Teachers' Pedagogical Content Knowledge as Correlate of Students' Performance in Reading Comprehension in Gombe State, Nigeria

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ABSTRACT

There has been persistent under achievement in English language examinations at secondary school level in Nigeria and researches claim that there is a strong correlation between students' performance on one hand and teachers' content knowledge and pedagogical skills, students' study habit and gender on the other hand. This study, therefore investigated the impact of teachers' pedagogical content knowledge (PCK) on secondary school students' performance in English language reading comprehension in Gombe state, Nigeria. The study adopted an ex-post facto research design with two layers of population: secondary school students and English language teachers out of which a sample of 13 English language teachers and 649 senior secondary school students were used. Three research instruments were used for data collection: Teacher's Mastery of Pedagogical Skills Evaluation Form (TMPSEF) with 0.71 reliability index, English Language Teachers Reading Comprehension Test (ELTRCT) with 0.79 reliability index, and Students Reading Comprehension Test (SRCT) with 0.75 Reliability index. Research questions were analysed using frequency counts and percentages, while research hypothesis was tested using independent sample t-test. Findings revealed that majority of the English language teachers (69.2%) have low PCK of teaching reading comprehension, majority of the students (68.9%) have average performance in reading comprehension. Also, there is no difference in reading comprehension performance between students that have teachers with high and low PCK level. Recommendations were: English language teachers in Gombe state, Nigeria should have high pedagogical content knowledge and be ready to learn and acquire different emerging strategies in teaching reading comprehension effectively. Similarly, teacher education curriculum should be enriched to cover courses on reading comprehension pedagogical content knowledge.

Keywords: Pedagogical content knowledge, English language performance

BACKGROUND TO THE STUDY

The importance placed on the English language in Nigeria can be clearly seen in the priority it receives in external examinations and higher institutions as candidates must register and pass with a credit before being considered for admission for most courses. Despite this, performance of students in English language has been consistently poor over the years and has been a source of concern for stakeholders. For decades researches were conducted to identify the causes of such massive failure with the hope of finding lasting solutions, yet, much needs to be done as students continue to fail woefully especially in public senior secondary school examination certified by examination bodies like West African Examination Council

(WAEC) and National Examination Council (NECO).

WAEC Chief Examiners report explained that reading comprehension (part of paper 1) is one of the most reliable measures of students' competence in English language yet candidates fail woefully almost every year. The inability of the students to read with understanding showed that they lacked the necessary techniques of answering comprehension questions. Reading comprehension constitutes a significant portion of the overall English language curriculum. Hence, when properly learnt, it gives avenue to the students to be able to comprehend other subjects and be able to provide meaningful feedback on the material read. In fact, reading comprehension has been found to significantly influence students' performance even in Mathematics and Science related subjects. Yet, students' performance in reading comprehension has been discouraging for many years as Garba (2003) lamented that teaching reading comprehension in second language classes has had little or no success.

Effective reading is a combination of various skills in other to achieve comprehension. These skills according to NICHHD (2000) and Learning Point Associates (2004) include: phonemic awareness, phonics, fluency, vocabularies and comprehension. National Institute for Literacyin NICHHD (2000) also added skills like early literacy knowledge with its sub-skills: print knowledge, alphabet knowledge and concept about print.

Not surprising, researchers have affirmed that comprehension of a text is impossible if meaning of words are unknown. This means that a reader will comprehend next to nothing if he/she does not know the meaning of the words been read. Similarly, for readers to be able to comprehend a text, they need decoding skills, fluency, adequate vocabulary and prior knowledge. Umar (2020) explained that fluency in reading comprehension encompasses components like reading rate, automaticity, prosody and comprehension which are crucial in helping learners to become fluent readers. The author further explained that the more words readers are exposed to, the larger and better their vocabulary and ultimately comprehension of texts. Conversely, poor decoding skills tend to frustrate readers as they struggle with comprehension.

On a similar terrain, William (1987) explained that for a meaningful reading comprehension exercise the lesson should be divided into three stages: pre-reading stage, while reading stage (during reading) and post-reading stages. This view is also supported by Umar (2020). As good as these suggestions, most English language teachers in Nigerian schools do not structure their lessons in such a manner.

