

Knowledge Sharing amongst schools using Electronic means: Case study of Lagos and Zamfara State

A project proposal
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1.0 Background

International migration is an important component of a globalized world as well as a major aspect of international economic relations. As at 2017, about 258 million people lived outside their country of birth (International Labour Organization, 2018). In 2017, the Federal government of Nigeria declared that over 17 million Nigerians lived abroad (National Commission for Refugees Migrants and Internally Displaced Persons, 2017) as against 5 million Nigerians who lived abroad in 2009 (Federal Ministry of Labour and Productivity, 2010).

High rates of unemployment, dissatisfaction with the general socio-economic conditions in the country, insecurity, bad governance, violation of human rights and political intolerance amongst others has increased the rate of labour migration from and within the country. This is peculiar to young and educated persons (Federal Ministry of Labour and Productivity, 2010).

Nigerians migrate within the country in pursuit of the proverbial greener pasture. Destination locations have experienced rejuvenated workforce, improved economic viability of sectors, entrepreneurship promotion, improved socioeconomic conditions amongst others. Origin locations on the other hand, suffer skill and labour drain, social exclusion, discrimination.

Nigeria's economic capital Lagos, accounted for 35.86% of the country's total Internally Generated Revenue and generating 10% of the country's Gross Domestic Product (GDP) has been ranked as one of the most expensive cities in the world and believed to have lots of opportunities attracts influx of immigrants. In 2016, the former governor of the state Gov. Ambode Akinwunmi reported that about 123,000 people migrate to Lagos on a daily basis. As a common destination location for most young and educated persons, the state has experienced growth in all its sectors. Children in the state are offered basic education with special focus on the first nine years which consist of the Primary school education and Junior Secondary School. Most schools are well funded and equipped with not just materials but manpower as well. These schools have well trained and qualified teachers who are exposed to the



necessary and modern technologies needed for effective and efficient learning thus, providing quality education to its students.

However, this is not the case of Zamfara state which ranks 27th amongst the 36 states in the order of their total GDP(C-GIDD, 2008). The state does not experience a large influx of immigrants rather, it rather experiences emigration majorly due to the lack of basic socioeconomic conditions. The insecurities in the state has also made it a location that experiences massive emigration. This has affected its education sector amongst others. The standard of education is poor with inadequate facilities to aid learning. Students study in dilapidated structures with little or no learning materials.

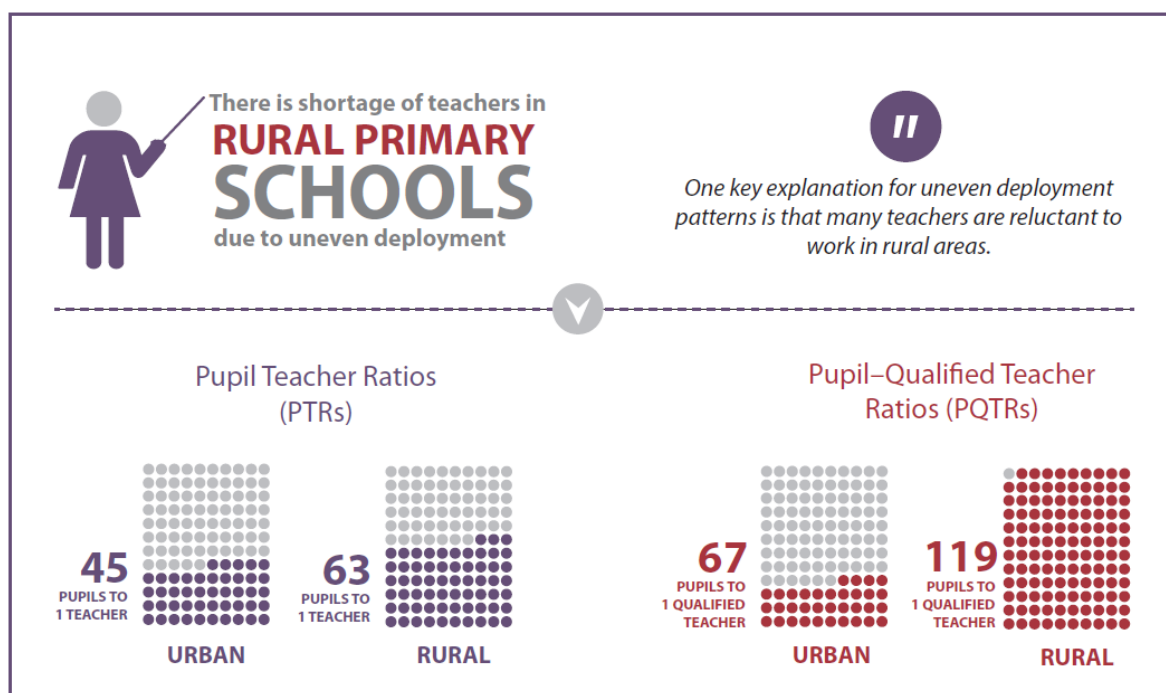
Education is both a basic human right and a core element of sustainable development. Ensuring inclusive and equitable quality education and promoting lifelong learning opportunities enables individuals to build more prosperous and successful lives and societies to achieve economic prosperity and social welfare. The Nigerian system of education lacks good standard in terms of access to educational resources. Access to these resources is fundamental to achieving the vision for both the present and the future. It can improve the quality of education in many ways as it opens doorways to a wealth of information, knowledge and educational resources, increasing opportunities for learning.

