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Nigerian School Teachers' Perception of Students' Use of Basic Mathematical Knowledge and Skills in Reading, Preparing and Interpreting Football League Table

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Abstract. This study assessed the perception of secondary school teachers of their students' use of basic mathematical knowledge and skills in reading, preparing and interpreting football league tables. The descriptive survey research design was employed to select a total of 108 teachers from 25 schools across Edo and Delta states of Nigeria. The instrument for the study was a 4-point Likert scale on needed students' Basic mathematical knowledge and Skills (BMKS) in reading, preparing and interpreting football league table. The BMKS was validated and with a Cronbach-Apha reliability coefficient of 0.838 estimate. Means and t-test statistic were used to analyze data and answer the research questions and test the hypothesis. The findings showed that the teachers perceived that basic mathematical knowledge and skills such as counting, addition, subtraction, multiplication, division, and ordering of numbers are needed by students to read, prepare and interpret football league table. The findings also showed that seven mathematical knowledge and skills within four statistical thinking levels are highly used by students to prepare football league table. To connect classroom mathematics to students' daily experience and social lives, Nigerian teachers are encouraged to have the right perception of their students' mathematical knowledge and skills dispositions through personal assessment.

Key Words: Teachers' Perception, Students' use, Mathematical Knowledge and Skills, Statistical Thinking Levels, Preparation of Football League Table

1. Introduction

Mathematics plays important roles in the development of society by serving as useful tool in science and technological breakthroughs. The present world scientific and technological culture and practices grew out of mathematical knowledge and skills which are part of the school curriculum. According to Charles-Ogan (2014), the present status of mathematics education in Nigeria schools is that Nigerian students have poor performances in mathematics and have strong aversion to mathematics learning. To Kurumeh (2007) the inability of students to understand basic mathematical concepts, principles, computations or logical facts involved with the learning processes that gave rise to these mathematical knowledge may have resulted from the type of inappropriate, inadequate and elitist teaching methods used by mathematics teachers. In Nigeria, most school mathematics teaching and practices follow routine problem solving steps (Adetula & Ale, 2005; Charles-Ogan, 2014; Nwoke, 2017). The procedures are: a task or problem is given, a technique or method is used to illustrate or solve the problem, more tasks are provided so that students may practice the illustrated skills, and exercises / assignments are given. The routine problem solving steps make mathematics contents abstracts and detach them from realities of life outside the school four walls. Emphasis is placed more on solving problem to get at the answer and not for the application of mathematics as a distinctive tool for resolving problem in social practices. This traditional method of teaching mathematics and its applications to solving problems have failed to convince students of the importance of mathematics in everyday living.

To resolve this problem, Kurumeh supports an ethnomathematics approach as proposed by D'Ambrosio (1988): that students should be taught mathematics using the already existing mathematical activities in their culture, environment and in their own identifiable group. With this approach, learners

are taught mathematics topics using the activities in their environments, experiences, background, reasoning, cultural activities and occupational codes of behaviours. Towards this end, topics in mathematics are taught using the learners' milieu and environment so that what is taught is understood practically and will be meaningful and useful to the students.

Mathematics exists in different cultures and thus, there is a relationship between culture and Mathematics and Mathematics education (D'Ambrosio, 2007) .Hence, Gay (2009) proposes culturally responsive mathematics teachers' education and teaching practices that would demystify mathematics as many people believe that mathematics is hard and difficult a subject to study and it has no direct social application. These myths about mathematics, according to Gay, includes, one, the discipline is perceived as being of high class and high status especially in secondary schools and colleges and it is therefore presumed to be learnable by a select group of students. Two, the assumption that its content are devoid of any human presence as it is exclusive of culture. Three, mathematics disciplinary language is beyond the comprehension for many students as it does not make practical sense to them because it is not a language they use in their every lives. Gay observes that students may reason that if the "language of math is meaningless and incomprehensible to them, the content itself is worthless, too". To resolve this problem, Gay suggested that mathematics teachers should follow these guidelines : that culture is important in teaching and learning mathematics since all people are social and cultural beings; that mathematics knowledge is socially constructed through objectivity, rationality and competiveness; that the inclusivity of mathematics teaching and learning to cater for all categories of students at different grade levels and cultural background is needed; and that mathematics achievement is more than intellect and should be assessed in other domains, too. Thus, Parson (2001) as cited in Gay (2009) recommends the "culturalization" of mathematics instruction. Culturalizing instruction is the "deliberate enactment of culturally diverse values, information, and resources to change the contexts and content of learning to improve academic outcomes". Therefore, to popularize mathematical sciences for technological development in Nigeria, according to Kajuri (2005), teachers of mathematics should set the goal to help students' understand mathematics and to encourage them to believe it is both natural and enjoyable to continue using and learning of mathematics. Teachers should essentially teach in such a way that students will see mathematics as sensible, natural and enjoyable part of their cultural environment.