Pre-reading stage involves activities that require students to actively participate and show interest. It sets the pace by intimating the students on what they will encounter at the next stage-reading stage (during reading stage). Urquhart and Weir (1988) suggested the following pre-reading activities: thinking about the title, reading the preface, the forward and blurb carefully, reading appendices quickly.

The pre-reading activities can also be referred to those mental devices that pupils can find to be of immediate use, and since reading involves a network of information processing,pupils will be able to read, understand and contribute positively in the class, the society, and thereby, broaden their horizon in all aspects of life.

Umar (2020) on a similar note explained that the pre-reading strategies cover activities like previewing, activating prior knowledge, setting a purpose and predicting. Previewing which is also called surveying is a stage where the reader reads the title of the text, headings, introduction, summary and illustrations mainly so as to get an overview of its content or to have a feeling of what the text is about. For activating prior knowledge, the reader attempts to make a sort of connection between previous experiences of the reader that are related to the current text. This is more like creating a link between known to unknown. To set a purpose entails ability to identify the genre or text structure and goal for reading a text while predicting means making careful and informed guessing about events, happenings or circumstances in a text before actually

reading the text. Predictions are usually confirmed or refuted after reading the text.

For the reading stage, Kerubo (2014) suggested the following activities: guessing meaning from context, answering pre-set questions, guessing meaning of unfamiliar words, matching text with picture or diagrams, analysing sentences, extracting specific information, getting detailed information.

At the reading stage, the reader relates the information to his previous experience or knowledge and gets meaning out of what is read. This stage provides a prelude to the real text which prepares the readers mind through providing relevant information or fact related to what is about to be read. This activity gives a general over view or warm up activity to arouse the interest of the learners in the text.

For Umar (2020) however, during reading strategies have the following activities: making inference, judgements, conclusions from information provided in the text, generating and asking questions, self-monitoring like knowing ones-self as a learner, regulating, checking to evaluate readers' performance, repairing/ pausing/ slowing down, re-reading, reading aloud, jumping over, paraphrasing/using text aids, etc., visualizing or forming mental pictures of events, paraphrasing the text and making comparisons .

Furthermore, at the post-reading stage, activities such as discussions, writing, summarizing, confirming earlier predictions and vocabulary development are carried out. For Umar (2020), post reading strategies include: re-telling story elements, drawing conclusions, elaborating on the author's intent, graphic and using semantic organisers like making a list of characters and their traits, building vocabulary, making connections to prior knowledge and summarising.

Therefore research has proven that explicitly teaching these strategies to students these activities collectively help them to better comprehend a text and give meaningful feedback.

In areas like Mathematics and Sciences, there has been a great deal of interest in what teachers need to know about their subjects so as to be able to teach others. Researches like that of Guess-Newsome (1999), Magnusson et al. (1999) and Campbellet al. (2014) focused on Mathematics teachers' knowledge and how it influencesstudents' performance. However, little is known regarding what teachers need to know about reading comprehension to be able to teach it effectively to students. Several arguments were made in the effort to overcome massive failure in English language reading comprehension particularly in public examinations with the aim of addressing identified problems.

It is in the light of these failures that several researches were conducted with the aim of finding out the causes of these mass failures. Consequently, factors related to the teacher, school, subject, and students were identified as causes of students' failure in English language reading comprehension. Relevant literature seem to suggest that lack of effective teachers is not only a contributing factor in the performance gap among students but the most potent among them all. Researchers like William et al. (2018) investigated teachers' knowledge indices as predictors of senior secondary school students' achievement and found out that depth of teachers' subject content and pedagogical knowledge significantly affect students' academic achievement. When teacher's subject matter knowledge is lacking, then such teacher lacks self confidence in the classroom which in turn has significant impact on their teaching as well as their students' learning.

Similarly, available literature had affirmed that teachers' subject matter mastery is crucial as it enables the teacher to arrange selected material in correct sequence while preparing for lesson. These coupled with teachers' ability to think of ideas and information to enrich subject mastery and enhance quality teaching and learning has strong impact on students' performance. Hence, teachers need to have a strong grasp of what they teach as well as means of teaching it to be able to make noticeable impact on students' learning.

Research on teachers' knowledge has given way to a novel concept called pedagogical content knowledge

(PCK). This new concept was popularised by Shulman in the 1980's and it is conceived to be a combination of subject content and pedagogy necessary in teaching such content.

