is also carefully engineered by constructivist learning theory. In Carousel Instructional Strategy, learners are put into groups where tasks are placed at various stations for the groups to solve. Learners in each group approached the task differently as they attempted to construct individual's ideas which were aligned

together and were well assessed by the group before they were posted on the wall. Constructivist learning theory as noted by Bada and Olusegun (2015) is learner-centric, edging and empowering learners to contribute in active ways to teaching and learning process, instead of just listening and assimilating information in a passive manner.

In Carousel Instructional Strategy, learners were offered the needed support and drive to achieve the intended objective. Carousel Instructional Strategy allowed a student contribution of a given comprehension task be well noticed, to the group members towards a desire goal for the entire group. Similarly, Voloshyna (2021) in his studies added that in Carousel Instructional Strategy, learners are being equipped with the needed skills of practice of evaluating other student's work through constructive criticism. The author indicated that Team building is other ingredient that defines Carousel Instructional Strategy as stressed by Pulgar, Fahler and Spina (2021) that shared responsibilities always produce a better result no matter how difficult a task may be. According to the authors, this team building brings about a behavioural change in the life of every student to give his/ her best to regards to the assigned responsibility. That is to say that in the lens of Vygotsky (1978) individual learner's contribution to the learning process is paramount in respect to reading comprehension. Vygotsky (1978) with an assumption on constructivist learning theory that learning is a result of the individual's interaction with the environment. This assumption is in support of Carousel Instructional Strategy in that as learners were tasked to move from one station to another, they were able to explore learning environment to its logical conclusion for better understanding of a concept learnt.

In another development, Carousel Instructional Strategy was effective in that it seeks to compel learners to bring their expertise to bear, to construct meaning

from learning environment. In constructivist perspective, knowledge is constructed as learners make meaning of their experiences in the world. In support of knowledge creation, learning material is not autonomous of how it is gained; what a student learns is a function of the environment of learning, the student's objectives, and the activity in which the student is engaged (Vygotsky, 1978). According to Morchid (2020), constructivist learning theory translates into diverse learning and teaching strategies that capitalise on sociocultural elements in education. Carousel also allows social engagement as they approach a given task provided for learners to work on. Learners co-operate with one another in a group so as to provide the best response to the set of questions posted at various stations in the classroom.

Bhattacharjee (2015) asserts that a constructivist class is not only about lecturing learners; it is also about acting as an experienced facilitator who can help them adopt intellectual methods like self-testing, expressing knowledge, probing inquiries, and introspection. Carousel Instructional Strategy organises its activities to achieve a desire purpose as rightly pinpointed by Bhattacharjee (2015). Among which of the Carousel Instructional Strategy suggested by Bhattacharjee include, student-centred learning, ability to critique other group's work through reflection and team building. Learners learn better when they are guided to exercise maximum freedom to regulate their own learning. According to the author, in constructivist classrooms, the teacher's function is similar to that of the carousel. Both aim to arrange knowledge around significant concepts that pique learners' attention, as well as to enable learners in gaining new insights and connecting them to past learning. Learners are motivated to ask their own questions, conduct their own investigations, draw their own connections, and reach their own judgments as part of the activities, according to Bhattacharjee.

Rose (2022) in his study on constructivist theory suggested that the student takes a considerably more active role in "constructing" new meanings in collaboration with the instructor. Which also is consistent with Carousel Instructional Strategy. This strategy revealed that the learners work effectively and efficiently with maximum support from the teacher otherwise known as a facilitator. Learners receive sufficient directive from the facilitator as carousel activities unfold. Learners could not have accomplished an assigned task, once they have not paid heed to directives from the facilitator.

Carousel Instructional Strategy situated well with the main tenet of constructivist theory which suggest that individual uses the knowledge acquired to create his/ her own understanding of the world. Carousel Instructional Strategy does similar work by challenging learners who are already in groups to present varying ideas based on their understanding on the concept. At the end of carousel activities learners were well equipped to have learnt a great lesson from other learners within the stipulated time.

In Carousel Instructional Strategy as learners move from one station to the other station, their knowledge about a concept increase. This is because, each task presents at various station in the classroom promote an appreciable challenge, to unearth the skills the learners have in comprehension. As suggested by Glaserfeld (2010) in constructivist theory, reality, knowledge, and learning are considered to be constructed by individual's experiences. Also, it is believed that the learner should bear a greater share of the responsibility for learning (Glaserfeld, 2010). As a result, Constructivism stresses the necessity of the learner's active participation in the learning process, which is the primary emphasis of Carousel Instructional Strategy.

### **Relationship between the result of the study with Social Disability Model with respect to Carousel Instructional Strategy**

The result of the study revealed highly significant difference of Carousel Instructional Strategy on the performance of learners with reading comprehension difficulties, which based on the contribution of social model of the disability. The Social Model of Disability seeks to bring to bear effective strategies attempt to address the academic barriers of individual with special needs. Carousel Instructional Strategy align itself well with Social Model of Disability since this strategy recognises and respect the contribution of all learners of a given task. Carousel Instructional Strategy supports team work and shared responsibility among learners. The views and ideas from each member in the group are considered for the success of the team. In social learning model no member is left out. Each member in the group accords each other with dignity and respect and willing to support one another's academic work. The Carousel Instructional Strategy permits effective co-operation among members in the team by supporting each other to maximise their potentials.

The flexibility of Carousel Instructional Strategy motivates members to express their views freely, however, unproductive it may be. Member in the team with a common goal to be successful in Carousel Instructional Strategy put pieces of ideas together so as to present a common distillate idea for the team. The social model of disability recognises that people with impairments are disabled by the barriers in society. With Carousel Instructional Strategy, enabling environments are created to offset the academic barriers that might be created to impede academic progress of individual with learning challenge. Removing these barriers means starting with the belief that all human life is precious and deserving of love and

support. In the same vein, Carousel Instructional Strategy also recognises cooperation among learners to attain a common goal. Those who are academically inclined are able to support those who have difficulties in studying.

As the learners are engaged in Carousel activities, they are able to demonstrate their strengths and weaknesses. The success of group assignment given by the facilitator for the period are accredited to the entire group. The objective that supports Carousel Instructional Strategy produces team spirit coupled with effective goal attainment driven. The Social Model of Disability provides us with understanding and, more significantly, its practical aim is to remove the obstacles that prevent impaired persons from participating in an activity. Learners are intrinsically motivated to participate fully in teaching and learning process. The kinaesthetic nature of Carousel Instructional Strategy generates healthy competition among learners regardless of their academic disabilities. The Carousel Instructional Strategy allows varying ideas from learners to be recorded and shared among learners in a given activity. Social Disability Model stemmed from the fact disability is inability. This simply means in Carousel Instructional Strategy welcoming learning environment are created to invite all learners to bring their expertise to bear in teaching and learning process. Equal access and equal participation in teaching and learning process are well noted and recognised to deepen the understanding of learners. Discrimination is not tolerated since the success of a learners is attributed to the joint effort by the entire groups assigned by the facilitator.



### **Relationship between the result of the study with Social Disability Model in respect to Jigsaw Instructional Strategy**

The study purported insignificant difference of the performance of learners in reading comprehension. The poor performance of learners in Jigsaw Instructional Strategy was accounted for due to the restriction imposed on mother grouping session which extended to the group of experts. In the lens of Social Disability Model, the restriction prevents the necessary intervention to be made to restore individual with special needs to maximize his/ her potentials. Again, the restriction also demotivates individual not to put up any effort to support any activity assigned to the learners. Jigsaw Instructional Strategy certainly fails once a distinction is made between slow learners and fast learners. The distinction forms academic barriers which render teaching and learning in the classroom counterproductive. The second round of Jigsaw Instructional Strategy allows active participation of each student to share every bit of information learnt at the mother grouping session. When learners are misguided to assume mastery over the assigned task to various groups, false information are put across for learners' consumption.

## CHAPTER SIX

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 6.0 Introduction

The aim of this study sought to examine the effects of Carousel and Jigsaw Instructional Strategies on learners with reading comprehension difficulties in Public JHS Two at New Juaben South Municipality, Koforidua.

#### 6.1 Summary

##### 6.1.1 Overview of the study

The study sought to examine the effectiveness of Carousel and Jigsaw Instructional Strategies on learners with reading comprehension difficulties in Public JHS Two (2) at New Juaben South Municipality, Koforidua. The study dealt with three (3) objectives which was teased out from the study's aim. The study also sought to test three (3) hypotheses to ascertain the viability or otherwise of the strategies employed in teaching reading comprehension. The research was conducted with quasi-experimental design specifically non-equivalent pre-test, post-test control group design with delayed posttest. The study's population comprised of all SHS Two (2) learners from New Juaben South Municipality in Koforidua who have reading difficulty. The purposive sampling was used to sample the three (3) schools numbering 51 comprising 29 males and 22 females. The reading comprehension achievement test with KR-20 reliability estimate of .89 was used for data collection. The data collected were analysed with means and standard deviations, ANOVA test, and MANCOVA. The 25<sup>th</sup> version of SPSS software helped in processing the data.

### **6.1.2 Key findings of the study**

1. There was a statistically significant difference in posttest scores for participants across the groups. The results showed that 60% of variations in the posttest scores was accounted for by the groups. The results further showed that carousel and jigsaw instructional strategies were effective in enhancing learners' performance in English language comprehension.
2. The interaction between group and sex were not statistically significant. The implication of the results is that, 4.1% of the variations in the posttest scores was accounted for by the interaction between group and sex. The results showed that neither carousel nor jigsaw discriminates in their effectiveness with respect to sex. Thus, irrespective of learners' sex, their performance in English language comprehension did not differ.
3. The study also revealed no significant interaction between group and age category. The result means that the interaction term accounted for less than 2% of the variations in participants' performance in English language comprehension. The results imply that age category did not discriminate the effectiveness of carousel nor jigsaw instructional strategies in teaching and learning of reading comprehension.

### **6.2 Conclusions**

It was noted from the study that learners with reading comprehension difficulties could overcome where Carousel and Jigsaw Instructional Strategies were employed. This strategy was found useful because it offered the learners the motivational empowerment to be in charge of their own learning. Carousel and Jigsaw Instructional Strategy challenged learners thinking to approach reading comprehension in the way that maximised their performance.

Moreover, even though Carousel and Jigsaw were effective, their effectiveness was not moderated by sex and age, it could not be completely relegated to the background. This study would set a stage to continue search to identify number of teaching strategies that would remediate learners' difficulties in reading comprehension in schools worldwide as well as the role demographic variables such as age and sex have.

### **6.3 Recommendations**

Following the findings of the study, the following recommendations were made:

1. Regular Teachers and Special Educationists should be well resourced to use Carousel and Jigsaw Instructional Strategies to help improve the reading ability of learners with reading comprehension difficulties in basic schools in Ghana.
2. Regular Teachers and Special Educationists are encouraged to employ Carousel and Jigsaw Instructional Strategies in dealing with reading difficulty of readers of all kinds, irrespective of their age and sex, since Carousel and Jigsaw Instructional Strategies were equally effective for all.
3. The New Juabeng South Municipal Education Directorate is entreated to organise workshops for their teachers on Carousel and Jigsaw Instructional Strategies, and how they can be applied to help improve reading ability of learners with reading comprehension difficulties.
4. The Special Education Unit of the New Juabeng South Municipal Education Directorate should adopt Carousel and Jigsaw Instructional Strategies as one of their interventional procedures for persons with reading difficulty and other related special educational needs.

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## APPENDIX A

### INTRODUCTION LETTER



6<sup>th</sup> October, 2020

TO WHOM IT MAY CONCERN

Dear Sir,

**LETTER OF INTRODUCTION: MR. WILLIAM KWASI AGYEI**

I write to introduce to you, **Mr. William Kwasi Agyei** a PhD student of the Department of Special Education with index number 9150150001.

He is currently working on his thesis on the topic: **"Effects of Carousel Jigsaw and Individualistic Strategies on Struggling Readers Performance in Reading Comprehension in Public JHS two Students at Koforidua"**. He will use Reading Comprehension Achievement Test to collect his data.

I would be grateful if you could give him the needed assistance to enable him collect the data.

Thank you for the consideration and assistance.

