

USING OPEN EDUCATIONAL RESOURCES TO MANAGE THE CHALLENGES OF SECONDARY SCHOOLS IN CROSS RIVER STATE

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Abstract

We live in a global village where we are all interconnected by technology. In this new world, comparison, competition, cooperation and collaboration are inevitable. Every nation aspires to be seen, heard and known for good in the comity of nations. All nations produce, sell and buy for a global market whether goods and services or manpower or know-how. It is therefore important to find out how Nigeria, especially her educational system is rated and ranked globally and within Africa. It is most unfortunate to find that the education system of Nigeria, the “Giant of Africa”, was not among the top 10 nations with the best educational systems in Africa. This situation must be reversed. Using Cross River State as case study, the performance of the students in private and public secondary schools in the WASSCE, NECO and NABTEB Examinations were analysed. In a workshop with school principals in the state, the challenges responsible for the performance was discussed. In this paper, we discuss how Open Educational Resources can be used to manage the challenges facing Nigerian schools in general and Cross River State in particular, especially in enhancing the capacity and quality of the school leaders and teachers.

Keywords: *Open Educational Resources, Global Competitiveness, Teacher Quality.*

Introduction

The 21st century world is experiencing unprecedented transformation that cuts across all areas of human endeavour as a result of the preponderance of technology and its attendant ‘globalisation’. Globalisation has become inevitable. It has brought about global competitiveness and cooperation. We are in a new world where comparison, global competitiveness, cooperation and collaboration has become inevitable. Every region, nation, business, institution and even individuals are conscious that we are in a global community. The various national development agenda do not only focus on

national goals and aspirations, they also integrate various initiatives of the international community such as the Education for All (EFA), Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs). The world has become a global village because it is looked at as a single community that is connected by electronic communication systems.

The World Economic Forum, a Swiss non-profit foundation, based in Geneva publishes an annual report on global competitiveness. It measures the fundamentals of an economy. It combines 114 indicators that capture concepts that matter for productivity. These indicators are grouped into 12 pillars: institutions; infrastructure; ICT adoption; macroeconomic stability; health; skills; product market; labour market; financial system; market size; business dynamism; and innovation capability. It includes statistical data from internationally recognized agencies, notably International Monetary Fund (IMF), United Nations Educational, Scientific, and Cultural Organization (UNESCO), World Health Organization (WHO).

The Global Competitiveness Report 2019 assessed 141 economies. Nigeria was ranked 116 out of 141 overall. Most unfortunately, Nigeria, “the Giant of Africa” is not among the top twelve countries with the best educational systems. Mauritius came 1st followed by South Africa, Seychelles, Algeria, Tunisia, Botswana, Egypt, Namibia, Kenya, Ghana and Cape Verde. It is pertinent to ask: What are these countries doing that Nigeria is not doing?

Table 1: World Economic Forum 2019 Global Competitiveness Report

Country	Position in Africa	Population	GDP per capita US \$	Overall		ICT Adoption		Skills	
				Score	Rank	Score	Rank	Score	Rank
Mauritius	1st	1.3m	11,280.7	64	52nd	68	43rd	61	79th
S. Africa	2nd	57.7m	6,377.3	62	60th	50	89th	58	90th
Seychelles	3rd	0.1m	16,472.1	60	76th	59	64th	72	36th
Tunisia	4th	11.7m	3,423.1	56	87th	51	83rd	60	84th
Algeria	4th	42.6m	4,237.7	56	89th	53	76th	59	85th
Botswana	6th	2.3m	8,137.2	55	91st	46	100th	57	94th
Egypt	6th	97m	2,573.3	55	93rd	41	106th	54	99th
Kenya	8th	48m	1,857.2	54	95th	36	116th	56	97th
Namibia	8th	2.4m	5,726.7	54	94th	48	91st	55	98th
Cape Verde	10th	0.6m	3,562.7	51	112th	45	101st	53	100th
Ghana	10th	29.6m	2,205.8	51	111th	49	90th	52	102nd
Nigeria	12th	193.9m	2,049.1	48	116th	33	118th	40	129th
India	-	1,334.2m	2,036.2	61	68th	32	120th	50	107th
China	-	1,395.4m	9,608.4	74	28th	78	18th	64	64th

Source: Klaus Schwab (2019) *World Economic Forum: The Global Competitiveness Report 2019* Retrieved on 25th July, 2022 from http://www3.weforum.org/docs/WEF-TheGlobal_Competitiveness_Report_2019.pdf

The top twelve countries as shown in Table 1 had an edge because they placed emphasis on digital skills, critical thinking in teaching, staff training, general level of skills of the workforce, the quality and quantity of education, research, standard academic facilities, performance in international examinations, achievement of Education for All (EFA) and high adult literacy.