This approach in teaching to culturally specific environment with the relevant pedagogy can be applied to teach and assess students' mathematical knowledge and skills in reading, constructing and interpreting football league tables. Football is a popular and lucrative sport that is already part of the world culture, a culture with youths as active participants and followers/ fans. Football is now a significant social economic force in world large economies, like China, Japan and South Korea (Manzenreita & Horne, 2004), and developing economy, like Nigeria. The cultural activities around the playing and recording of statistical information about football games will yield to some problem contexts in mathematics and develop the ability in students to learn mathematics in such cultural situation and to use their knowledge and skills to solve problems arising from it. Such mathematical knowledge and skills will help students to read, interpret and prepare football league tables. Students need for such mathematical tools to play and follow up football games will help them to generate interest and stimulate thoughts or intellectual curiosities to study school mathematics from where they will learn such knowledge.

The mathematics teacher therefore needs a cultural reorientation in the methods of teaching school mathematics in relating mathematics to the football culture and its practical applications. The perception of such football cultural knowledge and information need to be assessed in secondary school mathematics teachers in Nigeria by using the preparation of football league tables in developing students' mathematical knowledge and skills. Perception makes teachers to know and help their students, reach out to them with care and understanding in order to bridge the gaps in their mathematical knowledge and thinking skills.

2. Research Questions

The following research questions were raised to guide the study:

- What basic mathematical knowledge and skills do teachers perceive students need to read, prepare and interpret football league table?
- To what extent do teachers perceive each of the four thinking level will influence students to read, prepare and interpret football league table?
- What is the difference between the

perception of teachers who play and those who do not play football on students' mathematical knowledge and skills needed to read, prepare and interpret football league table?

3. Hypothesis

The following hypothesis was formulated to guide the study:
HO: There is no significant difference between the perception of teachers who play and those who do not play football on students' mathematical knowledge and skills needed to read, prepare and interpret football league table.

4. Literature Review

Teachers have direct contact with students and are largely responsible for teaching practices and classroom climate. According to Tyler and Boelter (2008) as cited in Norman (2016), teacher's perception of students influence the perception students have of themselves. Berwick (2004) did an analysis of the beliefs concerning mathematics, its teaching and learning, and the classroom practice of one Tasmania, Australia, and secondary school mathematics teacher. From the findings, three beliefs emerged about teaching in both the grade seven and grade ten classes. These were that the teacher has a responsibility: to maintain ultimate control of the classroom discourse; to actively facilitate and guide students' construction of mathematical knowledge; and to induct students into widely accepted ways of thinking and communicating in mathematics. To conform to the constructivist view of learning, the researcher recommended that more than assisting teachers to develop beliefs that are considered helpful to classroom discourse, there is the need to assess other beliefs that teachers and students may hold in relation to specific contexts. Such contexts could be on the conception of the use of basic mathematical knowledge and skills in preparing football league table to positively influence the teaching and learning of school mathematics.