Yours faithfully,



**DR. DANIEL S. Q. DOGBE**  
*Ag. Head of Department*

## APPENDIX B

# GHANA EDUCATION SERVICE

Tel. No. 03420 - 22471  
Email: [njmedu.office@gmail.com](mailto:njmedu.office@gmail.com)



New Juaben South Education Directorate  
Post Office Box 203  
Koforidua - Eastern Region  
Ghana, W/Africa

*In case of reply the number and date of this letter should be quoted*

Our Ref: GES/ER/NJSME/P.27/Vol. 2/  
Your Ref:

Date: 23rd October, 2020

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**MR. WILLIAM KWESI AGYEI  
S.D.A COLLEGE OF EDUCATION  
POST OFFICE BOX 18  
ASOKORE-KOFORIDUA**

### **PERMISSION TO CONDUCT AN EXPERIMENTAL RESEARCH IN THE MUNICIPALITY**

The Municipal Education Directorate is willing to assist you to conduct your research if you would abide by these conditions.

- Not to disclose the results of the school to the Public because it is confidential to the individuals and the school.
- The Directorate shall be given a copy of the finished work for which the results were used.

If you can abide by these conditions, the Directorate would be in a position to assist you.

Thank you.

A handwritten signature in black ink, appearing to read 'Victor deGrart-Etison', written over a circular stamp of the Ghana Education Service.

**VICTOR deGRART-ETSISON  
MUNICIPAL DIRECTOR OF EDUCATION.  
NEW JUABEN SOUTH**

cc:

- Front line, NJSMED
- The Exams Officer, NJSMED

## APPENDIX C

University of Education, Winneba  
Department of Special Education  
Box 25, Winneba.

5<sup>th</sup> October, 2020.

Dear Teacher,

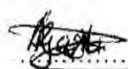
### INFORMED WRITTEN CONSENT TO PARTICIPATE IN RESEARCH

I salute and thank you for the great work that you are doing in your school as a fellow teacher. I am a student at the University of Education, Winneba pursuing a Doctor of Philosophy Degree course in Special Education. I am to conduct research in your school as one of the requirements for the course. The focus of my research is on the *“Effects of Carousel, Jigsaw and Individualistic Strategies on struggling readers’ performance in reading comprehension in Public Junior High School in New Juaben South Municipality”*

This school is randomly selected for the study to examine the extent to which Carousel, Jigsaw and Individualistic Strategies affect struggling readers’ performance in reading comprehension in Public Junior High School in New Juaben South Municipality”

All the pupils in the class will be used for the study. However, individuals may choose to participate or not, and to withdraw from the study voluntarily, if they reasonably think so. Participants are not required to write their names on any form or document provided. All information provided will solely be used for research purpose and shall be treated with utmost confidentiality.

On your part, you are requested to decide voluntarily by signing below if you accept to offer me the needed support in this research. Please do not write your name in this letter.

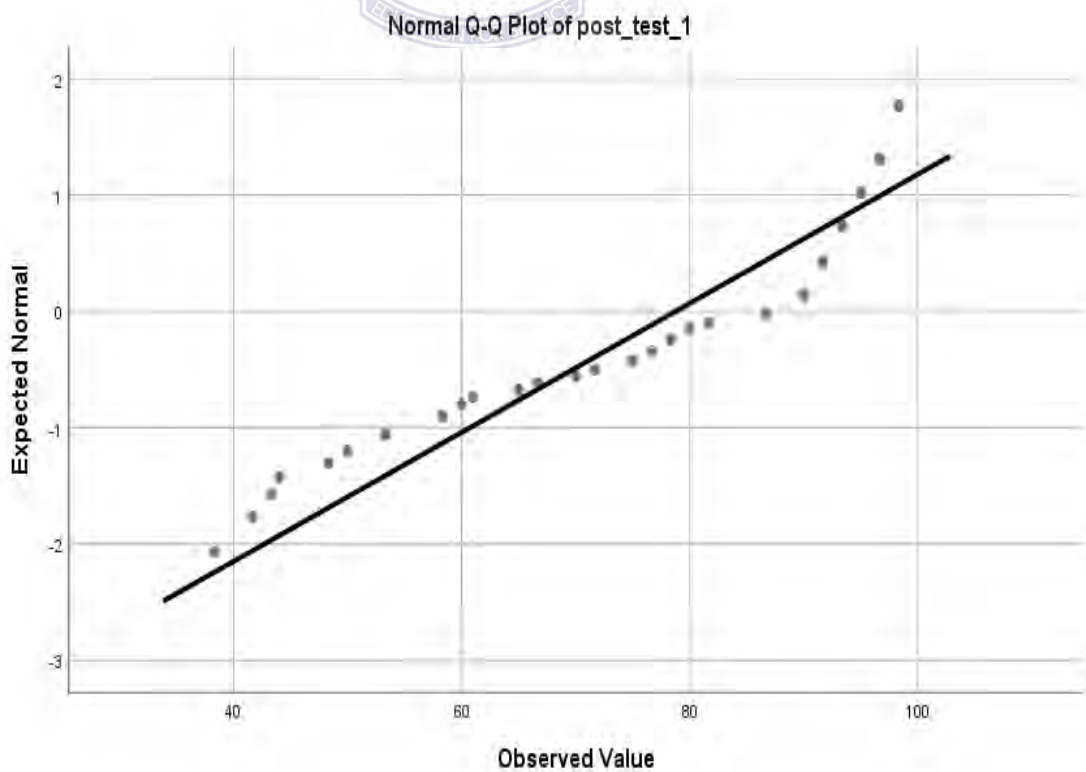
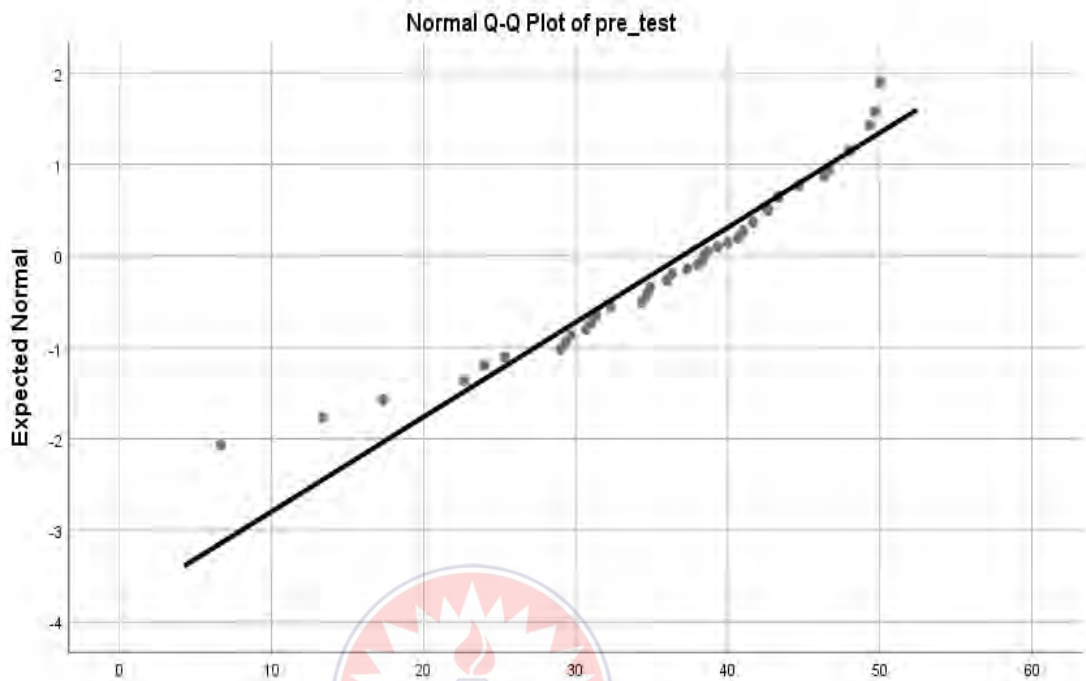
 .....

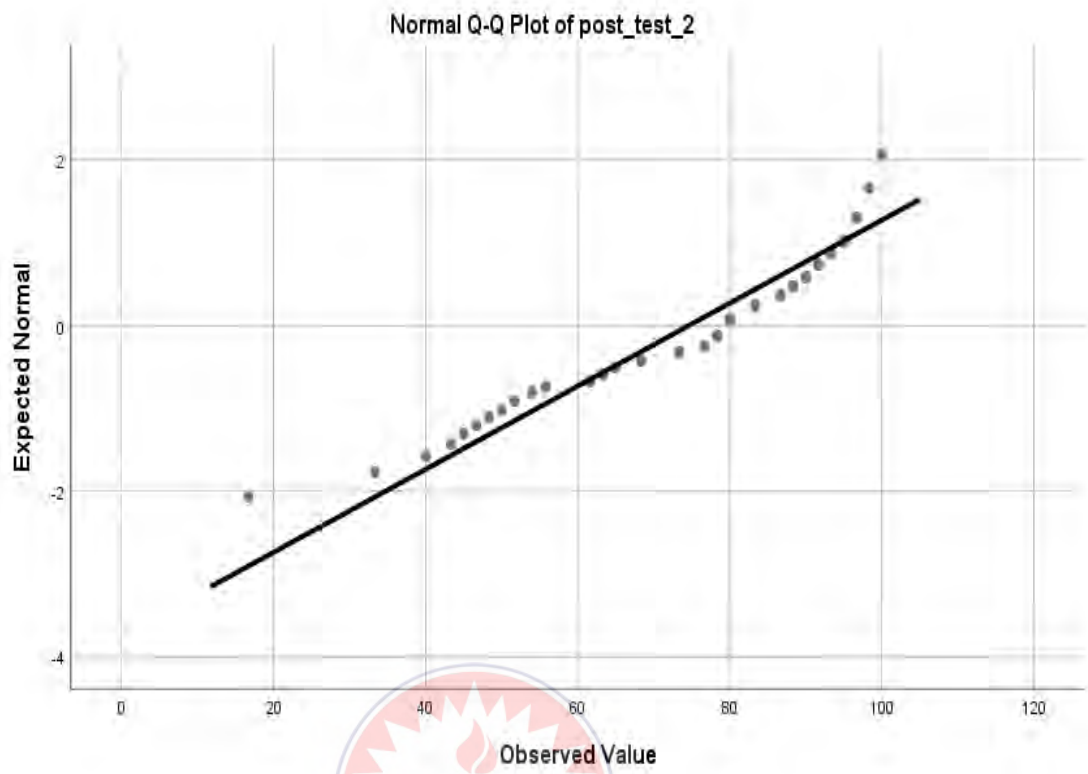
Subject teacher (signature only)



## APPENDIX D

### NORMALITY ASSUMPTION





**APPENDIX D1****SCHEME OF WORK**

<b>WEEK</b>	<b>DATE</b>	<b>TOPIC</b>	<b>UNIT</b>	<b>PAGE</b>	<b>REMARKS</b>
	9 <sup>th</sup> OCT.2020	A market Place      Pilot Study	18	148- 151	
	12 <sup>TH</sup> – 16 <sup>TH</sup> OCT.2020	A market Place      Pretest			
1ST	19 <sup>TH</sup> - 23RD OCT. 2020	ADOLESCENCE	22	174- 177	
2ND	26 <sup>TH</sup> – 30 <sup>TH</sup> OCT. 2020	Election day at Dwenewoho	4	27-30	
3RD	2ND – 6 <sup>TH</sup> NOV. 2020	Mondi and the Magic leave	4	30- 33	
4TH	8 <sup>TH</sup> -13 <sup>TH</sup> NOV.2020	A Family by the sea	11	86- 90	
5TH	16 <sup>TH</sup> -20 <sup>TH</sup> NOV. 2020	Hard Luck	6	43- 46	
6TH	23 <sup>RD</sup> – 27 <sup>TH</sup> NOV. 2020	Debriefing of the Instructional Strategies: Carousel and Jigsaw			
7TH	30 <sup>TH</sup> NOV. 4 <sup>TH</sup> DEC. 2020	A market Place ( Reading Comprehension Achievement test			Post-test



**APPENDIX D2**  
**WEEK ONE**  
**SAMPLE LESSON NOTES**  
**(JIGSAW INSTRUCTIONAL STRATEGY CLASSROOM)**

**School:** XXX 6  
**Class:** JHS Two  
**Subject:** English Language  
**Topic** A Market Place Day in my Town (Paragraph One (1))  
**Number on Roll:** 32  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 148 to 151.