Zamfara state has a shortage of 3,500 teachers. This shortage has led to subject mismatch where it has been reported that some teachers are assigned to teach subjects outside their subject of study. Forecast shows that a growth in the school-age population alone is likely to lead to a 43% increase in teachers demand at the primary level and an 83% increase at JSS level between 2015 and 2025 (Teacher Development Program Zamfara, 2017).

There is an uneven distribution of teachers across and within the schools in the Local Government Communities of the state due to the unattractiveness of rural communities (Figure 1). Gummi LGA has the best Pupil to Teacher Ratio (PTR) of 34:1 while Anka LGA has the worse PTR of 84:1 with overcrowded classrooms. In Talata LGA, the least crowded school has a PTR of 7:1 while the most crowded school has a PTR of 486:1 (Teacher Development Program Zamfara, 2017).



Figure 1: Uneven distribution of teacher in primary schools in Zamfara (TDF, 2017)



Every country seeks to have an education system that reinforces academic development, widens information access and extends knowledge that is needed for economic development. From this perspective, education is looked at as a tool for disseminating knowledge and creation of wealth needed for global competitiveness.

Good education should lead to reinforcement of better services to the society through the elimination of illiteracy, unemployment, poverty, intolerance, violence, diseases, hunger, environmental degradation and pollution. The reinforcement of better services to the society requires great diversification of education especially at post-primary levels so as to create a holistic view needed for an education system relevant for economic development, satisfaction of individual and community needs as well as suitable for labour market demands.

Achievement of reinforcement of better services to society is facilitated by highly skilled and experienced teachers with good education, relevant curriculum development and continued educational research. These teachers are responsible for disseminating information to the young generation so as to build capacity, create relevant expertise, enhance, promote and disseminate cultural values needed for



sustainable development, credentialing administrative class and nurturing industrial entrepreneurship.

Thus far, attempts have been made by the Zamfara state government, World bank and other financial bodies to improve the quality of education in the states. Zamfara state government has made an attempt to solve the uneven distribution of students in the state by posting teachers to their home local government communities. It has also tried to address the problem by ensuring teachers are paid on time, promotions are based on merit rather than years of service, resources needed for their jobs are made available, increasing pay of well-performing teachers and finding ways to improve the status of the profession in the state (TDF, 2017).

In 2019, the World bank funded Community and Social Development Projects (CSDP) provided the state with ₦70.6million for various development projects in 10 communities one of which is targeted towards education.

The Federal Government's intervention has provided assistance to the States and Local Governments in Nigeria for the purposes of uniform and qualitative basic education throughout Nigeria. (UBEC PROGRAM 2004)

- Free Formal Basic Education
- Compulsory, Uninterrupted Nine years of Primary and Junior Secondary School education.
- Disarticulation of Junior Secondary Schools from Senior Secondary Schools.
- Introduction of rudiments of computer literacy.
- Appropriate continuous teacher professional development.
- Community ownership of schools including participation in decision-making process in schools.

Efforts have been made to improve the quality of education in Zamfara state however, an electronic means of knowledge sharing has not yet been devised in the state. Thus, this project will focus on the development of an electronic means of knowledge sharing to increase the knowledge base of teachers and students in Zamfara state.