Mazana, Montero and Casmir (2020) assessed the teacher's perspective on students' performance in Mathematics in Tanzania by analysing students mathematics performance data obtained from the National Examination Council of Tanzania during the period 2008 to 2016. In addition they examined the perception of teachers on the causes of poor performance in mathematics among students in Tanzania. Their findings revealed, among others, higher failure rates in mathematics in secondary schools particularly lower secondary school. Furthermore, on Tanzanian teachers' perception on factors influencing students' performance in mathematics, the study revealed teachers attitude towards students and mathematics affect their students' attitude towards Mathematics and performance. These teachers believe that mathematics is being taught as an abstract subject in such a way that students do not see the value of the subject in real life applications. Therefore, the teaching of mathematics should be link with the student's real life experience.

Clark, DePiper, Frank, Nishio, Campell, Smith, Griffin, Rust, Conant and Choi (2014) study have revealed that the resources teachers draw on to teach mathematics may include an awareness and understanding of students' mathematics dispositions and identity formation and development. Clark et al refer to a productive Mathematics disposition in the teacher and student as the tendency to "sense in mathematics, to perceive it as both useful and worthwhile, to believe that steady effort in learning mathematics pays off, and see oneself as an effective learner and doer of mathematics". Teachers may gain an awareness of their students' mathematics dispositions through gathering information and paying attention to, among others, students' perception of their Mathematics ability and the ways these perceptions influence their Mathematics performance; students' perceptions of the engagement in and exposure to particular forms of mathematical activity and the ways these engagements influence students seeing themselves as mathematics learners. In this Clark et al study on teachers' awareness of their students' mathematical dispositions, using 276 prospective elementary teachers as respondents, they found that teachers' personal experience appeared to influence their beliefs about mathematics teaching and learning and their awareness of their students' mathematical dispositions. As students' perception constructs are emerging as important contributors to students' engagement and achievement in mathematical context, it may prove useful to assess teachers' perception of students' use of some basic mathematical knowledge and skills in preparing football league table so as to connect Mathematics in class to students' daily experiences and lives.

The United States National Council of Teachers of Mathematics (NCTM) 1989 Curriculum and Evaluation Standards for school mathematics stated that mathematics curriculum and instruction should provide students with new problem solving opportunities that renew their motivation for learning

and provide context for the mathematical skills they are learning (Center for the Study of Mathematics Curriculum, 2004). According to Bertus (2015), from the NCTM (1989) document, one can identify five fundamental higher order thinking skills in Mathematics Syllabus: problem solving skills, inquiry skills, reasoning skills, communicating skills and conceptualizing skills. To Bertus, the reasoning skills is drawing conclusion from evidence, grounds or assumptions; and to develop reasoning skills students should be familiar with sorting and classifying information, interpreting information and presenting results in pictures , diagrams, graphs, models, symbols, and tables. The conceptualizing skills involves organizing and reorganizing of knowledge through perceiving and thinking about particular experiences in order to abstract patterns and ideas and generalise from the particular experiences.

In the United States, the NCTM (2000) outlines six principles for School Mathematics in areas of equity, curriculum, teaching, learning, assessment and technology. On the teaching principle, effective mathematics teaching requires understanding what students know and need to learn and then challenging and supporting them to learn it well. On learning, students must learn mathematics with understanding, actively building new knowledge from experience and previous knowledge. More specifically, the NCTM has recommended that middle school students have experiences collecting, organizing, representing and interpreting data. A comprehensive picture of secondary school students' mathematical and statistical thinking is thus needed to better inform classroom teachers and curriculum developers. Hence, Langrall and Mooney (2002) constructed the M3ST Framework on students' statistical thinking within four statistical cognitive processes, across four levels of thinking. The statistical processes are describing data, organizing and reducing data, representing data, and analyzing and interpreting data. The four thinking levels are idiosyncratic, transitional, quantitative and analytical. Teachers and curriculum developers can use the M3ST framework to construct tasks that are within the scope of students' mathematical and statistical knowledge and thinking skills. Applying this framework to teach basic mathematical knowledge and skills in preparing football league table will help to find real life applications of concepts and skills that give students an additional reference to remember skills they have forgotten, and to use concrete language to communicate their ideas to one another and with their teachers.