Content knowledge according to Shulman (1987) is defined as the amount and organization of knowledge in the mind of the teacher. Lee (1995) indicated that teachers' knowledge of subject matter influences instructional practices across subject areas at different levels. He reiterated that without the essential base of subject matter knowledge teachers are simply unable to produce effective instruction. Subject content knowledge is also called content knowledge (CK) and it covers concepts related to the teaching topic. Mishra and Koehler (2006) explained that CK is knowledge about the actual subject matter that is to be learned or taught. CK is related to teachers' understanding of subject matter and a necessary prerequisite for pedagogical content knowledge.

Researches carried out on teachers' pedagogical content knowledge (PCK) had shown that there is a difference between what a teacher knows and what he teaches (Isah 2011). In other words, having the content knowledge is different from having the skills of teaching such content in ways that are accessible to the learners it is meant for. Several other researchers like Odumosu et al. (2018) have found out that differences exist in students' performance in various subjects due to the level of their teachers' pedagogical content knowledge. For this reason, research evidence on teachers' content mastery and pedagogical skills seems to be strong predictors of students' performance in school.

In Obiekezie and Timothy's (2011) view, subject matter knowledge covers information and understanding that teachers have about the subject they teach and if a teacher is unable to convey knowledge, he/she has on a subject matter, then, it is as if such a teacher does not have the knowledge. This according to the researchers is expressed as "no knowledge, no teaching".

The central purpose of teaching and learning activities is to change the learners' behaviour in a positive way. However, in other to achieve this, the teacher concerned must have the required knowledge in the subject area. Studies like that of Pinamang and Cofie (2017) and Williams et al. (2018) supported the argument that teachers can only give what they have. These studies affirmed that there is a strong positive correlation between teachers' content knowledge and students' performance at various levels. This implies that students who were taught by effective teachers who had a sound grasp of the subject content area tend to perform significantly better than their counterparts who were taught by teachers who were either weak in the content mastery or are not specialists in the field. Thus, available literature showed that one of the most influential factors in students learning achievements is their teacher's mastery of the content area.

In a study carried out by Obiekezie and Timothy (2011) on students' perception of teacher's subject matter knowledge and students' performance in reading comprehension, they found out that students who perceive their teachers as highly knowledgeable in the subject matter had the highest mean score of 21.18 against 12.98 and 6.52 for students who perceive their teachers subject matter knowledge to be moderate and low respectively. The researchers further used Tukey's test to compare the results. The comparison showed that the major source of variation was the group of students who perceive their teacher's subject matter knowledge to be high. Thus, they concluded that students who perceive their teacher as having high subject matter knowledge perform significantly better than those other groups of students who perceive their teachers as having moderate or low subject matter knowledge. Similarly, Odumosu et al. (2018) also explained that teachers who teach subjects that they had previously studied in-depth are particularly effective while insufficient teacher's subject matter knowledge can make learners to develop misconceptions, misunderstandings and misinterpretations on such subjects. This further captures the importance of teachers' knowledge of a subject matter as it has effects on students learning outcomes.

Voss et al. (2011) proposed a framework of general pedagogical knowledge. There framework combines general PK with knowledge of psychology in their attempt to capture the social climate of the classroom as

well as the heterogeneity of individual student learning. The framework comprises of the following:

1. Knowledge of classroom management.
2. Knowledge of teaching methods.
3. Knowledge of classroom assessment
4. Knowledge of learning processes
5. Knowledge of individual student characteristics

Here, knowledge of learning processes and individual students' characteristics constitute the psychological aspect of this framework while knowledge of classroom management, teaching methods and classroom assessment are components under pedagogy.

Knowledge of classroom environment and management can have numerous objectives like students' discipline and involvement in class activities, ensuring adequate and conducive conditions in the learning environment which supports students' active participation, safety and efficient use of available resources.

The teacher's ability to use diverse teaching methods and techniques that engage the students is one area that deserves proper attention in education. Much evidence has shown that effective teachers have a rich repertoire of pedagogy that they use depending on its suitability to the level of their learners and what objective they want to achieve. Knowledge of theories of how children learn and develop as well as how these theories relate and improve the teaching-learning process also deserves special attention.