Enhancing knowledge sharing between teachers of frontier schools and slacking schools is important to improve the knowledge of the teachers in slacking schools and by extension the students in such schools. Such collaboration enables teachers to coordinate curricular activities which in turn improve the teaching and learning. By collaborating with teachers in frontier schools, teachers learn best practices beyond their working environment expertise and skills.

Knowledge sharing involves the conversion and transfer of one's held knowledge into a form that could be understood, absorbed and used by others, this process is of great use to the resource constrained schools (Cheng and Tsui, 2010). By sharing instructional resources like strategies, techniques, skills and expertise, teachers are in a good position to better their intellect and becoming valuable assets in the process of teaching and learning. More so, working with each other teachers not only dispel feelings of professional isolation but also assists in enhancing practice, skills and better the standards and quality of education of their learners.

2.0 Objective

The objective of this study is to address the negative effect of labour migration by designing electronic knowledge sharing programs which provides students in slacking schools in Zamfara state the same quality of education enjoyed in frontier schools in Lagos. This will enhance the all-round educational standard of Zamfara state. With the following aims:

- To enhance learning strategies
- To ensure equal access to educational resources across the state
- To improve digital skill of both teachers and students
- To promote long-life learning process and bring sustainable development

The algorithm to achieve this objective are as follows

- Creation of a website for sharing of learning resources;
- Recruiting teachers from some top schools in Lagos to the part of the program;



- Development of a technical centre to facilitate the download, editing and distribution of learning materials;
- Development of learning centers in all communities in Zamfara State;
- Training of teachers to maximise the learning materials;
- Test running the project;
- Weekly distribution of learning materials to schools;
- Yearly evaluation of the project.

3.0 Outputs

The expected outputs of this project are:

1. Inception report: An inception report will be submitted and at the beginning of every year. The inception report will provide a detailed report of all activities to be carried out at the beginning of the project and at the beginning of each year.
2. Training report: This will be a detailed report on the training conducted for the teachers.
3. Report on pilot testing: A detailed report on the pilot testing of the project will be presented
4. Financial Report: This report will present a financial account of the monetary resources used for the project
5. Annual Report and Yearly evaluation: At the end of each year, an annual report will be prepared to provide a detailed description of every activity for the year and the progress made.

4.0 Outcomes

The following outcomes are expected at the end of this project:

- Robust and quality knowledge of taught subjects
- Increased knowledge of both teachers and students
- Increased competitiveness in both teachers and students
- Reinforcement of better services to the society
- Sustainable development of communities and the state



5.0 Scope of work

5.1 Creation of a website for sharing of learning resources

To achieve the objective of this project, a website called the “Learning Network” will be developed which will consist of a network of teachers from Lagos. On this platform, teachers from top schools in Lagos will upload resources they have created. They will receive a financial compensation for every resource shared. These resources will consist of video tutorials, audios, books and other learning materials. Video tutorials will teach the basis of each lesson. Animated videos will attract more compensation. A summary of the design element is shown in Table 1.

Table 1: Project design element and its description.

Design Element	Description
Audio Function	Tutors can upload audio resources to the website. This can consist of poems, song and other forms of materials.
Video Recording Function	This function gives the tutors the means of recording videos to the website, these videos will be life video that physically display illustrative examples and other contents.
Sketching and Drawing	This provides tutors the opportunity to add illustrations to their videos
Categorized Discussion Board	A space for categorized discussion topics offers tutors a space to have discussions with each other for the topics of their interests as they like.
Search Engine for General Purpose	The search engine will allow teachers to locate the information and knowledge they need to make their videos as educative as possible.
Feedback and Suggestion	Tutors can make comments, give feedbacks and provide suggestion for the overall design of the system, helping to eliminate the possible drawbacks of the system.

System log will be applied to observe and record the frequency and number of times that each user logs into the system to use individual functions available on the user interface. The website development will take about one (1) month.



5.2 Recruiting teachers from the top schools in Lagos to the part of the program

While the website is being developed, we will visit some top schools in Lagos state to sell the idea of the platform to the teachers of these school. These schools will be:

1. Grange Primary school (Primary)
2. Children International School (Primary)
3. Lara Day School (Primary)
4. RubyGold British School (Primary)
5. GreenSpring International School (Primary and Secondary)
6. Lekki British School (Secondary)
7. Downen College (Secondary)
8. Meedow Hall School (Secondary)
9. Chrisland School (Secondary)
10. American International School (Secondary)

Willing teachers will then be registered into the system. Additional tutors will be recruited by sending out online advertisements. Applications will be reviewed and interviews carried out online to access the video teaching ability of the tutors. Hausa speaking tutors will be given more consideration than non-hausa speaking tutors.