5. Theoretical Frameworks

Three theoretical frameworks are applied in this study: the self-Expansion model (Konrath, 2007), the self-perception (Bem, 1972) theory, and the M3ST Framework on Students' Statistical Thinking (Langrall and Mooney, 2002). The Self- Expansion model theory suggests that relationship shapes our identities, and they can provide us with shared resources. As individuals have primary motivation to self-expand, they often achieve self-expansion through close relationships which allow the inclusion of the other perspectives in the self. Thus, Bem's Self- perception theory suggests that we interpret our own actions the way we interpret others' actions, and our actions are often socially influenced and not produced out of our own free will, as we might expect. On the application of these theories, Amponsah and Mohammed (2019) deduce that the perception people close to you have about you can influence your Self- perception and consequently self-conception either positively or negatively depending on how it is incorporated into your system through interactions. Accordingly, teachers' perceptions of their students influence the perceptions students have of themselves. Therefore, mathematics teachers' perceptions towards their students' learning would go a long way to affect the students' Self- perception on development of mathematical knowledge and skills and subsequently their performance in mathematics.

The Langrall and Mooney's M3ST Framework characterizes students' statistical thinking within four statistical processes, across four levels of thinking. The statistical processes are describing data, organizing and reducing data, representing data, and analyzing and interpreting data. Describing data entails the explicit reading of data presented in tables, charts, or graphical representations whose descriptors are showing awareness for display features and identifying units of data values. Organizing and reducing data involves arranging, categorizing, or consolidating data into a summary form. The descriptors are grouping data, describing data using measure of centre, and describing the spread of data. Representing data involves displaying data in a graphical form. The descriptors are constructing a data display and evaluating the effectiveness of data displays. Analyzing and interpreting data consists of identifying trends and making inferences or predictions about the data. The descriptors are making comparisons within data sets or data displays and making inferences from a given data set or data displays, and using proportional reasoning. The four hierarchical levels of thinking are idiosyncratic,

transitional, quantitative and analytical. Students are to perform or explain specific cognitive questions, tasks or activities under each of the four statistical thinking processes. For teachers to assess students' perceived use of basic mathematical knowledge and skills in reading, constructing and interpreting football league tables, the M3ST Framework was adapted for this study as presented in Table 1.

Table 1: Tasks and Activities involve in Mathematical Knowledge and Skills Descriptors at the Four Levels.

Mathematical Knowledge and Skills Descriptors	LEVELS			
	Idiosyncratic Level	**Translational Level**	**Quantitative Level**	**Analytical Level**
Demonstration of awareness	Demonstrate little awareness of display features of a table	Demonstrate some awareness of display features of a table	Demonstrate complete awareness of display features of a table	Demonstrate complete awareness (including irrelevant) of display features of a table
Identification/interpretation of unit score	Not identify units of score data values	Identify the units of score data values incompletely	Identify the units of specific score data values	Identify the units of general score data values
Summative grouping of data	No attempt to group score data	Group data but not in a summative form	Group data in a summative form by creating new categories from flawed procedure	Group data in a summative form by creating new data using values and correct measure
Evaluation of displayed data	Evaluate the effectiveness of data display based on irrelevant features or reason	Evaluate the effectiveness of data display based on relevant features or reason	Evaluate the effectiveness of a data display based on relevant display features with some reference to the context the data is presented	Evaluate the effectiveness of a data display based on relevant display features and the context the data is presented
Construction of league table	Unable to construct a display or constructs a display for that is both incomplete and unrepresentative of the data	Construct a display that is partially complete and representative of the data	Construct a complete and representative display with a few minor flaws	Construct a complete, representative and appropriate display
Comparison of data and teams	Make inferences that are not based on the data or inferences are based on irrelevant issues	Make inferences that are partially based on the data	Make inferences that are primarily based on the data or the data sets	Make reasonable inferences based on data and the context
Relative thinking	Does not use relative thinking	Use relative thinking qualitatively	Uses relative thinking quantitatively but not in a reasonable manner	Uses relative thinking quantitatively in a reasonable manner

Adapted from Langrall & Mooney (2002)

As displayed in Table 1, the mathematical knowledge and skills descriptors are seven: demonstration of awareness, identification/interpretation of unit score, summative grouping of data, evaluation of displayed data, construction of league table, comparison of data and teams and relative thinking. They represent the statistical processes, and the sub processes (as tasks and activities) which are outlined under the four mathematical thinking levels. In this study, the mathematics teachers' perceptions of their students' learning abilities are assessed using the seven mathematical knowledge and skills descriptors under the four thinking levels.