A critical look at the World Economic Forum Report on Global Competitiveness however require some caution in jumping into conclusions. The criteria for the assessments are so broad that it may be inaccurate to make judgement about each country's educational system based on it. Nevertheless, there is no doubt that Nigeria's rating and ranking can be greatly improved. An overall assessment of 116th ranking out of 141 countries is not good enough. The emphasis on Skills and ICT adoption requires a paradigm shift and complete overhaul of our educational system. It is obvious that in the 21st Century Global Knowledge Economy, we cannot afford to ignore global competition and cooperation. The large size of our national population is not a justification for our poor performance when we compare with India and China.

The World Economic Forum assessment is largely founded on the 21st Century Knowledge Economy. 21st Century is characterized by a knowledge economy which demands cutting-edge knowledge from everyone. The Knowledge Worker has to be a learning individual, continuously searching and applying knowledge. To operate in this economy, we need 21st Century Skills. These are broad sets of skills that are very important in education, training and the world of work. They include problem-solving; creativity; communication; analytical thinking; collaboration; communication; and ethics, action and accountability. Crockett (2016).

Performance of Students in Public Examinations - The Cross River State Case Study

Using Cross River State as a case study, the performance of its private and public schools in public examinations was analysed. Using data from Nigeria Digest of Education Statistics published annually by the Nigeria Educational Management Information System (NEMIS) of the Federal Ministry of

Education on the FME website: <http://nemis.gov.ng>, it was found that the performance was rather low in 2014 and 2015 but kept improving from then.

Table 2: Comparison of Students' Performance in WASSCE, NECO and NABTEB Examinations in Cross River State.

Year	No. of Candidates that sat the Examinations			No with 5 Cs & Above including Mathematics & English			% with 5 Cs & Above including Mathematics & English		
	WASC	NECO	NABTEB	WASC	NECO	NABTEB	WASC	NECO	NABTEB
2014	45,914	3,571	NA	17,592	1,291	NA	38.3	36.15	NA
2015	38,156	3,710	945	13,437	2,289	221	35.2	61.70	23.39
2016	38,862	4,235	658	23,570	3,105	311	60.7	73.32	47.26
2017	39,228	17,887	1,085	21,518	12,894	589	54.85	72.08	54.28
2018	34,562	15,334	1,018	18,436	11,409	481	53.34	74.4	47.25
2019	35,057	17,367	744	24,832	12,958	297	70.83	74.61	39.9

Source: FME Nigerian Educational Management Information System (NEMIS)

An analysis of the 6-year performance of Cross River State public and private schools in public examinations such as WASSCE, NECO and NABTEB Examination results is as shown in Table 2. It was found that Cross River State Schools did poorly in 2014 and 2015 in WASC and NECO Examinations but began to improve up till 2019 when it had its peak. In NABTEB Examination, the performance kept going up and down.

Table 3: Performance of Cross River State Public and Private Schools in WASSCE, NECO and ABTEB Examinations in 2019 in Comparison with Other States in the South-South Geopolitical Zone

STATE	No. of Candidates that sat the Examinations			No with 5 Cs & Above including Mathematics & English			% With 5 Cs & Above including Mathematics & English & Rank		
	WASC	NECO	NTC & NBC	WASC	NECO	NTC & NBC	WASC	NECO	NTC & NBC
AKS	54,162	23,441	1,718	31,700	16,803	642	58.5 (6 th)	71.7 (6 th)	37.4 (6 th)
BYS	20,615	6,355	172	15,211	4,954	108	73.8 (2 nd)	78 (2 nd)	62.8 (2 nd)
CRS	35,057	17,367	987	24,832	12,958	408	70.8 (4 th)	74.6 (5 th)	41.3 (5 th)
DTS	54,757	20,652	631	38,642	15,813	393	70.6 (5 th)	76.6 (4 th)	62.3 (3 rd)
EDS	58,699	22,929	540	42,876	18,571	283	73.0 (3 rd)	81 (1 st)	52.4 (4 th)
RVS	68,633	13,145	557	59,048	10,156	388	86.0 (1 st)	77.3 (3 rd)	69.7 (1 st)
Zonal	291,923	103,889	4,605	212,309	79,255	2,222	72.7	76.3	48.2
National	1,559,494	1,138,792	56,165	982,951	813,073	34,341	63	71.4	61.1