As a start-up, only core compulsory subjects of primary and secondary schools will be considered for the project. These subjects will be

1. Primary School (11 subjects)

Mathematics, English Language, Basic Science, Civic Education, Social studies, Agricultural Science, Home Economics, Cultural and Creative Art, Computer Studies, Physical Health Education, Arabic Language

2. Secondary School (Junior secondary- 11 subjects)



Mathematics, English Language, Basic Science, Civic Education, Social studies, Agricultural Science, Home Economics, Cultural and Creative Art, Computer Studies, Physical Health Education, Islamic Religious Knowledge.

3. Secondary School (Senior Secondary-12 subjects)

Mathematics, English Language, Physics, Chemistry, Biology, Finance and Accounting, Business Studies, Literature in English, Agricultural Science, Islamic Religious Knowledge, Government, History,

5.3 Development of a technical centre to facilitate the download, editing and distribution of learning materials to the schools

A technical centre will be established in Gusau which is the capital of Zamfara state. An community in Gusau with good internet network will be selected. The centre will be responsible for

1. Managing the website
2. Downloading uploaded contents from the website
3. Editing contents and putting them into storage devices such as DVDs, Flash drives and hard disks
4. Distribution of learning materials to school
5. Maintenance of electronic devices

The centre will be equipped with the following

- Laptops
- Desktops and Uninterrupted Power Supply (UPS)
- Projectors/Projector boards
- Pointers for presentation
- Local Community Network router
- Generator
- Motorcycles for transportation
- Training of teachers to maximise the learning materials

5.4 Creation of centres in all communities in Zamfara.

A centres will be establishing in each community to carry out the learning activities. These centres will be located at community head residence (gidan mai anguwa) this



is to create effective awareness to the public and encourage them to focus seriously on the system, and enable all student and teachers to make effective use of supplied materials.

These centres will be equipped with the following:

1. Projectors/projector screen (projector with USB port for projection)
2. Storage device (hard disk, flash drives and others)
3. Projection pointers
4. Table and chairs

5.5 Training of teachers to maximise the learning materials

Teachers in Zamfara will be trained for two weeks to give them an understanding of how the system will work. They will be trained on the use of the electronic devices which will be given to them as well as how to use the system to input their teaching skills. The training will be done in the 14 Local Government Communities of the state. A team of 2 technical trainers will be sent to train teachers in each Local Government Community. A school with a central location will be selected for the training

5.6 Monthly distribution of learning materials to schools

The Technical centre will deliver learning materials to schools through the centre created at the community every month on a hard drive which will be given to the schools. The school management will then put the learning resources in a flash drive and then distribute to the teachers.

5.7 Pilot testing

The pilot test of the project will be done in the first one month of the project. Shortcoming of the project will be noted and worked upon to make the project more successful.

5.8 Yearly evaluation of the project.

A monthly review will be carried out as the project progresses. At the end of the year, the project will be evaluated to determine the success or failure of the project. This



evaluation will be a combination of exercises as well as by student's performance in national examinations.

This project faces a problem of access to electricity. This project is made based on the assumptions that the schools in Zamfara have access to Electricity else, a means of power supply has to be provided as need for a reliable electricity power source cannot be overlooked.

The skills needed to maximize the knowledge sharing system will most likely be lacking in most of the teachers thus the need to train teachers on how to make effective use of the system. Some teachers in Zamfara prior to the project may have not been exposed to some of the devices to be used to implement the project. Thus, we hope the training helps to solve that problem. However, the training might not be in depth to provide all needed information. This applies to the Educational administrators as well. The Website will also need to be maintained, upgraded and cyber secured.

This project is limited to primary and secondary schools within Zamfara and Lagos state with emphasis on the first nine (9) years of basic education.

A summary of these activities is shown in Table 2.