<b>Day/Date Duration</b>	<b>Aspect/Topic Sub-Topic</b>	<b>Specific Objective/ R.P.K</b>	<b>Teaching and Learning Materials/ Teacher and Learner Activities</b>	<b>Core Points</b>	<b>Evaluation</b>
<b>Day</b> Monday  <b>Date</b> 19/10/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: 1. Explain all that the passage is about. 2. Recall at least four main ideas or key events from the passage 3. share what he/she has read from the passage with his or her peers.	<b>TLMs</b> Word cards: capacity, market, beautiful etc. on cards. Pictures illustrating a market place  <b>TLA</b> <b>Preliminary Reading Stage:</b> Various pictures were presented to guide the group to		Ask the group to answer the questions on the passage. E.g. 1. The group work together in their respective mother groups to answer comprehension task given to each group. Eg. The group circled the appropriate word which fit the space provided. 1. It can be located in the <b>(tense, Brong,</b>



			<p>The final round described the plenary discussion where the facilitator held debriefing session with the learners. This session is held to ensure that every learner understands the concepts learnt.</p> <p>Teach vocabulary using jigsaw instructional strategy; a. hardship. b with ease. c. landed. The above illustration was used to teach the vacabularly.</p> <p><b>Reading Stage:</b></p> <p>At this point the various MOTHER GROUPS studied the paragraph one together for deeper understanding.</p> <p>( ROUND 1)</p> <p>Group of Expert was formed to share what has been learnt in Round One with each learner. The Final Round was termed as debriefing when all learners come together with the facilitator for plenary discussion. This is done to ensure that learners have mastered the concept learnt very well. Learners were ask to circle the following words which fit well in the sentence.</p>	<p>Developing the skill of Scanning</p> <p>Developing the ability to recall information from the passage.</p> <p>Developing intensive reading skills</p> <p>Developing Skills of comprehension</p>	<p><b>umm, their) goods.</b></p>
--	--	--	---	--	----------------------------------


			1. It is simply interesting to see the huge ( <b>market, price, stone</b> ) filled to capacity.		
			By noon, trading activities will ( <b>value, reach, toward</b> ) their peak		

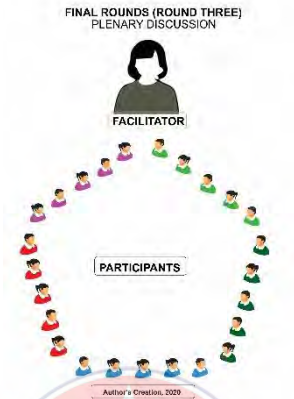


**WEEK TWO**  
**SAMPLE LESSON NOTES**  
**(JIGSAW INSTRUCTIONAL STRATEGY CLASSROOM)**

**School:** XXX6  
**Class:** JHS Two  
**Subject:** English Language  
**Topic** Adolescence One (1)  
**Number on Roll:** 46  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 174 to 177.

Day/Date Duration	Aspect/Topic Sub-Topic	Specific Objective/ R.P.K	Teaching and Learning Materials/ Teacher and Learner Activities	Core Points	Evaluation
<b>Day</b> Monday  <b>Date</b> 26/10/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: 1.Explain all what paragraph two is about. 2.Recall at least four main ideas or key events from the paragraph two. 3. Share what he/she has read from the passage with his or her peers.  <b>R P K</b> Learners travel with their	<b>TLMs</b> Word cards: a. voiceless b. adolescence. c. development. The new words were written on cards with . Pictures illustrating a Adolescence for learners to observe. This is done through Jigsaw strategy. Below illustrated how it was done.	Developing speaking and prediction skills	Ask the respective mother groups. To stay on and answer reading comprehension task given to them. Eg. The groups were task to answer the following. 1. Circle or underline the following.  Adolescence is a period between childhood <b>(voiceless, and, invite)</b> writer Individual learners in

		<p>parents</p>	<p><b>TLA</b>  <b>Preliminary Reading Stage:</b>                  Various pictures were presented to guide the groups (mother groups) to Predict all what the passage is about. The new words were treated through Jigsaw strategy. Below is the illustration of Jigsaw strategy.</p>  <p>The above illustrated the mother group formed to learn the new words ( round 1)</p> <p>The round two illustrated the group of expert which were teased out from the mother group in round one. Round Three ( The final round).</p>	<p>Development of vocabulary</p> <p>Developing listening skills</p>	<p>the group of expert session share what transpired from their respective mother groups to one another</p>
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			<p style="text-align: center;">FINAL ROUNDS (ROUND THREE) PLENARY DISCUSSION</p>  <p>The final round described the plenary discussion where the facilitator held debriefing session with the learners. This session is held to ensure that every learner understands the concepts learnt. Teach vocabulary using jigsaw instructional strategy; a. hardship. b with ease. c. landed. d decision e. destination. f worried. etc.</p> <p><b>Reading Stage:</b> At this point the various MOTHER GROUPS studied the paragraph one together for deeper understanding. ( ROUND 1) Group of Expert was formed to share what has been learnt in</p>	<p>Developing the skill of Scanning</p> <p>Developing the ability to recall information from the passage.</p>	
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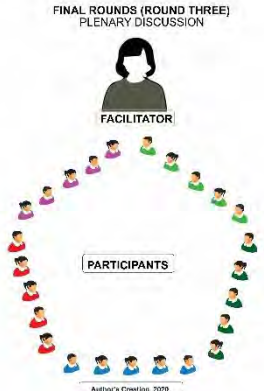




**WEEK THREE**  
**SAMPLE LESSON NOTES**  
**(JIGSAW INSTRUCTIONAL STRATEGY CLASSROOM)**

**School:** XXX6  
**Class:** JHS Two  
**Subject:** English Language  
**Topic:** Election Day at Dwenewoho (Paragraph One (1))  
**Number on Roll:** 46  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 27 to 30.

Day/Date Duration	Aspect/Topic Sub-Topic	Specific Objective/ R.P.K	Teaching and Learning Materials/ Teacher and Learner Activities	Core Points	Evaluation
<b>Day</b> Monday  <b>Date</b> 3/11/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: 1. Explain all that the paragraph 3 is about. 2. Recall at least four main ideas or key events from the paragraph 3 3. Share what he/she has read from the paragraph 3 with his or her peers.  <b>R P K</b>	<b>TLMs</b> Word cards: franchise, , hardship etc. on cards. Pictures illustrating a rough journey  <b>TLA</b> <b>Preliminary Reading Stage:</b> Prediction activities: With the aid of various pictures presented, guide The various group to predict all what the the third paragraph contains.	Developing speaking and prediction skills  Development of vocabulary	Ask the group to answer the questions on the passage. E.g.  1. Guide the mother group to circle the meaningful word that fit into the sentence. 1. But this year they were going ( <b>average, roof, to</b> ) see a new thing altogether.

		<p>Learners travel with their parents</p>	<p>Teach vocabulary using jigsaw instructional strategy; a. election b. military. c. comfortable. etc.</p> <p><b>Reading Stage:</b> The various groups engaged in together while they were focusing on pre- reading questions.</p> <ol style="list-style-type: none"> <li>1. The group of expert were tasked to contribute and share what they have learnt from the mother group to other experts within the group.</li> </ol> <p><b>Post Reading Stage:</b> The final round).</p> 	<p>Developing listening skills</p> <p>Developing the skill of Scanning</p> <p>Developing the ability to recall information from the passage.</p>	<p>Several (<b>confused, months, greet</b>) away from the elections, the chief (<b>had, war, hidden</b>) called a general meeting at which (<b>quality, the, motion</b>) electoral officers had explained to them (<b>average, reign, the</b>) need to vote that year to (<b>until, frowning, elect</b>) a president for the whole nation (<b>egg, bounce, and</b>) a member of parliament for their (<b>constituency, knew, helpful</b>).</p> <p>2. The group of expert continue to deliver what they have to sustain the group delivery.</p> <p>They were tasked to circle the following</p>
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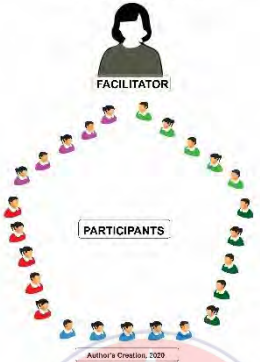


**WEEK FOUR**  
**SAMPLE LESSON NOTES**  
**(JIGSAW INSTRUCTIONAL STRATEGY CLASSROOM)**

**School:** XXX6  
**Class:** JHS Two  
**Subject:** English Language  
**Topic** Mondri and the magic leaves (Paragraph One (1))  
**Number on Roll:** 46  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 30 to 33.

Day/Date Duration	Aspect/Topic Sub-Topic	Specific Objective/ R.P.K	Teaching and Learning Materials/ Teacher and Learner Activities	Core Points	Evaluation
<b>Day</b> Monday  <b>Date</b> 8/11/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: 1. Explain all what the paragraph 4 is about. 2. Recall at least four main ideas or key events from the paragraph 4 3. Share what he/she has read from the paragraph 4 with his or her peers.  <b>R P K</b>	<b>TLMs</b> Word cards: mountain, deep, drawing etc. on cards. Pictures illustrating a rough journey  <b>TLA</b> <b>Preliminary Reading Stage:</b> Prediction activities: With the aid of various pictures presented, guide the group to predict all what the	Developing speaking and prediction skills	Various Mother groups formed through jigsaw were tasked to study portion of the passage and discuss all what the passage was about.  1. They were asked to circle or underline A word that makes a given sentence meaningful. 1. One night, Mondri sees in a <b>(forward, distance, match)</b> , on top of a mountain, an <b>(sore,</b>

		<p>Pupils travel with their parents</p>	<p>passage contains.</p> <p>Teach vocabulary using jigsaw instructional strategy; a. mountain. b. surprise c. wonderful. etc.</p> <p><b>Reading Stage:</b> The group reading the passage together. The facilitator moved from one group to another to offer support when necessary.</p> <p>Once the facilitator noticed or observed that learners have mastered the passage very well, another group would be formed which is known as a group of expert. The groups were tasked to share whatever they have learnt from their respective mother groups to one another.</p> <p><b>Post Reading Stage:</b> The final round).</p>	<p>Development of vocabulary</p> <p>Developing listening skills</p> <p>Developing the skill of Scanning</p> <p>Developing the ability to recall information from the passage.</p>	<p><b>orange, thoughtful</b>) light.</p> <p>2. At once Mondri longs to <b>(see, heart, cheat)</b> what is giving out that beautiful <b>(light, boastfully, window)</b></p> <p>3. Deep from inside the cave <b>(remember, came, joyously)</b> the sweetest music he had ever <b>(heard, crossly, clock)</b>.</p> <p>Another group task Circle the correct word of the following given sentences.</p> <p>1. Then a figure <b>(self, stepped, argue)</b> forward and the music stopped. It was a figure of a woman, tall and stately. She wore a long cloak <b>(woven, tightly, ours)</b> with grasses and leaves, Round her <b>(level, neck, foolish)</b> and wrists were chains of</p>
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			<p style="text-align: center;">FINAL ROUNDS (ROUND THREE) PLENARY DISCUSSION</p>  <p>The final round described the plenary discussion where the facilitator held debriefing session with the learners. This session is held to ensure that every learner understands the concepts learnt very well.</p>	<p>Developing intensive reading skills</p> <p>Developing Skills of comprehension</p>	<p>brilliantly (<b>been, coloured, promptly</b>) stones. In her left hand, she (<b>shoe, carried, soap</b>) a wooden staff. The right hand was stretched out in a gesture of (<b>welcome, those, unsightly</b>) to Mondri</p>
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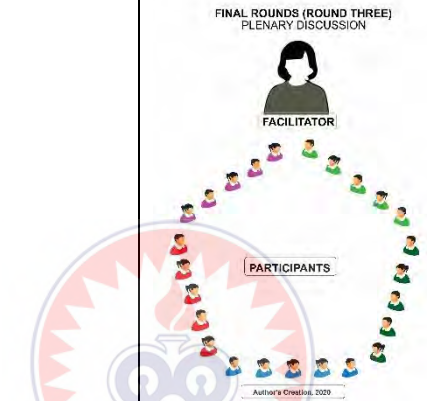


**WEEK FIVE**  
**SAMPLE LESSON NOTES**  
**(JIGSAW INSTRUCTIONAL STRATEGY CLASSROOM)**

**School:** XXX6  
**Class:** JHS Two  
**Subject:** English Language  
**Topic** Mondri and the magic leaves (Paragraph One (1))  
**Number on Roll:** 46  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 30 to 33.