In other words, PCK is the link between teacher's subject matter mastery and teaching that subject to students. Shulman (1987) further explained that PCK is the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented and adapted to diverse interests and abilities of learners and presented for instruction. PCK gave avenue for new researchers to find out how well teachers know and teach their subjects.

A growing body of research abounds in the field of science specifically Mathematics about teachers PCK. On the contrary, there is dearth of research in the field of English language teachers PCK, (Hay et al., 2015; and Cesur and Ertas, 2018). This is chiefly because of some reasons as identified by Hay et al. (2015):

1. English is too broad and consequently too difficult to define its "content knowledge".
2. Teaching of English is more about extension and elaboration once the student has mastered reading and writing.
3. Available research in the area of English teachers PCK only focussed on different approaches to teaching proficiencies.

PCK is often difficult to measure directly because teachers' PCK is often tacit. Sometimes teachers are not able to express their thoughts and beliefs. Secondly, PCK is defined to constitute what a teacher knows, does and reasons for teacher's actions; hence, PCK is not entirely expressed through behaviour. In addition, Baxter and Lederman (1999) noted that making judgement about teachers PCK is still highly debatable as to what stands for good (high quality) PCK. For this reason, most researchers in the field of PCK employed multiple techniques or methods ranging from structured, semi-structured, stimulated recall interviews, observations, concept mapping, multiple choice test, and so on to measure teachers PCK in various subjects. Data obtained are usually triangulated and results give general description of teachers' (participants') PCK.

REVIEW OF RELATED LITERATURE

In a related study, Cesur and Ertas (2018) examined the prospective English language teachers' pedagogical content knowledge in English language Department of CanakkaleOnsekiz Mart University, Turkey. They

adopted the mixed method research and sequential explanatory research design. They made use of questionnaire and content analysis to collect and analyse data collected from documents, observation procedures and interviews. Themes and codes from the qualitative data were used to further explain the results obtained via quantitative method (questionnaire). The quantitative data realised from the questionnaire were analysed usingmean, percentages and frequencies. The overall mean score of all items in the questionnaire was 4.09. The participants' different domains of knowledge revealed different mean scores. For instance, domain of knowledge of English has a mean score of 3.9586, knowledge on planning lessons had a mean of 4.4303, Knowledge of learners had a mean of 4.2693, knowledge of teaching methods and techniques had 4.1941 and lastly, knowledge on assessment had 4.0630. The results obtained showed that the prospective teachers of English language believe that they do not have the required knowledge of the language they teach. What they believe they could do and what they actually did in the classrooms were different considering their knowledge of planning lessons, knowledge of their students and knowledge on assessments.

In addition, Cesur and Ertas (2018) findings also revealed that the prospective teachers' knowledge is shaped not only by their teaching experience but by the pre-service teacher education. The researchers concluded that there was a mismatch between what the prospective teachers knew theoretically and what they did in their teaching practices. Hence, they feel it is the responsibility of teacher education programs to offer ways for prospective teachers to see links between theory and practice and develop their pedagogical content knowledge. They recommended that specific pedagogical courses dealing with particular English language aspect like vocabulary, grammar should be tagged pedagogical vocabulary or pedagogical grammar so that they will focus on methods of teaching vocabulary or grammar only. They further explained that these courses will help to develop and enrich teachers' subject matter knowledge. Therefore, Cesur and Ertas (2018) study provides strong evidence that subject matter and pedagogical knowledge have strong connection with teachers' performance. These findings and recommendations are in line with the current study as it examined English teachers PCK of teaching reading comprehension and how it affects senior secondary school students' performance.