6. Methodology

The study employed the descriptive survey design to generate data from secondary school mathematics teachers on developing students' mathematical knowledge and skills through preparation of football league table. A total of 108 participants from 25 urban and rural schools across Edo and Delta States of Nigeria were sampled. The instrument for the study was a 4-point Likert scale on needed students' Basic mathematical knowledge and Skills (BMKS) in reading, preparing and interpreting football league table. Section A of the BMKS instrument sought background information on teachers' sex, school location and school type. In addition, the participants were asked to indicate by ticking either yes or no whether he/she plays and watches football matches on TV, a team supporter, and monitors teams performance by reading football league tables. The data shows that 84 (77.8%) and 24 (22.2%) of the participants watch and do not watch football matches on television, respectively. The data also shows that 82 (75.9%) and 26 (24.1%) of the participants are team and non-team supporters, respectively. Furthermore, of the participants, 69 (63.9%) and 39 (36.1%) agreed yes and no respectively to following

the performance of football teams by reading and interpreting football league tables. Thereafter, a table displaying the Barclays Premier League Football table for 2018/2019 season, as of May 22, 2019 (Sky Sports Football, 2019) was presented for participants to study and use the table contents to respond to the items in the questionnaire (see Appendix A).

Section B of the BMSK instrument consisted of 7 items on Basic mathematical knowledge and skills in reading, preparing and interpreting football league table. Sections C, D, E and F were on the four hierarchical levels of secondary school students' mathematical knowledge and thinking skills for preparing and interpreting football league tables (see Table 1). Section C (idiosyncratic level) had 4 items; section D (Transitional level) 4 items; section E (Quantitative Level) 7 items; and section F (Analytical Level) 8 items. Altogether, the BMKS instrument had 30 items.

Two experts in mathematics education read, modify and validated the items in the BMSK instrument. The validated instrument was now administered on 20 teachers to calculate for the reliability of the instrument. The Cronbach -Alpha reliability coefficient of 0.838 was obtained. The questionnaires were administered on the participants in their respective schools by the researchers and research assistants in the last quarter of 2019. In reading the presented Barclay Football League table, necessary guidance was given to respondents when requested. Response for each item on the BKMS instrument was scored 4(SA), 3(A), 2(D) and 1(SD); and the scores were summed. Mean, standard deviation and t-test statistic were used to analyse the data. The cut-off mean value of 2.5 was set for each item to answer research question one. To answer research question two, score interpretation was set as follows: low (1.0 - 1.99), moderate (2.0 - 2.99) and high (3.0 - 4.0). To test the hypothesis, at the 0.05 level of significance, the scores fo all the 108 participants in the 30 items were analyzed.

7. Findings

Research Question 1: What basic Mathematical knowledge and Skills do teachers perceive students need to read, prepare and interpret Football League table**?**

Table 1: Mean scores of teachers on basic mathematical knowledge and skills students need to read, prepare and interprete Football League table.

S/N	Item	Means	SD	**Remark**
1	Students can count number of teams; games played, home games, away games, win, loses, draws, goals conceded on the football league table.	3.1481	0.59303	Agreed
2	Students can make some computational skills involving addition and multiplication when calculation for goal scored and point earned by teams on football league table.	3.2130	0.65640	Agreed
3	Student do use relative thinking in collating goals scored minus the goals conceded, or goals for minus goals against on the football league table.	3.0278	0.77891	Agreed
4	Students can provide average goals scored per game, per player, per teams, draw and lose per team the football league table.	3.1667	0.74256	Agreed
4	Students can rank the cumulative points from highest to lowest, goal differentiation, goal differences or goal for on the football league table.	3.2037	0.70723	Agreed
6	Students can pair teams against one another to determine the number of games to be played by each team on the football league table.	3.0741	0.76980	Agreed
7	Students can demonstrate mathematical and statistical skills for preparing a football league table.	3.0556	0.81840	Agreed
	Aggregate Mean	3.127	0.72376	Agreed