<b>Day/Date Duration</b>	<b>Aspect/Topic Sub-Topic</b>	<b>Specific Objective/ R.P.K</b>	<b>Teaching and Learning Materials/ Teacher and Learner Activities</b>	<b>Core Points</b>	<b>Evaluation</b>
<b>Day</b> Monday  <b>Date</b> 8/11/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: 1. Explain all what the paragraph 4 is about. 2. Recall at least four main ideas or key events from the paragraph 4 3. Share what he/she has read from the paragraph 4 with his or her peers.	<b>TLMs</b> Word cards: disease, family, livelihood etc. on cards. Pictures illustrating a rough journey  <b>TLA</b> <b>Preliminary Reading Stage:</b>		Various Mother groups formed through jigsaw were tasked to study portion of the passage and discuss all what the passage was about.  1. They were asked to circle or underline A word that makes a

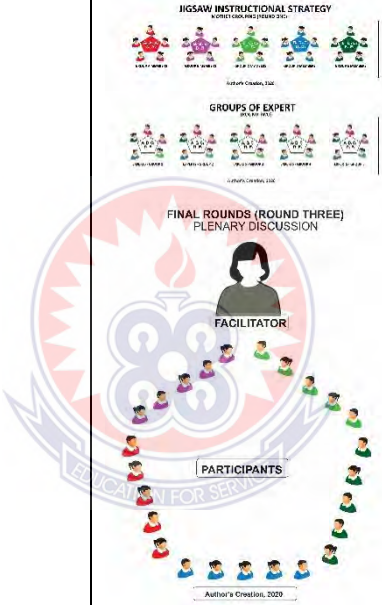
		<p><b>R P K</b> Pupils travel with their parents</p>	<p>Prediction activities: With the aid of various pictures presented, guide the group to predict all what the passage contains.</p> <p>Teach vocabulary using jigsaw instructional strategy; a. mountain. b. surprise c. wonderful. etc.</p> <p><b>Reading Stage:</b> The group reading the passage together. The facilitator moved from one group to another to offer support when necessary.</p> <p>Once the facilitator noticed or observed that learners have mastered the passage very well, another group would be formed which is known as a group of expert. The groups were tasked to share what ever they have learnt from their respective mother</p>	<p>Developing speaking and prediction skills</p> <p>Development of vocabulary</p> <p>Developing listening skills</p> <p>Developing the skill of Scanning</p>	<p>given sentence meaningful.</p> <ol style="list-style-type: none"> <li>1. One night, Mondri sees in a <b>(forward, distance, match)</b>, on top of a mountain, an <b>(sore, orange, thoughtful)</b> light.</li> <li>2. At once Mondri longs to <b>(see, heart, cheat)</b> what is giving out that beautiful <b>(light, boastfully, window)</b></li> <li>3. Deep from inside the cave <b>(remember, came, joyously)</b> the sweetest music he had ever <b>(heard, crossly, clock)</b>.</li> </ol>
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			<p>groups to one another.</p> <p><b>Post Reading Stage:</b> The final round).</p>  <p>The final round described the plenary discussion where the facilitator held debriefing session with the learners. This session is held to ensure that every learner understands the concepts learnt very well.</p>	<p>Developing the ability to recall information from the passage.</p> <p>Developing intensive reading skills</p> <p>Developing Skills of comprehension</p>	
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**WEEK SIX**  
**SAMPLE LESSON NOTES**  
**(JIGSAW INSTRUCTIONAL STRATEGY CLASSROOM)**

**School:** XXX6  
**Class:** JHS Two  
**Subject:** English Language  
**Topic** Debriefing of Jigsaw Instructional Strategies (A Family by the Sea)  
**Number on Roll:** 32  
**Average Age:** 14+  
**Reference:** Language English for Junior High Two School. Page 86 to 90.

Day/Date Duration	Aspect/Topic Sub-Topic	Specific Objective/ R.P.K	Teaching and Learning Materials/ Teacher and Learner Activities	Core Points	Evaluation
<b>Day</b> Monday  <b>Date</b> 5/10/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: 1.explain all that the passage is about. 2.recall at least four main ideas or key events from the passage 3.share what he/she has read from the passage with his or her peers.  <b>R P K</b> Learners travel with their parents	<b>TLMs</b> Word cards: destination, bribe, hardship etc. on cards. Pictures illustrating a rough journey  <b>TLA</b> <b>Preliminary Reading            Stage:</b> Prediction activities:	Developing speaking and	Ask the group to answer by circling the correct word that fit the sentence 1. A fisherman and his family lived in a small village near the sea. The family consisted of himself, his <b>(ouch, wife, average)</b> , and their five-year-old daughter. Though the <b>(couple, that, loosely)</b> were very poor, they were very <b>(food, honest, alert)</b> . The

			<p>With the aid of various pictures presented,  <b>Post Jigsaw Instructional strategy here</b></p>  <p>guide  Pupils to predict all what the passage contains.</p> <p>Teach vocabulary using jigsaw</p>	<p>prediction skills</p> <p>Development of vocabulary</p> <p>Developing listening skills</p> <p>Developing the skill of Scanning</p> <p>Developing the ability to recall information from</p>	<p>sea was the source of <b>(livelihood, door, and fantastic)</b> for the family.  Ans. It had been many years.</p> <p>2. The group continue to move from station to station created within the classroom. Eg. Circle the correct word that fit the sentence.</p> <p>3 That meant the fisherman had to begin mending his father's old <b>(over, fishing, color)</b> nets and that was how he <b>(often, stepped, tenderly)</b> into his father's shoes. For the rest of his life, he was to <b>(guilty, depend, touch)</b> on the sea for the survival <b>(office, gently, of)</b> himself and his family. Every morning, when the fisherman had taken his ball of banku and hot pepper stew, he <b>(excite, smiling, would)</b> push his old canoe down the <b>(sea, relieved, spoken)</b>. Then he would begin to work on the oar, plunging it below the</p>
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instructional strategy;  
**Post Jigsaw**  
**Instructional**  
**strategy here**



FINAL ROUNDS (ROUND THREE)  
 PLENARY DISCUSSION

a. hardship. b with ease. c. landed. d decision e. destination. f worried. etc.

**Reading Stage:**  
 Model reading by teacher.

**Post Jigsaw**

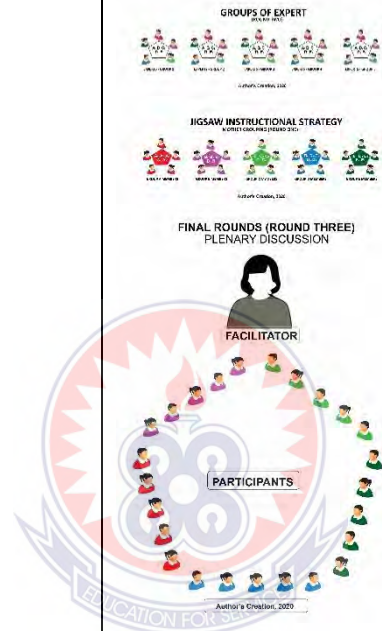
the passage.

Developing intensive reading skills

Developing Skills of comprehension

**(society, fragile, surface)**  
 The group move together and put a suitable word that fit the sentence. 1. Meanwhile, the **(until, word, well-woven)** net hung loose at the rear of the canoe with open mouth, stocked with all kinds of fish food. As he went deeper and deeper into the sea. large shoals of fish would come, **(wonderful, foolishly, flocking)** around the small mouth of the **(sun, net, dark)**, struggling to enter.

**Instructional strategy here**



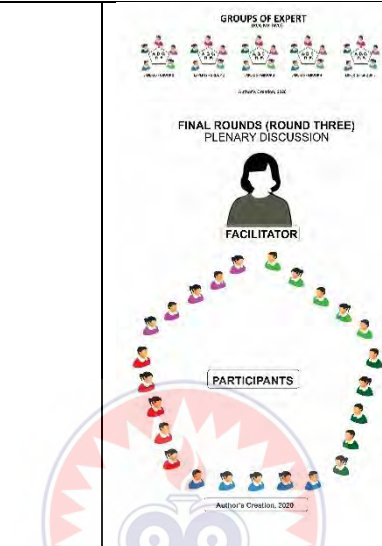
Ask pupils to read the passage silently while you write the pre-reading questions on the board to guide their reading.  
**Post Jigsaw Instructional strategy here**





E.g; The group of expert take turn to share what has been transpired within their mother grouping.

**Post Jigsaw Instructional strategy here**

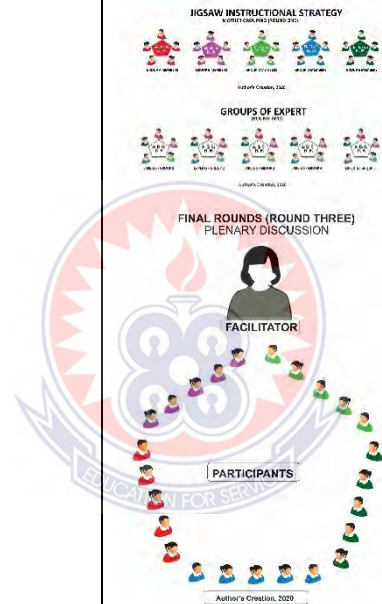


Answers to the pre-reading questions:  
E.g. It has been many years. Thirteen (13)  
Ask the pupils to do the second silent reading for comprehension.

**Post Reading Stage:**  
The group discuss the passage with one another and this will deepen their

understanding on the passage.

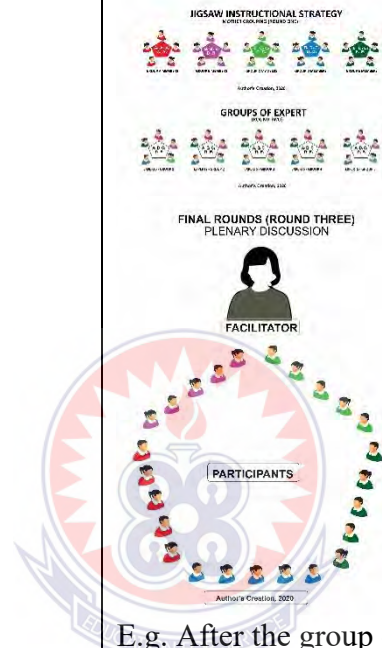
**Post Jigsaw Instructional strategy here**



Discuss the comprehension questions with the pupils with the aid of jigsaw instructional strategy.

**Post Jigsaw Instructional**

strategy here

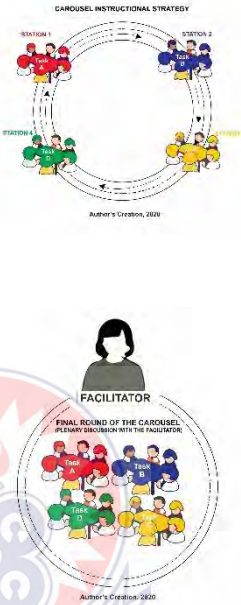


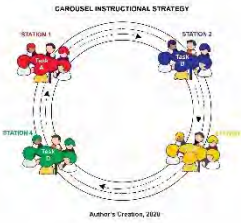
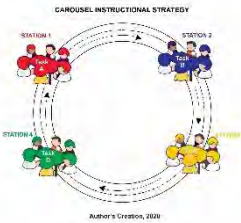
E.g. After the group of expert have all their turn, the group were dissolved for the class to have plenary class discussion by the facilitator to address the major issues emerged from the various discussion from the respective mother groups.

**WEEK ONE**  
**SAMPLE LESSON NOTES**  
**(CAROUSEL INSTRUCTIONAL STRATEGY CLASSROOM)**

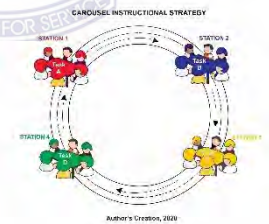
**School:** XXX 1  
**Class:** JHS Two  
**Subject:** English Language  
**Aspect** Reading Comprehension  
**Topic** A Market Day in My Town (Paragraph One)  
**Number on Roll:** 35  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 148 to 151.