Similarly, Odumosu, et at. (2018) investigated teachers' content and pedagogical knowledge on students' achievement in Algebra. They used the quasi-experimental research design with pre-test post-test and a sample of four hundred and twenty-one (421) senior secondary school II students and twelve (12) Mathematics teachers from 8 public and 4 private schools in Education District 5 of Lagos state, Nigeria. Three (3) instruments titled Teachers Content knowledge Test on Algebra (TCTA), Observational Schedule on Teachers Pedagogy (OSTP) and Students Achievement Test on Algebra (SATA) were used for data collection. Data were analysed using graphs and ANCOVA and results show that gender and school type have no significant effect on students' achievement in Algebra and there was no significant interactive effect of students' gender, school type, and teachers' content and pedagogical knowledge on students' achievement in Algebra. Students' achievement level was determined by cross-tabulating teachers' content knowledge (high, average and low) and pedagogical content knowledge (high, average and low) with school type (public and private) and gender (male and female) on students' achievement. Gender has no effect on students' performance because male students scored a marginal mean of 53% while females scored 51% and the difference was not significant statistically. The study recommended that only teachers of Mathematics with in depth knowledge of the subject matter and well-groomed in teaching pedagogy should be allowed to teach Algebra in schools. Odumosu, et al. (2018)'s study is related to the current research as the research seeks to find out the impact of teachers PCK and gender on secondary school students' performance in English language reading comprehension. However, the present study has an additional variable of students' study habit and also used a different research design (Ex post facto), sample, data collection instrument and method of data analysis.

Williams et al. (2018) focused on investigating the predictive value of teachers' knowledge indices as

predictors of secondary school students' academic achievement in Mathematics and English language in Kwara state. They used a descriptive survey research design with a sample size of 78 teachers comprising of both Mathematics and English language teachers randomly selected from 32 schools and intact classes taught by these teachers. Data was collected through tests, observation and vignette and analysed through descriptive and inferential statistics. Findings revealed that teachers with B.Sc. demonstrated deep depth of subject content, pedagogical knowledge and subject content and professional knowledge. In addition, subject content and pedagogical knowledge are strong predictors of students' academic performance. Significant differences were observed between English language and Mathematics teachers' subject content and pedagogical knowledge in favour of Mathematics teachers. Though the difference in their students' scores in both subjects were not significant. Hence, they recommended that teacher training institutions should improve the training of prospective teachers.

Oluwatayo and Adebule (2012) in their study on assessment of teaching practice performance of student-teachers on teaching practice used two hundred and twenty-two (222) student-teachers on teaching practice during 2010/2011 academic session. They adopted the survey approach and data were collected using Teaching Performance Assessment Form designed by the faculty of Education, Ekiti State University with reliability index of 0.88. The student-teachers were each observed twice and assessed using the instrument and the average score was computed and analysed. The sections in the instrument had correlation coefficient between 0.325 to 0.531 which indicates that the rating of the student-teachers had a marginal agreement. Data were analysed using frequency counts, percentages, item total correlation and t-test statistic. Findings showed that student-teachers showed a favourable teaching performance as they were rated good, very good or excellent. They therefore recommended that some form of induction should be given to student-teachers before they go on teaching practice and thorough monitoring of teaching practice in order to ensure total compliance with principles of the exercise as well as to maintain standards.

Ibrahim (2016) examined PCK for teaching English in Banda Aceh. She adopted a qualitative approach with four English language teachers each teaching second grade students in different junior high schools. The study used purposive sampling technique to select one English language teacher from four schools. Observational sheets and interview guides were used to collect data and results show dissimilarities in displaying PCK on all topics that the four teachers taught their students based on teaching strategy, subject matter knowledge, and how to identify students' misconceptions. Students' scores were collected at the end of observation and compared with performance of the teachers. The average of the test scores was calculated and used as indicators of how well the students understand the subject matter taught by the teachers.

Based on the observations and interview, two teachers had limited knowledge of teaching English while two teachers had adequate knowledge of their subject matter. In other words, one teacher had inadequate knowledge of teaching strategies; one teacher has adequate knowledge of teaching strategies and one teacher with insufficient knowledge of teaching strategies. All four teachers did not show strong skills related to the components of PCK. Recommendations were made that teachers should learn more about PCK and know how to combine subject matter knowledge with PCK for optimal learning.

Mohammad and Keily (2018) focused on understanding teachers' pedagogical knowledge in ESL vocabulary teaching. They used observation and interviews with two experienced Malaysian ESL teachers using a semi-structured interview approach prior to classroom observation. They conducted fifteen non-participant classroom observation fully taped and transcribed. Responses were coded based on teachers' belief about teaching and learning of vocabulary, teachers' own experience in learning and acquiring vocabulary and teachers practice in teaching vocabulary. Findings showed that teacher 1 and 2 both believed in the importance of having a wide range of vocabularies for easy communication but also admitted that teaching it to learners is not a priority in their classroom. Both teachers also affirm that teaching vocabularies only comes up when students need a clarification of the meanings of words they encounter

while reading. Hence, Mohammmad and Keily (2018) concluded that teachers operate within the spectrum of their pedagogical knowledge and it determines their practice in the classroom and their classroom activities is a repetition of their own experiences learning vocabularies.