Table 2: Summary of project activities and duration

S/N	Activities	Duration
1.	Website design, development and implementation	One (1) month
2.	Recruiting teachers from the top schools in Lagos to the part of the program Online recruitment of supplements tutors Recruitment of technical team	One (1) month
3.	Development of a technical centre to facilitate the download, editing and distribution of learning materials. The centre will be equipped with the following - Laptop technical staff - Projectors/Projector which will be given to the schools - Pointers for presentation to be given to schools - Local Community Network router - Generator	Two (2) months
4.	Development of centre to facilitate learning activities. This will be done simultaneously with number 3	
5.	Training of teachers to maximise the learning materials	Two (2) weeks



6.	Monthly distribution of learning materials to schools	Monthly
7.	Running a pilot test	One (1) month
7.	Yearly evaluation of the project.	Yearly

5.9 Beneficiaries and Expected Impact

This project will be of benefit to the following:

1. Students: This means will improve the digital literacy and skills of students and increase their ability to understand a subject through videos and audio recordings which is an addition to ordinary learning process via black board and text books.
2. Teachers: Teachers will learn new skills to make effective use of Internet resources. Global experience has shown the importance of professional development in building teacher's capabilities in using the Internet and introducing new types of learning in the classroom and with individual students.
3. Communities: this means will also create job opportunity for the community, and increase their standard of living.
4. The Local, State and Federal Governments: Education builds the capabilities that societies also require to improve productivity and achieve economic growth, to manage health and social services, and to play a full part in the global community of nations. In general, this means will bring sustainable development to all categories of government.

The Expected Impact of this project are:

- Improvement in quality of education for students
- Improvement of teacher's knowledge
- Competence of both teachers and students
- Job creation in the state as technical centre staff
- Improvement in leadership and socioeconomic growth
- Sustainable development of the Community, state and nation respectively
- Improvements in students' attainments, job opportunities and contribution to national development.



6.0 Project Management

This project will be handled by the following personnel

1. **Project Manager:** The project manager will be responsible for the delivery of a successful project. He/she should be able to complete the project within the constraints of scope, time, cost, quality, resources and risk. He/she must possess at least 10 years of experience as a program manager in computer science or its related field.
2. **Technical Head:** The technical head will oversee/supervise all Technical personnel. He/she should demonstrate excellent leadership and coordination skills. He/she should possess at least 7 years of experience as a technical head and a degree in Computer science or any of its related field.
3. **Technical Personnel:** The technical personnel will be responsible for assisting the technical head in designing and developing the online platform, handling all logistics in operating provided electronic devices/ facilities, training teachers and students in the use of provided resources, they will also be responsible of informing the client to provide additional devices to any community where necessary. He/she must possess at least 5 years' experience as technical personnel in computer science or its related field.
4. **Policymakers:** concerned with ICTs and with Education have the opportunity to develop a vision for the future which will enable technology to benefit both students and national development. They should work together to develop that vision, and to design policies that integrate ICTs in national strategies for sustainable development including critical development sectors like education. Policies for Internet in education should focus attention and resources on national development priorities. They should start from a thorough understanding of educational strengths and weaknesses; adopt realistic targets for Internet adoption, use and impact; monitor outcomes against those targets; and learn from past experience. While the same challenges arise in many countries, there are also important differences in national context



6.1 Budget

Below is the budget and expenditure of the project:



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Description	Unit	#	Unit Cost	Total Cost	Comments
Website development					
Website design, development and implementation			₦ 3,000,000	₦ 3,000,000	This website is for online platform
Total				₦ 3,000,000	
Awareness in Lagos					
Transportation to/ from Lagos		4	₦ 10,000	₦ 40,000	Transportation of team to selected schools to create awareness of the program. From Abuja to Lagos for 2 persons for a duration of one week.
Transportation within Lagos	per day	10	₦ 3,000	₦ 150,000	To cover cost of transport to selected schools for 5 days
Accommodation	per night	12	₦ 10,000	₦ 120,000	For 6 days
Feeding	per day	2	₦ 1,500	₦ 18,000	To cover cost of feeding for 6 days
Stationaries	one week		₦ 5,000	₦ 5,000	Printing of application forms and other stationaries.
Team Allowance	One week	2	₦ 25,000	₦ 50,000	To be paid to awareness team.
Communication	per day	5	₦ 1,000	₦ 5,000	To cover cost of communication of the team with the schools
Total				₦ 388,000	
Online Recruitment and Interview					
Internet subscription for online interview			₦ 5,000	₦ 5,000	This is to facilitate the online interview
Total				₦ 5,000	
Establishment of Technical centre					