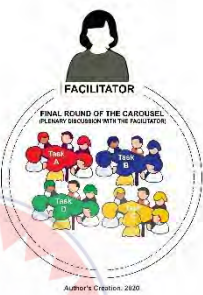
Day/Date Duration	Aspect/Topic Sub-Topic	Specific Objective/ R.P.K	Teaching and Learning Materials/ Teacher and Learner Activities	Core Points	Evaluation
<b>Day</b> Monday  <b>Date</b> 19/10/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson learners will be able to: 1. Explain all that the paragraph 1 is about. 2. Recall at least four main ideas or key events from the paragraph 1 3. Share what he/she has read from the passage with his or her peers.	<b>TLMs</b> Word cards: capacity, beautiful, previous etc. on cards. Pictures illustrating a rough journey The new words were tackled through carousel strategy.	Developing speaking and prediction	Ask the group to answer the questions on the passage posted on the wall E.g.  1. The group were asked to circle the suitable word that fit the passage Eg. It is <b>(one, been, blade)</b> of the great market towns  2. The <b>(family, market, umm)</b> starts early.

		<p><b>R P K</b> Pupils travel with their parents</p>	 <p><b>These session summarised the issues emerged from various stations teased out from paragraph one.</b></p> <p><b>TLA</b> <b>Preliminary Reading Stage:</b> Prediction activities: With the aid of various pictures presented, Through carousel activities. Below were the illustration.</p>	<p>skills</p> <p>Developme nt of vocabulary</p> <p>Developing listening skills</p> <p>Developing the skill of Scanning</p>	<p>3. Thursday evening with <b>(alert, their, unpack)</b> goods</p>
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			 <p>guide Group predict all what the passage contains.</p> <p>Teach vocabulary using carousel instructional strategy. The group move to each of the stations and decide the meaning of selected vocabularies provided together. Eg. Capacity, beautiful, peak. Ect.</p>  <p><b>Reading Stage:</b></p>	<p>Developing the ability to recall information from the passage.</p> <p>Developing intensive reading skills</p> <p>Developing Skills of comprehension</p>	
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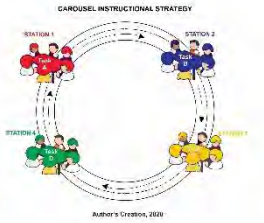
			<p>Model reading by teacher. Ask groups to read the paragraph one and summarise all what the passage is about.</p> <p>The group continue the carousel activities where series of sentences provided for each group to circle the appropriate word that make the sentence meaningful.</p> <p><b>Post Reading Stage:</b> The group discussed the paragraph one and provide suitable words that make the sentences complete.</p>  <p>The various groups move from station to station to offer solution to task posted to the various station teased out from paragraph one.</p>		
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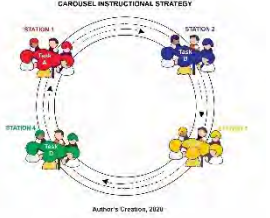
			<p>Discuss the comprehension questions with the learners with the aid of Carousel instructional strategy.</p>  <p>E.g. The pupils are given group work with different comprehension questions on the passage, and the group move round to various stations where different questions have been posted. The group come together think about the questions and provide answers to those questions with different markers groups identified with. Teacher goes round to assess various answers provided by various groups and award the scores accordingly</p>		
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**WEEK TWO**  
**SAMPLE LESSON NOTES**  
**(CAROUSEL INSTRUCTIONAL STRATEGY CLASSROOM)**

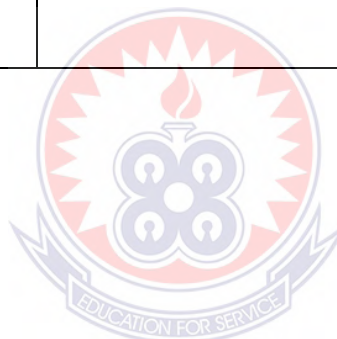
**School:** XXX 1  
**Class:** JHS Two  
**Subject:** English Language  
**Aspect** Reading Comprehension  
**Topic** Adolescence (Paragraph One)  
**Number on Roll:** 35  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 174 to 177.

<b>Day/Date Duration</b>	<b>Aspect/Topic Sub-Topic</b>	<b>Specific Objective/ R.P.K</b>	<b>Teaching and Learning Materials/ Teacher and Learner Activities</b>	<b>Core Points</b>	<b>Evaluation</b>
<b>Day</b> Monday  <b>Date</b> 26/10/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: 1. Explain all that the passage is about. 2. Recall at least four main ideas or key events from the paragraph 2 3. Share what he/she has read from the paragraph 2 with his or her peers.	<b>TLMs</b> Word cards: destination, bribe, hardship etc. on cards. Pictures illustrating a rough journey		The group were asked to circle the meaningful words that make the sentence complete. Eg. 1. The deepening of voice in <b>(boys, thought, fear.</b> 2. However, their <b>(this, impossible, continuous)</b> dependence on their parents.

		<p><b>R P K</b> Pupils travel with their parents</p>	 <p><b>TLA</b> <b>Preliminary Reading Stage:</b> Prediction activities: With the aid of various pictures presented through carousel activities to guide the various groups to predict all what the paragraph 3 contains.</p> <p>Teach vocabulary using carousel instructional strategy; childhood, successfully, dependence. etc.</p>	<p>Developing speaking and prediction skills</p> <p>Development of vocabulary</p> <p>Developing listening skills</p> <p>Developing the skill of Scanning</p>	
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			 <p><b>Reading Stage:</b> The various group engaged in model reading by explaining all what the passage is about.</p> <p>The group continue engaging carousel activities moving from one station to another.</p> <p><b>Post Reading Stage:</b> Discuss the passage with the group where incorrect words provided by other groups were correct by the facilitator. The group again were challenged to provide meaningful words to make the sentences complete. The</p>	<p>Developing the ability to recall information from the passage.</p> <p>Developing intensive reading skills</p> <p>Developing Skills of comprehension</p>	
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			<p>group provide answers to those questions with different markers the groups identified with. Facilitator went round to assess various answers provided by various groups and award the scores accordingly.</p>		
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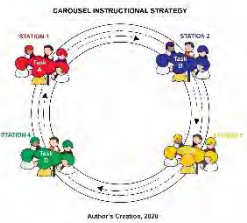
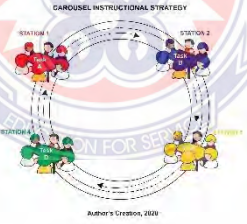


**WEEK THREE**  
**SAMPLE LESSON NOTES**  
**(CAROUSEL INSTRUCTIONAL STRATEGY CLASSROOM)**

**School:** XXX1  
**Class:** JHS Two  
**Subject:** English Language  
**Aspect** Reading Comprehension  
**Topic** Election Day at Dwenewoho  
**Number on Roll:** 35  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 27 to 30.

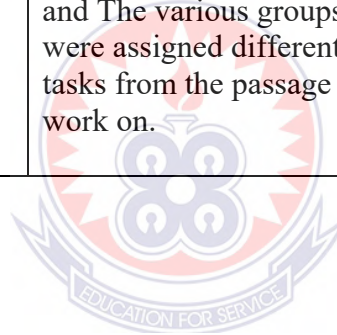
<b>Day/Date Duration</b>	<b>Aspect/Topic Sub-Topic</b>	<b>Specific Objective/ R.P.K</b>	<b>Teaching and Learning Materials/ Teacher and Learner Activities</b>	<b>Core Points</b>	<b>Evaluation</b>
<b>Day</b> Monday  <b>Date</b> 2/11/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: 1. Explain all that the paragraph 3 is about. 2. Recall at least four main ideas or key events from the paragraph 3 3. Share what he/she has read from the paragraph 3 with his or her peers.	<b>TLMs</b> Word cards: constituency, elect, military etc. on cards. Pictures illustrating a rough journey  <b>TLA</b> <b>Preliminary Reading Stage:</b> Prediction activities: With the aid of various pictures presented, to guide		Ask the group to answer the questions on the passage. E.g.  1. The group were asked to circle the meaningful words that complete a given sentence from the passage. 1. 1. Several ( <b>confused, months, greet</b> ) away from the elections  2. the eligible voters were, ( <b>beneath, clear, in</b> ) fact, voting



		<p><b>R P K</b> learners travel with their parents</p>	<p>groups to predict all what the passage contains.</p>  <p>Teach vocabulary using carousel instructional strategy constituency, elect, military etc.</p>  <p><b>Reading Stage:</b> Model reading by group Ask group to read the passage as they move from one station to another.</p> <p>The group continue to engage in carousel</p>	<p>Developing speaking and prediction skills</p> <p>Development of vocabulary</p> <p>Developing listening skills</p> <p>Developing the skill of Scanning</p> <p>Developing the ability to recall information from the passage.</p>	<p>for the first time worried.</p>
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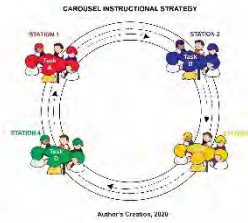


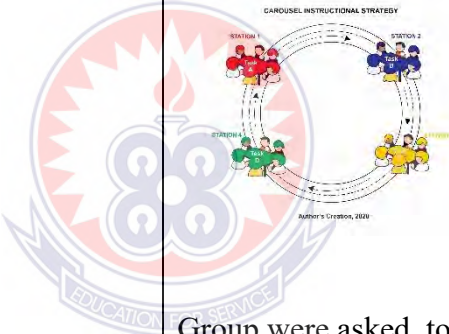
			<p>different questions have been posted. The group come together think about the questions and provide answers to those questions with different markers groups identified with. Teacher goes round to assess various answers provided by various groups and The various groups were assigned different tasks from the passage to work on.</p>		
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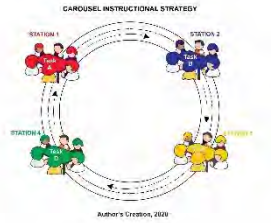
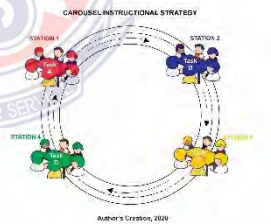


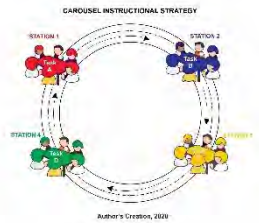
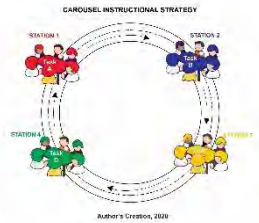
**WEEK FOUR**  
**SAMPLE LESSON NOTES**  
**(CAROUSEL INSTRUCTIONAL STRATEGY CLASSROOM)**

**School:** XXX1  
**Class:** JHS Two  
**Subject:** English Language  
**Topic** Mondi and the Magic Leaves (Paragraph one)  
**Number on Roll:** 39  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 30 to 33.