Research Questions

1. What is the proportion of teachers with high and low pedagogical content knowledge of teaching reading comprehension in secondary schools in Gombe state, Nigeria?
2. What is proportion of secondary school students with high, average and low performance in reading comprehension in Gombe state, Nigeria?

Research Hypothesis

Ho1: There is no significant difference in students' reading comprehension performance mean score taught by teachers with high and those taught by teachers with low pedagogical content knowledge in Gombe state, Nigeria.

METHODOLOGY

Ex-post facto research design was used in this study mainly because there was no direct manipulation of independent variables and the presumed 'cause' has already occurred.There are two layers of population in this study. The first layer covers all senior secondary school students spread across one hundred and thirty-four (134) senior secondary schools in Gombe state (MoE, Gombe State, 2020) with a total of fifty thousand eight hundred and forty-five (50,845) students. The students comprised of twenty-nine thousand two hundred and seven (29,207) males and twenty-one thousand six hundred and thirty-eight (21,638) females. The second layer of the population comprised of all the English language teachers in public secondary schools in Gombe state. There are two hundred and fifty-six (256) English language teachers in Gombe state public senior secondary schools, (MoE Gombe State, 2020).Sample of six hundred and forty-nine (649) secondary school students and thirteen (13) English language teacherswere selected in stages. One intact class of senior secondary school students was taken for each of the 13 teachers taken as part of the sample of this study. For convenience, Gay et al. (2012) advised that multistage sampling be used when the population in a study is very large or spread over a wide geographic area. Hence, multistage sampling technique was used in this study. In stage one, the schools in Gombe state were grouped into 3 clusters according to the educational zones of the state: North, central and south.

Stage two, proportionate sampling technique was used to select 10% of all senior secondary schools in each educational zone. Hence, for Gombe north (10% of 30) 3 schools, Gombe central (10% of 52) 5 schools and Gombe south (10% of 52) 5 schools; this gave a total of 13 secondary schools.

In stage three, purposive sampling technique was used to select one English language teacher in each of the 13 schools across 3 educational zones of the state. Lastly, stage four, one intact senior secondary school class of each of the 13 English language teachers in the 13 schools was used as sample in this study.

Three instruments were used for data collection. These instruments include:Teachers Mastery of Pedagogical Skills Evaluation Form (TMPSEF) with scorer/rater reliability computed using Cohen's Kappa reliability which yielded an index of 0.71, English Language Teachers Reading Comprehension Test (ELTRCT) with reliability index of 0.79 and Students' Reading Comprehension Test with an index of 0.75. The ELTRCT comprised of one adopted reading comprehension passage from UTME 2010. The passage had a total of five multiple choice questions. Each correct response was awarded one mark which gave a total of five marks. The scores for teachers ELTRCT were summed up and any score below the mean was

regarded aslow while scores above the mean were regarded as high.

RESULTS

Research Question One: What is the proportion of teachers with high and low pedagogical content knowledge of teaching reading comprehension in Gombe state, Nigeria?

Table 1: Proportions of the Levels of Pedagogical Content Knowledge

	Frequency	Percentage	Cumulative Percentage
High	4	30.8	30.8
Low	9	69.2	100.0
Total	**13**	**100.0**	

Source: Field Work 2021

Research Question Two: What is the proportion of secondary school students with high, average and low performance in reading comprehension test (SRCT) in Gombe state, Nigeria?

Table 2: Proportions of the Levels of Students' Performance in Reading ComprehensionTest (SRCT)

	Frequency	Percentage	Cumulative Percentage
High	51	7.9	7.9
Average	447	68.9	76.7
Low	151	23.3	100.0
Total	**649**	**100.0**	

HO_1: There is no significant difference in students' reading comprehension performance mean score taught by teachers with high and those taught by teachers with low pedagogical content knowledge in Gombe state, Nigeria.