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Plot of land	One plot		₦ 1,500,000	₦ 1,500,000	For buliding a technical centre
Building development			₦ 5,000,000	₦ 5,000,000	Building and fixtures
Laptops		25	₦ 50,000	₦ 1,250,000	HP 6000 pro with Intel HD graphics. Uninterrupted Power Supply (UPS) inclusive.
Local Community Network Routers		1	₦ 15,000	₦ 15,000	For internet connection
Generator		1	₦ 40,000	₦ 40,000	For power supply
Development of centre					Centre in each community for learning activities
centre	One/community	1	₦2,000,000	₦2,000,000	
Total				₦2,000,000	
Total				₦ 7,805,000	
School Facilities					
Projectors	10 per school	1764	₦ 40,000.00	₦ 705,600,000.00	Generic 3000 Lumen Projector along with projector screen. LED Projector TV, USB, VGA, PC enabled.
Presentation Pointers	per school	1764	₦ 2,000.00	₦ 3,528,000.00	CAMTOA adjustable laser pointer pen.
Flash drives	5 per school	1764	₦ 1,500.00	₦ 26,460,000.00	8GB Flash drives
Hard Drive	per school	1764	₦ 12,000.00	₦ 21,168,000.00	Seagate external hard drive of 500GB
Total				₦ 51,156,000.00	
Tutor's Compensation					
Compensation for videos and audios	70 tutors	350	₦ 2,000.00	₦ 700,000.00	Learning resources for 5 topics will be provided by each tutor
Total				₦ 700,000.00	



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Teachers' Training					
Technical Trainer's allowance	2 weeks	28	N 30,000	N 840,000	2 trainers in each of the 14 Local Government Community.
Trainers Transport allowance	2 weeks	28	N 5,000	N 140,000	To cover cost of transport to the LGA's where training will be held
Total				N 980,000	
Technical centre Staff Allowance					



Project Manager's Allowance	12 months	1	200,000	2400000	
Technical Head's allowance	12 months	1	₦ 100,000.00	₦ 1,200,000.00	
Technical Team Allowance	12 months	28	₦ 50,000.00	₦ 16,800,000.00	
Cleaners	12 months	1	₦ 15,000.00	₦ 120,000.00	
Security (Gate man)	12 months	1	₦ 15,000.00	₦ 15,000.00	
Total				₦ 20,520,000.00	
Distribution of Learning Materials					
Motorcycle		14	200,000	₦ 2,800,000	Bajaj Motorcycle
Logistics	per month	14	1000	₦ 168,000	Covers cost of fuelling motorcycles
Total				₦ 2,968,000	
Grand Total				₦ 87,522,000	



6.2 Reference

- AGWU, S. N. & CHUKWU, J. 2019. EDUCATION, REGIONAL INTEGRATION AND LABOUR MOBILITY: THE CASE OF ECOWAS. 15, 331-351.
- C-GIDD 2008. Canback Global Income Distribution Database, 2008.
- CHENG, Y. C. & TSUI, K. T. 2010. School Organizational Health and Teacher Commitment: A contingency Study with Multi-level Analysis. *Educational Research and Evaluation*, 5.
- FEDERAL MINISTRY OF LABOUR AND PRODUCTIVITY 2010. Labour Migration Policy for Nigeria.
- INTERNATIONAL LABOUR ORGANIZATION 2018. Global Estimates on International Migrant Workers 2017. Geneva.
- LIN, C. & CHEN, M. 2009. Factors Affecting Teachers' Knowledge Sharing Behaviors and Motivation: System Functions that Work
- NATIONAL COMMISSION FOR REFUGEES MIGRANTS AND INTERNALLY DISPLACED PERSONS. 2017. 17 million Nigerians living abroad, says government. *The Guardian*.
- RAJU, R. K. 2002. *Welcome to Nigeria: The Impossible Land*, India, Allied Publishers Limited.
- RISMARK, M. & SØLVBERG, A. M. Knowledge Sharing in Schools: A Key to Developing Professional Learning Communities. *World Journal of Education*, Vol. 1, No. 2.
- SOCIETY, I. 2017. Internet access and education key consideration for policy makers.
- TEACHER DEVELOPMENT PROGRAM ZAMFARA 2017. Teacher Supply and Demand in Zamfara. Education Data, Research and Evaluation in Nigeria.
- UNIVERSAL BASIC EDUCATION COMMISSION 2004. Key issues in the compulsory free universal basic education act.
- ZHENG, T. 2017. A Literature Review on Knowledge Sharing. *Open Journal of Social Sciences*, 5, 51-58.