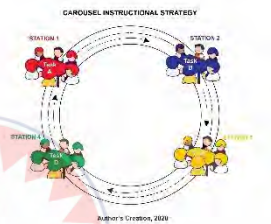
Day/Date Duration	Aspect/Topic Sub-Topic	Specific Objective/ R.P.K	Teaching and Learning Materials/ Teacher and Learner Activities	Core Points	Evaluation
<b>Day</b> Monday  <b>Date</b> 19/10/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: <ol style="list-style-type: none"> <li>1. Explain all that the paragraph one about.</li> <li>2. Recall at least four main ideas or key events from the paragraph one</li> <li>3. Share what he/she has read from the paragraph one</li> </ol>	<b>TLMs</b> Word cards: destination, bribe, hardship etc. on cards. Pictures illustrating a rough journey  	Developing speaking and prediction skills	Ask the group to answer the questions on the passage. The group were asked to circle the correct words which complete the sentence. 1. At once Mondi longs to ( <b>see, heart, cheat</b> ) what is giving out that beautiful ( <b>light, boastfully, window</b> )  2. Deep from inside

		<p>with his or her peers.</p> <p><b>R P K</b> Pupils travel with their parents</p>	<p><b>TLA Preliminary Reading Stage:</b> Prediction activities: With the aid of various pictures presented, guide the learners through <b>carousel strategy</b></p>  <p>Group were asked to predict all what the passage contains.</p> <p>Teach vocabulary using the carousel instructional strategy;</p>	<p>Development of vocabulary</p> <p>Developing listening skills</p> <p>Developing the skill of Scanning</p> <p>Developing the ability to recall information from the passage.</p>	<p>the cave (<b>remember, came, joyously</b>) the sweetest music he had ever (<b>heard, crossly, clock</b>). As he listened, he became enchanted (<b>mourn, finger, with</b>) the music and all his fears (<b>cheese, fled, suffer</b>) away from him. Then a figure (<b>self, stepped, argue</b>) forward and the music stopped</p>
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			 <p>A magical, surprise, brilliant. etc.</p> <p><b>Reading Stage:</b> Model reading by the group through <b>carousel strategy</b></p>  <p>Ask the group to read part of the passage posted on the wall silently while, they were asked to answer questions on the</p>	<p>Developing intensive reading skills</p> <p>Developing Skills of comprehension</p>	
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			<p>passage. <b>carousel post here</b></p>  <p>The various groups move from one station to another to read portion of the passage posted on the wall within the classroom.</p> <p><b>Post Reading Stage:</b> Discuss the passage with the group to deepen their understanding about the passage.</p> 		
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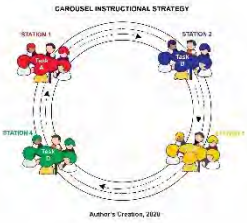
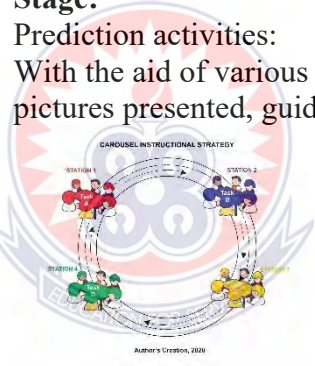


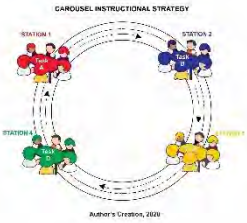
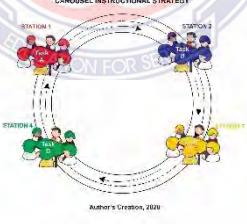
			<p>Discuss the comprehension questions with the group with the aid of carousel instructional strategy.</p> <p><b>carousel post here</b></p>  <p>The group continue to engage in carousel activities while the teacher acting as a facilitator. He/ she moves round to assist the group with the comprehension task when necessary.</p>		
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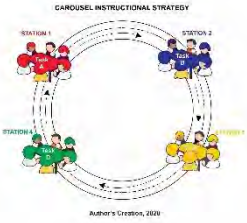
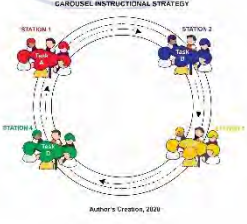
**WEEK FIVE**  
**SAMPLE LESSON NOTES**  
**(CAROUSEL INSTRUCTIONAL STRATEGY CLASSROOM)**

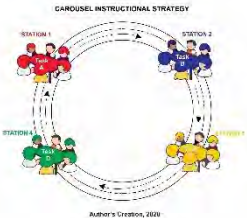
**School:** XXX1  
**Class:** JHS Two  
**Subject:** English Language  
**Aspect** Reading Comprehension  
**Topic** A Family by the Sea (Paragraph 1)  
**Number on Roll:** 46  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 86 to 90.

Day/Date Duration	Aspect/Topic Sub-Topic	Specific Objective/ R.P.K	Teaching and Learning Materials/ Teacher and Learner Activities	Core Points	Evaluation
<b>Day</b> Monday  <b>Date</b> 2/11/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: 1. Explain all that the paragraph 3 is about. 2. Recall at least four main ideas or key events from the	<b>TLMs</b> Word cards: destination, bribe, hardship etc. on cards. Pictures illustrating a rough journey through carousel strategy		Ask the group to answer the questions on the passage by circling a word that would be suitable to complete the sentence. 1. A fisherman and his family lived in a small village near the sea. The family consisted of himself, his ( <b>ouch, wife,</b> <b>average</b> ), and their five- year-old daughter. Though the ( <b>couple, that, loosely</b> )

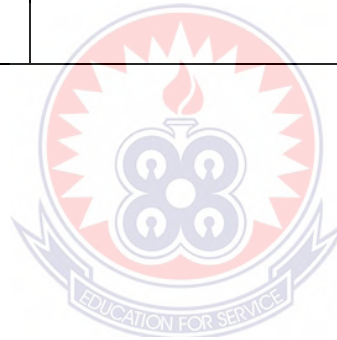
		<p>passage 3. Share what he/she has read from the passage with his or her peers.</p> <p><b>R P K</b> Pupils travel with their families</p>	 <p><b>TLA Preliminary Reading Stage:</b> Prediction activities: With the aid of various pictures presented, guide</p>  <p>group predict all what the passage is about</p> <p>Teach vocabulary using carousel instructional strategy;</p>	<p>Developing speaking and prediction skills</p> <p>Development of vocabulary</p> <p>Developing listening skills</p> <p>Developing the skill of Scanning</p>	<p>were very poor, they were very <b>(food, honest, alert)</b>. The sea was the source of <b>(livelihood, door, fantastic)</b> for the family. Upon it the <b>(talk, fisherman, opposite)</b> and his parents had depended for <b>(years, adjustment, plus)</b> until his father went to sea one day and failed to return. The fisherman, was only five years when this <b>(neatly, succeed, incident)</b> occurred. In order to raise her <b>(son, introduce, faint)</b>, the mother began working harder, all by herself. She had very high hopes for her only boy. As she put it.</p>
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			 <p>Eg. Medicine, fantastic, adjustment</p> <p><b>Reading Stage:</b> Model reading by the group <b>Carousel post here</b></p>  <p>The group continue their engagement through carousel activities.</p> <p>Different comprehension</p>	<p>Developing the ability to recall information from the passage.</p> <p>Developing intensive reading skills</p> <p>Developing Skills of comprehension</p>	
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		<p>task were placed on various E.g. <b>carousel strategy</b></p>  <p>The group moved to the next station to provide answers to the comprehension task posted on the walls.</p> <p><b>Post Reading Stage:</b> Discuss the passage with the learners</p>  <p>Discuss the comprehension questions with the learners with the aid of carousel instructional</p>		
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			<p>strategy.</p>  <p>The diagram illustrates the Carousel Instructional Strategy. It features a circular arrangement of four stations, labeled STATION 1, STATION 2, STATION 3, and STATION 4. Each station is represented by a group of students in different colored uniforms (red, blue, green, and yellow respectively). Arrows indicate a clockwise flow of students from one station to the next. The text 'CAROUSEL INSTRUCTIONAL STRATEGY' is at the top, and 'MURPHY'S CREATION, 2008' is at the bottom of the diagram.</p> <p>E.g. The learners are given group work with different comprehension questions on the passage, and the group move round to various stations where different questions have been posted. The group come together think about the questions and provide answers to those questions with different markers groups identified with. Teacher goes round to assess various answers provided by various groups and award the scores accordingly. Eg. How many people including the writer were trying to get to</p>		
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			Libya? How long had it been since the writer went on journey?		
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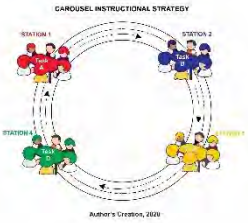
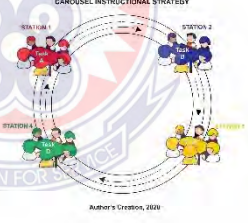


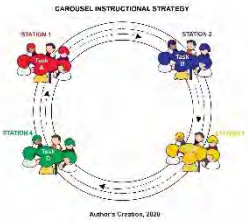
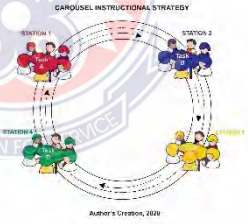


**WEEK SIX**  
**SAMPLE LESSON NOTES**  
**(CAROUSEL INSTRUCTIONAL STRATEGY CLASSROOM)**

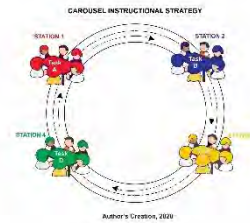
**School:** XXX1  
**Class:** JHS Two  
**Subject:** English Language  
**Aspect:** Reading Comprehension  
**Topic:** Hard Luck (Paragraph 1)  
**Number on Roll:** 46  
**Average Age:** 14+  
**Reference:** English Language for Junior High Two School. Page 43 to 46.

<b>Day/Date Duration</b>	<b>Aspect/Topic Sub-Topic</b>	<b>Specific Objective/ R.P.K</b>	<b>Teaching and Learning Materials/ Teacher and Learner Activities</b>	<b>Core Points</b>	<b>Evaluation</b>
<b>Day</b> Monday  <b>Date</b> 2/11/2020  <b>Duration</b> 60mins.	<b>Aspect</b> Reading Comprehension  <b>Topic</b> The Rough Journey	<b>Specific Obj.(s)</b> By the end of the lesson pupils will be able to: 1. Explain all that the paragraph 3 is about. 2. Recall at least four main ideas or key events from the	<b>TLMs</b> Word cards: authority, society, property etc. on cards. Pictures illustrating a rough journey through carousel strategy		Ask the group to answer the questions on the passage by circling a word that would be suitable to complete the sentence. 1. Osafo and Kwaata sat under the mango tree in front of the latter's house. Sip after sip, the two men ( <b>clear, emptied, smoggy</b> )

		<p>passage 3. Share what he/she has read from the passage with his or her peers.</p> <p><b>R P K</b> Pupils travel with their families</p>	 <p><b>TLA Preliminary Reading Stage:</b> Prediction activities: With the aid of various pictures presented, guide</p>  <p>group predict all what the passage is about</p> <p>Teach vocabulary using carousel instructional strategy;</p>	<p>Developing speaking and prediction skills</p> <p>Development of vocabulary</p> <p>Developing listening skills</p> <p>Developing the skill of Scanning</p>	<p>quite a good number of bottles. At a certain point they lost control of themselves and began telling their secrets (<b>versus, up, freely</b>) to each other.</p> <p>2. 'How, kwaataa, (<b>how, whether, authority</b>)? You spent money on the game, I know, but wasn't that money your (<b>own, radiate, market</b>) money? Can you believe I lied to my wife about the radio?</p> <p>The group continue their carousel activities to ensure that every task posted at various station has been taken care of.</p>
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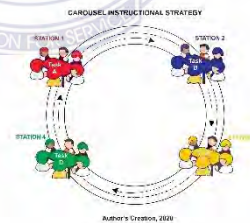
			 <p>Eg. Medicine, fantastic, adjustment</p> <p><b>Reading Stage:</b> Model reading by the group <b>Carousel post here</b></p>  <p>The group continue their engagement through carousel activities.</p> <p>Different comprehension task were placed on various</p>	<p>Developing the ability to recall information from the passage.</p> <p>Developing intensive reading skills</p> <p>Developing Skills of comprehension</p>	
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E.g.  
**carousel strategy**

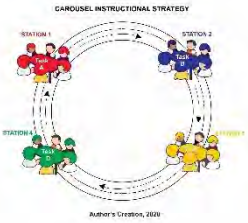


The group moved to the next station to provide answers to the comprehension task posted on the walls.

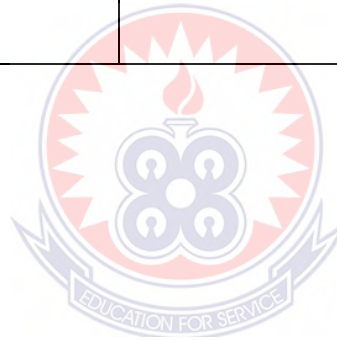
**Post Reading Stage:**  
Discuss the passage with the learners



The group continue with the aid of carousel instructional strategy. To approach each task given

			 <p>E.g. The group were task to provide correct word to make the sentence complete 1. Of course, I did. You see, <b>(there, awake, wood)</b> was no way I could convince her I was going to sell it,”</p> <p>“(relieved, <b>that’s, include</b>) unfortunate!”</p> <p>The two men continued to <b>(horn, talk, thank)</b> as they sat facing each other. In less than an hour ago, they had missed what seemed the greatest chance in their lives. From the beginning of the week, they had been going fishing in old lotto papers. By Thursday evening, they had agreed</p>		
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			between them that, two of the numerous numbers on their list ( <b>salt, would, society</b> ) certainly not fail to drop.		
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### APPENDIX D3

#### Post Comprehension passage here

Student/Classroom: _____	Examiner: _____	Assessment _____
Date: _____		

#### A MARKET PLACE

#### J NYARKO BOATENG

Techiman is my hometown. It can be located in the Brong Ahafo Region of Ghana. It is one of the great market towns in the country. The usual market day is Friday, but on other days too, one may get some basic things like vegetables and meat to buy on the market. The market on Fridays is, in fact, a very beautiful scene to watch. It is simply interesting to see the huge market filled to capacity with people, cargoes and goods of all kinds.