Mean Cut: 2.5

From Table 1, teachers perceived that students could apply mathematical knowledge and skills in preparing football league table with mean scores ranging from 3.0278 and 3.2130 and SD of between 0.5930 and 0.8184. With the mean score value of each item and the aggregate mean score of 3.127 being more than the cut-off mean of 2.5, the teachers agreed that mathematical knowledge and skills such as counting, addition, subtraction, multiplication, division, and ordering of numbers are needed by students to read, prepare and interpret football league table. Therefore, teachers perceived that students can demonstrate the use of mathematical knowledge and statistical skills in reading, preparing and interpreting football league table

Research Question 2: To what extent do teachers perceive each of the four thinking levels will influence students' preparation of Football League table?

Table 3: Teachers' Perceived Students' Idiosyncratic, Translational, Quantitative and Analytical Thinking Levels for Reading, Constructing and Interpreting Football League Table.

Mathematical Knowledge and Skills Descriptors	**Idiosyncratic Level**		**Translational Level**		**Quantitative Level**		Analytical Level	
	Mean	**Std dev.**	**Mean**	**Std dev.**	**Mean**	**Std dev.**	**Mean**	**Std dev.**
1. Demonstration of awareness	3.12	0.839	3.33	0.656	3.19	0.712	3.29	0.724
2. identification/ interpretation of unit score	3.09	0.677	3.06	0.660	3.06	0.701	2.97	0.662
3. Summative grouping of data	___	___	___	___	3.14	0.587	2.93	0.745
4. Evaluation of displayed data	___	___	___	___	3.06	0.727	3.02	0.814
5. Construction of league table	___	___	___	___	3.87	0.844	3.13	0.775
6. Comparison of data and teams	3.16	0.686	3.21	0.642	3.04	0.722	3.06	0.673
7. Relative thinking	2.91	0.838	2.99	0.677	2.86	0.779	3.18	0.643

From Table 3, the results show that the teachers' perception is high for the first three levels (idiosyncratic, transitional and quantitative) in the first six students' mathematical knowledge and skills descriptors as the mean range is between 3.0 and 4.0. For relative thinking descriptor, teachers' perception is moderate (i.e., mean score is between 2.0 and 2.99) for the three levels. Under the analytical level, teachers' perception is high except for the second and third descriptors. The findings show that teachers perceived that mathematical knowledge and skills within the four levels are highly used by students in demonstration of awareness, interpretation of unit score, summative grouping of data, construction of league table, and comparison of data and teams in the preparation of football league table. However, students' relative thinking knowledge and skills is mostly perceived to be moderate. Therefore, mathematical knowledge and skills can highly influence students' preparation of football league table.

HO: There is no significant difference between the perception of teachers who play and those who do not play football on students' mathematical knowledge and skills needed to read, prepare and interpret football league table.

Table 4: t-test of mean scores of teachers who play football and those who do not play football (N =108)

I Play Football	N	Means	Sd	df	t-cal	p-value	Remark
Yes	72	113.17	13.10				
				106	3.84	0.000	Significant
No	36	103.10	9.30				

From Table 4, t-cal = 3.84 is greater than the table value of 1.96 with less than 0.05. The result indicates that there is a significant difference between the mean scores of teachers who play football and those who do not play football on students' mathematical knowledge and skills needed to read, prepare and interpret football league table across the four thinking levels, in favour of those teachers who play football. Therefore, what teachers practice will more likely influence their students in doing the same things, since the teachers who play football think the statistical data about football games will yield to some problem contexts that will help develop students' mathematical knowledge and skills?