Table 3: Result of t-test for Mean Scores of Students' Reading Comprehension Test (SRCT) by Teachers' Pedagogical Content Knowledge (PCK)

(SRCT)	N	Mean	S.D	Std. Error Mean	t-value	Df	*P* value	Remarks
High PCK	209	2.25	1.054	.073	0.379	47	0.705	Not sig.
Low PCK	440	2.22	.914	.044				
Total	**649**							

Source: Field Work 2021

An independent non-equivalent sample t-test was performed in examining the differences inreading comprehension Test (SRCT) mean score between students that have teachers with high and those that have teachers with low PCK in Gombe state, Nigeria.From the table above, those students that have teachers with high PCK havea mean score of 2.25 onreading comprehension test (SRCT) whilethose that have teachers with low PCK have a mean score of 2.22 respectively. The computed result from t-test analysis revealed that (t= 0.379, p= 0.705)signifying that the p value is greater than 0.05, meaning that the obtained mean scoresdo

notsignificantly differ by teachers' PCK.Thus, based on the obtained result, the stated null hypothesis isthereby retained. It is therefore inferred thatthere is no significant difference in reading comprehension performance test (SRCT) mean score between students that have teachers with high and those that have teachers with low pedagogical content knowledge in Gombe state, Nigeria.

DISCUSSION OF FINDINGS

Findings in this study reveal that majority of the English language teachers fall within the low PCK group implying that about 69.2% of them do not have the required skills to teach reading comprehension effectively to students. This agrees with the findings of Effiom et al. (2018) who found out that majority of the teachers they sampled were not aware of the strategies of teaching reading comprehension nor did they utilize any strategy.Contrary to this, Oluwatayo and Adebule (2012)'s reported that the student-teachers they observed showed a favourable teaching performance as they were rated excellent, very good or good. Therefore, this might have accounted for the poor performance of about 151 representing 23.3% of the students in the reading comprehension test in this study. Again, this does not agree with Kerubo's (2014) findings that only 3.6% scored below average in the reading comprehension test as about 96.4% scored above average due to teachers' use of pre-reading activities to help stimulate students understanding of comprehension passages.

Furthermore, results revealed that there is no difference in reading comprehension test scores between students that have teachers with high and those that have teachers with low pedagogical content knowledge in Gombe state, Nigeria.Teacherswho have high PCK have students with 2.25 mean score while teachers with low PCK have students that have 2.22 mean score in SRCT with p value of 0.705 at 0.05 level of significance. This finding confirms that of Mohammed and Keily (2018) that teachers operate within the spectrum of their pedagogical knowledge which determines their practice in the classroom giving the fact that 69.2% of the teachers had low PCK level hence, it affected their students' performance in the reading comprehension test. However, this does not agree with the findings of Odumosu, et al. (2018) that there is difference in the scores of students taught by teachers with high and low PCK levels. In this study, the reason for lack of differences could be connected with large number (440) of the students taught by teachers with low PCK. On the other hand, it could be that those students who fall within the average score were academically strong students.

CONCLUSION

It can be surmised that English language teachers in Gombe state, Nigeria have low pedagogical content knowledge of teaching reading comprehension to secondary school students, and secondary school students in Gombe state have average performance in reading comprehension test in Gombe state, Nigeria.

RECOMMENDATION

Curriculum planners and developers should enrich the curriculum for teacher education programmes for English language teachers to include special courses for teaching pedagogies for different content areas like reading comprehension in order to boost teachersPCK which will ultimately improve their students' performance.

REFERENCES

1. Agbo,I. I., Kadiri, G. C., & Ekwueme J. (2019). Investigating the impediments in reading comprehension in junior secondary schools: Evidence from JSS II students in Nsukka metropolis. *Advances in Language and Literary Studies, 10* (2), 143-151. Retrieved from