The market starts early, as most of the traders arrive there on Thursday evening with their goods. By 5 a.m., the buying and selling has begun with the sellers shouting at the top of their voices to draw the attention of buyers to their goods.

By noon, trading activities will reach their peak. By then, all the traders who could not arrive the previous evening would have arrived and the lorries, which bring goods from far away, would also be arriving one after the other.

Most of the sellers sell in shops. Those who sell directly under the sun either wear big straw hats or have large umbrellas covering their heads.



Student/Classroom: _____	Examiner: _____	Assessment
Date: _____		

## **ADOLESCENCE**

**J NYARKO BOATENG**

One of the most important stages in a person's life is the adolescent stage. Adolescence is a period between childhood and adulthood, or the teen ages - between thirteen and nineteen. Within this range, a lot of things happen, a lot of changes occur.

The deepening of voice in boys, the development of breasts in girls, and the growth of body hair in both boys and girls; all these are signs to confirm that the person is soon entering the adult world.

So sensitive is the adolescent stage that many people think that parents must give it much more time and attention than even the childhood stage. Their reason is that, it is the adolescent stage that prepares the person for the adult life, and the more successfully they go through it, the better their latter life is expected to be.

Adolescence is a challenge. The strong physical changes that occur in the body make it difficult for adolescents to accept that they are still children. However, their continuous dependence on their parents does not make them confident enough to claim the adult status. This brings conflicts. The adolescents are always involved in constant battles with parents, siblings, teachers, friends and others, as they struggle to break free. Many of them become stressfull and lose control of themselves.

Student/Classroom: _____	Examiner: _____	Assessment
Date: _____		

## **ELECTION DAY AT DWENEWOHO**

**J NYARKO BOATENG**

The people of Dwenewoho were going to exercise their franchise for the first time in many years. Most of the eligible voters were, in fact, voting for the first time in their lives. Since the military took over power about two decades ago, there had never been any elections in the country. But this year they were going to see a new thing altogether.

Several months away from the elections, the chief had called a general meeting at which the electoral officers had explained to them the need to vote that year to elect a president for the whole nation and a member of parliament for their constituency.

"The old government in which military officers have the loudest voice would be no more," the officials had explained. "We want to have democracy in our country: a government in which the people have the right to choose who should rule them."

The people welcomed the news with great delight. Many of them hated the military rule in the country. The military had taken over the running of government almost two decades ago in a bloody coup. They had heard how people were tortured and killed, especially in the capital. Even the president would have suffered a similar plight if he had not sought refuge in a neighbouring country.

Student/Classroom: _____	Examiner: _____	Assessment
Date: _____		

## **MONDI AND THE MAGIC LEAVES**

**J NYARKO BOATENG**

One night, Mondri sees in a distance, on top of a mountain, an orange light. At once Mondri longs to see what is giving out that beautiful light. To his surprise, Mondri finds himself on top of the mountain. Here, he finds a cave with a wide opening. Nervously Mondri stepped into the cave, and it became light, the same orange light he had seen from his yard far away in Nyanga. On the walls of the cave there were many drawings, pictures of strange creatures, unlike any Mondri had ever seen, even in books. From the ceiling there hung wonderful plants, long vines and creepers, their leaves glowing in the magical light. Deep from inside the cave came the sweetest music he had ever heard. As he listened, he became enchanted with the music and all his fears fled away from him. Then a figure stepped forward and the music stopped. It was a figure of a woman, tall and stately. She wore a long cloak woven with grasses and leaves, Round her neck and wrists were chains of brilliantly coloured stones. In her left hand, she carried a wooden staff. The right hand was stretched out in a gesture of welcome to Mondri.

Student/Classroom: _____	Examiner: _____	Assessment
Date: _____		

### **A FAMILY BY THE SEA**

**J NYARKO BOATENG**

A fisherman and his family lived in a small village near the sea. The family consisted of himself, his wife, and their five-year-old daughter. Though the couple were very poor, they were very honest. The sea was the source of livelihood for the family. Upon it the fisherman and his parents had depended for years until his father went to sea one day and failed to return. The fisherman was only five years when this incident occurred. In order to raise her son, the mother began working harder, all by herself. She had very high hopes for her only boy. As she put it, she did not want the sea to devour him as it had done to his father. Unfortunately, she too became bed-ridden when a strange disease struck her after some years. A few months later, she passed away. That meant the fisherman had to begin mending his father's old fishing nets and that was how he stepped into his father's shoes. For the rest of his life, he was to depend on the sea for the survival of himself and his family. Every morning, when the fisherman had taken his ball of banku and hot pepper stew, he would push his old canoe down the sea. Then he would begin to work on the oar, plunging it below the surface of the water-left, right, left, right-to keep the canoe rowing fast. Meanwhile, the well-woven net hung loose at the rear of the canoe with open mouth, stocked with all kinds of fish food. As he went deeper and deeper into the sea, large shoals of fish would come, flocking around the small mouth of the net, struggling to enter.

Student/Classroom: _____	Examiner: _____	Assessment
Date: _____		

## **HARD LUCK**

**J NYARKO BOATENG**

Osafo and Kwaata sat under the mango tree in front of the latter's house. Sip after sip, the two men emptied quite a good number of bottles. At a certain point they lost control of themselves and began telling their secrets freely to each other.

"Kwaata', Osafo began", do you know my wife could break up with me because of my foolish behavior? How could I sell my only property for this silly game?"

"But Osafo", Kwaata replied, 'you don't have any problem. After all, the radio was your property. I don't think somebody can be chastised for selling his own property. "I think I have a greater problem."

"How, kwaataa, how? You spent money on the game, I know, but wasn't that money your own money? Can you believe I lied to my wife about the radio? You did?"

Of course, I did. You see, there was no way I could convince her I was going to sell it," "that's unfortunate!" the two men continued to talk as they sat facing each other. In less than an hour ago, they had missed what seemed the greatest chance in their lives.

From the beginning of the week, they had been going fishing in old lotto papers. By Thursday evening, they had agreed between them that, two of the numerous numbers on their list would certainly not fail to drop.

In order to get money to stake the numbers, Osafo instantly made up a story to take his wife in. He has to sell that small radio at all cost. But he must do it in such a way that she would have cause to grumble. Kwaataa on the other hand had agreed to use up his personal coffers on the numbers.

**APPENDIX D4****MAZE READING COMPREHENSION TEST ITEM FROM SELECTED PASSEGES**

Student Name: _____	Classroom: _____
Date: _____	Age: _____
Sex: _____	School: _____
Time: 3 mins.	

**A MARKET PLACE****J NYARKO BOATENG**

Techiman is my hometown. It can be located in the **(tense, Brong, narrow)** Ahafo Region of Ghana. It is **(one, been, blade)** of the great market towns in **(air, wooly, the)** country. The usual market day is **(Friday, chew, bravely)**, but on other days too, one **(cloudy, foolishly, may)** get some basic things like vegetables **(and, sun, order)** meat to buy on the market. **(Them, Nervously, The)** market on Fridays is, in fact, a very beautiful scene to watch. It is simply interesting to see the huge **(market, price, stone)** filled to capacity with people, cargoes **(meddle, or, and)** goods of all kinds.

The **(family, market, umm)** starts early, as most of the **(examine, traders, solid)** arrive there on Thursday evening with **(alert, their, unpack)** goods. By 5 a.m., the buying **(listen, and, dislike)** selling has begun with the sellers **(silk, shouting, place)** at the top of their voices to draw the attention of buyers to **(receive, umm, their)** goods.

By noon, trading activities will **(value, reach, toward)** their peak. By then, all the **(growth, obedient, traders)** who could not arrive the previous **(exchange, sometimes, evening)** would have arrived and the lorries, **(sternly, which, behave)** bring goods from far away, would **(also, cow, too)** be arriving one after the other.

Most of the sellers sell in shops. Those who sell directly under the sun either, wear big straw hats or have large umbrellas covering their heads.

Student Name: _____	Classroom: _____
Date: _____	Age: _____ Sex: _____ School: _____
Time: 3 mins.	

## ADOLESCENCE

### J NYARKO BOATENG

One of the most important stages in a person's life is the adolescent stage. Adolescence is a period between childhood (**voiceless, and, invite**) adulthood, or the teen ages - between (**thirteen, tiny, scratchy**) and nineteen. Within this range, a (**lot, he, hungrily**) of things happen, a lot of (**changes, rough, smiling**) occur.

The deepening of voice in (**boys, thought, fear**), the development of breasts in girls and the growth of body hair in (**thundering, both, structure**) boys and girls; all these are (**hullo, spoke, signs**) to confirm that the person is (**soon, loudly, upset**) entering the adult world.

So sensitive is the adolescent stage that many people (**writing, be, think**) that parents must give it much more time and attention than even the (**copy, roof, childhood**) stage. Their reason is that, it is the adolescent stage that prepares the (**person, disapprove, design**) for the adult life, and the (**quietly, more, gun**) successfully they go through it, the (**thing, identify, better**) their latter life is expected to be Adolescence is a challenge. The strong (**pump, organization, physical**) changes that occur in the body (**make, right, belong**) it difficult for adolescents to accept that they are still children. However, their (**this, impossible, continuous**) dependence on their parents does not make, them confident enough to claim the (**adult, yearly, meant**) status. This brings conflicts. The adolescents are always involved in constant battles with (**relax, parents, relation**), siblings, teachers, friends and others, as (**they, taken, brass**) struggle to break free. Many of them become stressful and lose control of (**enjoy, never, themselves**).

*Maze Passage: Examiner Copy*



Student/Classroom: _____	Examiner: _____	Assessment
Date: _____		

## ELECTION DAY AT DWENEWOHO

**J NYARKO BOATENG**

The people of Dwenewoho were going to exercise their franchise for the first time in many years. Most of the eligible voters were, **(beneath, clear, in)** fact, voting for the first time **(misty, comfortable, in)** their lives. Since the military took **(over, board, plate)** power about two decades ago, there **(he, unfasten, had)** never been any elections in the **(hilarious, sat, country)**. But this year they were going **(average, roof, to)** see a new thing altogether.

Several **(confused, months, greet)** away from the elections, the chief **(had, war, hidden)** called a general meeting at which **(quality, the, motion)** electoral officers had explained to them **(average, reign, the)** need to vote that year to **(until, frowning, elect)** a president for the whole nation **(egg, bounce, and)** a member of parliament for their **(constituency, knew, helpful)**.

"The old government in which military **(officers, communicate, collect)** have the loudest voice would be **(no, decorate, choke)** more," the officials had explained. "We **(want, potato, limit)** to have democracy in our country: a government in which the people have **(forward, solemnly, the)** right to choose who should rule **(seen, curious, them)**."

The people welcomed the news with **(branch, great, slimy)** delight. Many of them hated the **(military, real, unlock)** rule in the country. The military had taken over the running of government, almost two decades ago in a bloody coup. They had heard how people were tortured and killed, especially in the capital. Even the president would have suffered a similar plight if he had not sought refuge in a neighbouring country.

Student Name: _____	Classroom: _____
_____ Date: _____	Age: _____ Sex: _____ School: _____
_____ Time: 3 mins.	

*Instructions:*

Circle or underline the correct answer from the options in the bracket that best suits the passage.

**MONDI AND THE MAGIC LEAVES****J NYARKO BOATENG**

One night, Mondri sees in a **(forward, distance, match)**, on top of a mountain, an **(sore, orange, thoughtful)** light. At once Mondri longs to **(see, heart, cheat)** what is giving out that beautiful **(light, boastfully, window)**. To his surprise, Mondri finds himself on top of the mountain. Here, he **(finds, behind, listen)** a cave with a wide opening. **(Hear, Fact, Nervously)** Mondri stepped into the cave, and it became light, the same orange light he had seen from his yard far **(away, rode, protest)** in Nyanga. On the walls of the cave there were many drawings, pictures of strange creatures, unlike any Mondri had **(ever, porter, encouraging)** seen, even in books. From the **(enter, ceiling, attack)** there hung wonderful plants, long vines and creepers, their leaves glowing in the **(wander, magical, root)** light. Deep from inside the cave **(remember, came, joyously)** the sweetest music he had ever **(heard, crossly, clock)**. As he listened, he became enchanted **(mourn, finger, with)** the music and all his fears **(cheese, fled, suffer)** away from him. Then a figure **(self, stepped, argue)** forward and the music stopped. It was a figure of a woman, tall and stately. She wore a long cloak **(woven, tightly, ours)** with grasses and leaves, Round her **(level, neck, foolish)** and wrists were chains of brilliantly **(been, coloured, promptly)** stones. In her left hand, she **(shoe, carried, soap)** a wooden staff. The right hand was stretched out in a gesture of **(welcome, those, unsightly)** to Mondri

Student Name: _____	Classroom: _____
Date: _____	Age : _____
Sex: _____	School: _____
Time: 3 mins	

*Instructions:*

Circle or underline the correct answer from the options in the bracket that best suits the passage.