Discussion

The findings showed that the teachers perceived that mathematical knowledge and skills such as counting, addition, subtraction, multiplication, division, and ordering of numbers are needed by students to read, prepare and interpret football league table. These finding aligns with the ethnomathematics approach as proposed by D'Ambrosio (1988, 2007): that

mathematics exists in every culture, and students should be taught mathematics using the already existing mathematical activities in their culture, environment and in their own identifiable group. As teachers perceptions of their students influence the perceptions students have of themselves (Bem, 1972; Konrath, 2007; Amponsah & Mohammed, 2019), the finding of teachers perception of the existence of some mathematical knowledge and skills in the football culture would lend support to Gay's (2009) proposal for use of culturally responsive mathematics teaching and learning practices. Application of these cultural practices in classroom discourse would demystify mathematics as many people believe that mathematics is hard and difficult a subject to study and it has no direct social application.

Also, from the findings teachers perceived that mathematical knowledge and skills within four thinking levels can highly be used by students to prepare football league table. This is in consonance with the adapted Langrall and Mooney (2002) M3ST Framework on students' statistical thinking within four statistical cognitive processes, across the idiosyncratic, transitional, quantitative and analytical levels of thinking. This finding will support NCTM principle of developing statistical reasoning skills in students that would make them to be familiar with sorting and classifying information, interpreting information and presenting results in pictures, diagrams, graphs, models, symbols, and tables. Based on this revelation, the Clark et al (2014) study finding, that teachers' personal experience appeared to influence their beliefs about mathematics teaching and learning and their awareness of their students' mathematical dispositions becomes very relevant. Thus, preparing football league table will help teachers to find real life applications of mathematical knowledge and skills that give students an additional reference to remember concepts and skills they may have forgotten, and to use concrete language to communicate their ideas in daily social living.

8. Conclusion

Teachers perceived that the preparation of football league table can help students to develop their mathematical knowledge and skills within four statistically thinking levels. It can be inferred that mathematics teachers' perceptions towards their students' learning would go a long way to affect the students' self-perception on development of mathematical knowledge and skills and subsequently their performance in mathematics. Thus, teachers' awareness and understanding of students' mathematics learning dispositions and identity formation and development towards the use of recorded statistical information about football games will yield to some practical problem context in school mathematics. Using such Mathematics content that is not devoid or exclusive of human culture will lend mathematics disciplinary language to make practical sense to students as it is being used in their everyday living. To connect classroom mathematics to students' daily experience and social lives, Nigerian teachers are encouraged to have the right perception of their students' mathematical knowledge and skills dispositions through personal assessment. To fully implement the new Nigeria secondary school mathematics curricula (Nigerian Educational Research and Development Council, 2007), teachers are also encouraged to enrich mathematics contents with relevant materials and information from their students' immediate environment. Mathematics teachers should teach to culturally specific environment with relevant pedagogy that is consistent with the constructivist view of learning. This will help to meet the target of the reform in the context of National Economic Empowerment and Development Strategies (NEEDS) and the Millennium Development Goals (MDG) which include value-reorientation and using mathematics education to empower the people.

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Appendix A

Premier League Table 2018/19									
S/N	Team	Pl	W	D	L	F	A	GD	Pts
1	Manchester City	38	32	2	4\	95	23	72	98
2	Liverpool	38	30	7	1	89	22	67	97
3	Chelsea	38	21	9	8	63	39	24	72
4	Tottenham Hotspur	38	23	2	13	67	39	28	71
5	Arsenal	38	21	7	10	73	51	22	70
6	Manchester United	38	19	9	10	65	54	11	66
7	Wolverhampton Wanderers	38	16	9	13	47	46	1	57
8	Everton	38	15	9	14	54	46	8	54
9	Leicester City	38	15	7	16	51	48	3	52
10	West Ham United	38	15	7	16	52	55	-3	52
11	Watford	38	14	8	16	52	59	-7	50
12	Crystal Palace	38	14	7	17	51	53	-2	49
13	Newcastle United	38	12	9	17	42	48	-6	45
14	Bournemouth	38	13	6	19	56	70	-14	45
15	Burnley	38	11	7	20	45	68	-23	40
16	Southampton	38	9	12	17	45	65	-20	39
17	Brighton and Hove Albion	38	9	9	20	35	60	-25	36
18	Cardiff City	38	10	4	24	34	69	-35	34
19	Fulham	38	7	5	26	34	81	-47	26
20	Huddersfield Town	38	3	7	28	22	76	-54	16