http://dx.doi.org/10.7575/aiac.alls.v.10n.2p.143

2. Alimuddin, Z., Tjakraatmadja, J. H., & Ghazali, A. (2020). Developing an instrument to measure pedagogical content knowledge using an action learning method. *International Journal of Instruction. 13* (1), 425-444. https://doi.org/10.29333/iji.2020.13128a
3. Campbell, P. F., Nishio, M., Smith, T. M., Clark, D. L., Rust, A. H., Depiper, J. N., Griffin, M. J., &Choi, Y. (2014). The relationship between teachers' pedagogical content knowledge, teachers' perceptions, and students' achievement. *Journal of Research in Mathematics Education. 45*(4), 419-459. Retrieved from http://www.jstor.org/stable/10.5951/jresematheduc.45.4.0419
4. Cesur, K.,&Ertas, A. (2018*).* Explaining the prospective English language teachers' pedagogical content knowledge: Canakkale case. *International Journal of Progressive Education. 14*(3), 123-140. doi: 10.29329/ijpe.2018.146.9
5. Chief Examiners' Report (2006). Executive summary of entries, results and chief examiners' reports on West African Senior Secondary School Certificate Examination (WASSCE) conducted in Nigeria. www.natinpasadvantage.com>2006_Nigeria_Examiners_
6. Gay, L. R., Mills, G.E.,&Airasian, P. W. (2012). *Educational Research: Competencies for analysis and application* (10th ed.). Pearson Education.
7. Gess-Newsome, J. (1999). Pedagogical content knowledge: An introduction and orientation. In J. Gess-Newsome, N.G. Lederman (eds.), *Examining pedagogical content knowledge. Science and Technology Education Library,*6,(pp 3-17). Retrieved from DOI https://doi.org/10.1007/0-306-47217-1_1
8. Guerriero, S. (2017). (Ed.) *Pedagogical knowledge and the changing nature of the teaching profession.* OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264270695-en
9. Hay, I., Chick, H., Nicholson, T., Hopwood, B., Callingham, R., Bestwick, K., Shorter, D., &Jones, J. (2015). Can teachers' pedagogical content knowledge in subject English be measured? *Conversations on Knowledge for teaching,* 1-5
10. Ibrahim, B. (2016). Pedagogical content knowledge for teaching English. *English Education Journal (EEJ), 7* (2), 155-167.
11. Isah, M. F. J. (2011). *Relationship between subject content knowledge and pedagogical skills of NCE Integrated science students in Niger state.* (M.Ed Thesis Ahmadu Bello University, Zaria).
12. Kerubo, O. M., (2014). *Correlation between reading comprehension practices and academic performance: Acase study of class three pupils in Westlands sub-country, Kenya.* (MA Thesis in Linguistics, University of Nairobi).
13. Mishra, P.,& Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017-1054.
14. Muhammad, M.,& Riely, R (2018). Understanding teachers' pedagogical knowledge in ESL vocabulary teaching. *Journal of Arts and Humanities, 7*(1), 36-47. http://dx.doi.org/10.18533/journal.v7i1.1328
15. Obiekezie, E. O.,& Timothy, A. E. (2011). Students' perception of teachers' knowledge of subject matter and reading comprehension performance of S.S. 3 students in Cross River state, Nigeria. *Global Journal of Educational Research, 10*(2), 105-109.
16. Odumosu, M. O., Olisama, O. V., &Areelu, F. (2018). Teacher's content and pedagogical knowledge on students' Achievement in Algebra. *International Journal of Education and Research, 6*(3), 83-94.
17. Oluwatayo, J. A.,&Adebule, S. O. (2012). Assessment of teaching practice performance of student-teachers on teaching practice. *International Education Studies, 5* (5), 109-115. Retrieved from URL:http://dx.doi.org/10.5539/ies.v5n5p109.
18. Pinamang, I.,& Cofie, P. O. (2017). Pre-service teachers' content knowledge and pedagogical content knowledge in teaching geometric transformation. *African Journal of Educational Studies in Mathematics and Sciences, 13,* 63-70.
19. Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*(1), 1-23.
20. Shulman, L. S. (1986). Those who understand: Knowledge growth in reaching. *Educational*

Researcher. 15 (2), 4-14 http://www.jstor.org/stable/1175860

21. Umar, A. (2020). Strategies for promoting early grade English language reading comprehension in Nigerian schools. In I. A. Tsiga, S. S. Zuilkowski, & A. Barnes (Eds.), *Issues in Teaching of Early Grade Reading in Nigeria*, (pp188 -220)
22. Williams, F.O., Yahaya, L.,& Owolabi, H. (2018*).* Teachers' knowledge indices as predictors of secondary school students academic achievement in Kwara state, Nigeria. *IAFOR Journal of Education. 6*(1), 73-90.