**A FAMILY BY THE SEA****J NYARKO BOATENG**

A fisherman and his family lived in a small village near the sea. The family consisted of himself, his **(ouch, wife, average)**, and their five-year-old daughter. Though the **(couple, that, loosely)** were very poor, they were very **(food, honest, alert)**. The sea was the source of **(livelihood, door, fantastic)** for the family. Upon it the **(talk, fisherman, opposite)** and his parents had depended for **(years, adjustment, plus)** until his father went to sea one day and failed to return. The fisherman, was only five years when this **(neatly, succeed, incident)** occurred. In order to raise her **(son, introduce, faint)**, the mother began working harder, all by herself. She had very high hopes for her only boy. As she put it. she did not want the sea to devour him as it had done to his father. Unfortunately, she too became **(between, bed-ridden, powder)** when a strange disease struck her **(credit, after, nervous)** some years. A few months later, she passed away. That meant the fisherman had to begin mending his father's old **(over, fishing, color)** nets and that was how he **(often, stepped, tenderly)** into his father's shoes. For the rest of his life, he was to **(guilty, depend, touch)** on the sea for the survival **(office, gently, of)** himself and his family. Every morning, when the fisherman had taken his ball of banku and hot pepper stew, he **(excite, smiling, would)** push his old canoe down the **(sea, relieved, spoken)**. Then he would begin to work on the oar, plunging it below the **(society, fragile, surface)** of the water-left, right, left, right-to keep the canoe rowing fast. Meanwhile, the **(until, word, well-woven)** net hung loose at the rear of the canoe with open mouth, stocked with all kinds of fish food. As he went deeper and deeper into the sea. large shoals of fish would come, **(wonderful, foolishly, flocking)** around the small mouth of the **(sun, net, dark)**, struggling to enter.

Student Name: _____	Classroom: _____	Date: _____
Age : _____	Sex: _____	School: _____
		Time: 3 mins

*Instructions:*

Circle or underline the correct answer from the options in the bracket that best suits the passage.

## HARD LUCK

J NYARKO BOATENG

Osafo and Kwaata sat under the mango tree in front of the latter's house. Sip after sip, the two men (**clear, emptied, smoggy**) quite a good number of bottles. At a certain point they lost control of themselves and began telling their secrets (**versus, up, freely**) to each other.

“Kwaata’, Osafo began”, do you know my wife could break up with me because of my foolish (**behavior, thought, heard**)? How could I sell my only (**property, uneven, rate**) for this silly game?

“But Osafo”, (**so, Kwaata, attempt**) replied, 'you don't have any problem. (**Important, Uh, After**) all, the radio was your property. I don't think somebody can be chastised for selling his own property. I think I have a greater problem.”

“How, kwaataa, (**how, whether, authority**)? You spent money on the game, I know, but wasn't that money your (**own, radiate, market**) money? Can you believe I lied to my wife about the radio?

You did? Of course, I did. You see, (**there, awake, wood**) was no way I could convince her, I was going to sell it,”

“(relieved, that's, include) unfortunate!” the two men continued to (**horn, talk, thank**) as they sat facing each other. In less than an hour ago, they had missed what seemed the greatest chance in their lives. From the beginning of the week, they had been going fishing in old lotto papers. By Thursday evening, they had agreed between them that, two of the numerous numbers on their list (**salt, would, society**) certainly not fail to drop.

In order to get money to stake the **(prose, numbers, verse)**, Osafo instantly made up a story to take his wife in. He has to sell that small radio at all cost. But he must do it in **(such, spent, wind)** a way that she would have **(cause, scary, smash)** to grumble. Kwaataa on the other **(hand, oil, learnt)** had agreed to use up his **(reproduce, personal, square)** coffers on the numbers.



**APPENDIX D5****MARKING SCHEME OF COMPREHENSION TEST ITEMS**

Student/Classroom: _____	Examiner: _____	Assessment
Date: _____		

**A MARKET PLACE****J NYARKO BOATENG**

Techiman is my hometown. It can be located in the **(Brong)** Ahafo Region of Ghana. It is **(one)** of the great market towns in **(the)** country. The usual market day is **(Friday)**, but on other days too, one **(may)** get some basic things like vegetables **(and)** meat to buy on the market. **(The)** market on Fridays is, in fact, a very beautiful scene to watch. It is simply interesting to see the huge **(market)** filled to capacity with people, cargoes **(and)** goods of all kinds.

The **(market)** starts early, as most of the **(traders)** arrive there on Thursday evening with **(their)** goods. By 5 a.m., the buying **(and)** selling has begun with the sellers **(shouting)** at the top of their voices to draw the attention of buyers to **(their)** goods.

By noon, trading activities will **(reach)** their peak. By then, all the **(traders)** who could not arrive the previous **(evening)** would have arrived and the lorries, **(which)** bring goods from far away, would **(also)** be arriving one after the other.

Most of the sellers sell in shops. Those who sell directly under the sun either wear big straw hats or have large umbrellas covering their heads.

Student/Classroom: _____	Examiner: _____	Assessment
Date: _____		

## ADOLESCENCE

### J NYARKO BOATENG

One of the most important stages in a person's life is the adolescent stage. Adolescence is a period between childhood **(and)** adulthood, or the teen ages - between **(thirteen)** and nineteen. Within this range, a **(lot)** of things happen, a lot of **(changes)** occur.

The deepening of voice in **(boys)**, the development of breasts in girls, **(and)** the growth of body hair in **(both)** boys and girls; all these are **(signs)** to confirm that the person is **(soon)** entering the adult world.

So sensitive is the adolescent stage that many people **(think)** that parents must give it much **(more)** time and attention than even the **(childhood)** stage. Their reason is that, it is the adolescent stage that prepares the **(person)** for the adult life, and the **(more)** successfully they go through it, the **(better)** their latter life is expected to be.

Adolescence is a challenge. The strong **(physical)** changes that occur in the body **(make)** it difficult for adolescents to accept that they are still children. However, their **(continuous)** dependence on their parents does not make them confident enough to claim the **(adult)** status. This brings conflicts. The adolescents are always involved in constant battles with **(parents)**, siblings, teachers, friends and others, as **(they)** struggle to break free. Many of them become stressful and lose control of **(themselves)**.



Student/Classroom: _____	Examiner: _____	Assessment
Date: _____		

### ELECTION DAY AT DWENEWOHO

J NYARKO BOATENG

The people of Dwenewoho were going to exercise their franchise for the first time in many years. Most of the eligible voters were, **(in)** fact, voting for the first time **(in)** their lives. Since the military took **(over)** power about two decades ago, there **(had)** never been any elections in the **(country)**. But this year they were going **(to)** see a new thing altogether.

Several **(months)** away from the elections, the chief **(had)** called a general meeting at which **(the)** electoral officers had explained to them **(the)** need to vote that year to **(elect)** a president for the whole nation **(and)** a member of parliament for their **(constituency)**.

"The old government in which military **(officers)** have the loudest voice would be **(no)** more," the officials had explained. "We **(want)** to have democracy in our country: a government in which the people have **(the)** right to choose who should rule **(them)**."

The people welcomed the news with **(great)** delight. Many of them hated the **(military)** rule in the country. The military had taken over the running of government almost two decades ago in a bloody coup. They had heard how people were tortured and killed, especially in the capital. Even the president would have suffered a similar plight if he had not sought refuge in a neighbouring country.

Student/Classroom: _____	Examiner: _____	Assessment _____
Date: _____		

## MONDI AND THE MAGIC LEAVES

**J NYARKO BOATENG**

One night, Mondri sees in a **(distance)**, on top of a mountain, an **(orange)** light. At once Mondri longs to **(see)** what is giving out that beautiful **(light)**. To his surprise, Mondri finds himself on top of the mountain. Here, he **(finds)** a cave with a wide opening. **(Nervously)** Mondri stepped into the cave, and it became light, the same orange light he had seen from his yard far **(away)** in Nyanga. On the walls of the cave there were many drawings, pictures of strange creatures, unlike any Mondri had **(ever)** seen, even in books. From the **(ceiling)** there hung wonderful plants, long vines and creepers, their leaves glowing in the **(magical)** light. Deep from inside the cave **(came)** the sweetest music he had ever **(heard)**. As he listened, he became enchanted **(with)** the music and all his fears **(fled)** away from him. Then a figure **(stepped)** forward and the music stopped. It was a figure of a woman, tall and stately. She wore a long cloak **(woven)** with grasses and leaves, Round her **(neck)** and wrists were chains of brilliantly **(coloured)** stones. In her left hand, she **(carried)** a wooden staff. The right hand was stretched out in a gesture of **(welcome)** to Mondri.

Student/Classroom: _____	Examiner: _____	Assessment _____
Date: _____		

### **A FAMILY BY THE SEA**

**J NYARKO BOATENG**

A fisherman and his family lived in a small village near the sea. The family consisted of himself, his **(wife)**, and their five-year-old daughter. Though the **(couple)** were very poor, they were very **(honest)**. The sea was the source of **(livelihood)** for the family. Upon it the **(fisherman)** and his parents had depended for **(years)** until his father went to sea one day and failed to return. The fisherman was only five years when this **(incident)** occurred. In order to raise her **(son)**, the mother began working harder, all by herself. She had very high hopes for her only boy. As she put it, she did not want the sea to devour him as it had done to his father. Unfortunately, she too became **(bed-ridden)** when a strange disease struck her **(after)** some years. A few months later, she passed away. That meant the fisherman had to begin mending his father's old **(fishing)** nets and that was how he **(stepped)** into his father's shoes. For the rest of his life, he was to **(depend)** on the sea for the survival of himself and his family. Every morning, when the fisherman had taken his ball of banku and hot pepper stew, he **(would)** push his old canoe down the **(sea)**. Then he would begin to work on the oar, plunging it below the **(surface)** of the water-left, right, left, right-to **(keep)** the canoe rowing fast. Meanwhile, the **(well-woven)** net hung loose at the rear of the canoe with open mouth, stocked with all kinds of fish food. As he went deeper and deeper into the sea, large shoals of fish would come, **(flocking)** around the small mouth of the **(net)**, struggling to enter.

Student/Classroom: _____	Examiner: _____	Assessment _____
Date: _____		

### HARD LUCK

**J NYARKO BOATENG**

Osafo and Kwaata sat under the mango tree in front of the latter's house. Sip after sip, the two men (**emptied**) quite a good number of bottles. At a certain point they lost control of themselves and began telling their secrets (**freely**) to each other.

“Kwaata’, Osafo began”, do you know my wife could break up with me because of my foolish (**behavior**)? How could I sell my only (**property**) for this silly game?

“But Osafo”, (**Kwaata**) replied, 'you don't have any problem. (**After**) all, the radio was your property. I don't think somebody can be chastised for selling his own property. I think I have a greater problem.”

“How, kwaataa, (**how**)? You spent money on the game, I know, but wasn't that money your (**own**) money? Can you believe I lied to my wife about the radio? You did?

“Of course, I did. You see, (**there**) was no way I could convince her I was going to sell it,” “(**that's**) unfortunate!” The two men continued to (**talk**) as they sat facing each other. In less than an hour ago, they (**had**) missed what seemed the greatest chance in their lives.

From the beginning of the week, they had been going fishing in old lotto papers. By Thursday evening, they had agreed between them that, two of the numerous numbers on their list (**would**) certainly not fail to drop.

In (**other**) to get money to stake the (**numbers**), Osafo instantly made up a story to take his wife in. he has to sell that small radio at all (**cost**). But he must do it in (**such**) a way that she would have (**cause**) to grumble. Kwaataa on the other (**hand**) had agreed to use up his (**personal**) coffers on the numbers.