Source: FME Nigerian Educational Management Information System (NEMIS)

When the performance of Cross River State public and private schools in WASSCE, NECO and NABTEB Examinations in 2019 was analyzed against other states in the South-South Geopolitical Zone, as shown in Table 3, it was found that the state came between 4th and 5th position. Cross River State was 4th in the South-South geopolitical zone in WASSCE, 5th in NECO Examination and 5th in NABTEB Examination. The % passed in Cross River State (70.8% for WASSCE, and 74.6% for NECO) was higher than the National average in both WASSCE (63%) and NECO Examination (71.4%). In the NABTEB Examination, the % pass for Cross River State (41.3%) was lower than the National average (61.1%).

The Challenges Facing Secondary Schools in Cross River State

At a workshop organized by the Teachers Continuing Training Institute (TCTI), Biase, Cross River State for private and public secondary school principals in August 2022, the data on the performance of the secondary schools in Cross River State were presented for discussion. The principals agreed that there was room for improvement citing the following needs:

1. Need for school leadership that is visionary, proactive, foresighted, looks at the big picture, unbiased, evidence based, effective, competent, gives teaching and learning, the teacher and learner their well-deserved priority; is participatory, promotes self and teacher continuing professional development, ensures team spirit, encourages creativity; is friendly; formulates and implements good policies; well-funded; school-community relationship that is vibrant, cordial and purpose driven.
2. Teachers that are adequate in quantity and quality; well qualified, skilled, creative, experienced, competent, efficient, effective; current and digitally literate; engage in continuous professional development.
3. Teaching-Learning Pedagogy that is learner-centred and learner-friendly; participatory and highly interactive, and promotes 21st Century skills; and inclusive.
4. Curriculum that is relevant and meaningful (to individual and societal needs), inclusive (catering for the diversity among the learners), integrated, skill, competency and performance based, practical, concise yet comprehensive.

5. Assessment and evaluation that is continuous, comprehensive, promotes learning, a true reflection of performance.
6. Technology (Teaching-Learning materials and equipment- textbooks, library resources, teaching materials, computers, ICT, Internet) that is available, adequate, accessible, useable, current and in use.
7. Educational infrastructural facilities- buildings, classrooms, hostels, toilets, laboratories, studios, play grounds, libraries, ICT centres, etc. that are in adequate supply, in good condition, well maintained, attractive, comfortable, well equipped, conducive for learning, etc.

These challenges of secondary schools are universal but differ in nature and intensity depending on a number of factors which must be considered in managing them. The ownership structure- public or private, federal, state or community, religious bodies, staff school, demonstration school, sole proprietorship, partnership, etc- Level of autonomy granted to the Principal; vision and mission of owners or founders- purpose for establishment; school age- year established; level- JSS or SSS; competence of the principal and quantity and quality of the teachers and students; funding; rural-urban location; state of infrastructural development; boarding or day School. These factors can determine the impact of the challenges. It is necessary to emphasize that Open Educational Resources can be used in at least two important areas to manage these challenges: by using them to build the capacity of the school leaders and the teachers.

Using Open Educational Resources to Manage the Challenges

The William and Flora Hewlett Foundation has been a major donor and primary champion in the OER movement. It defines OER as teaching, learning and research resources that have been made open and released under an intellectual property license that permits their free use or re-purposing by others. Open educational resources include full courses, course materials, modules, textbooks, streaming videos, tests, software, and any other tools, materials or techniques used to support access to knowledge. (William and Flora Hewlett Foundation, 2008).

More recently Neil Butcher (2010) explains that the concept of Open Educational Resources (OER) in its simplest form describes any educational resources (including curriculum maps, course materials, textbooks, streaming videos, multimedia applications, podcasts, and any other materials that have

been designed for use in teaching and learning) that are openly available for use by educators and students. Such resources do not need to pay royalties or license fees.

From the various definitions given, the following can be deduced:

- OERs are digitised materials enabled by information and communication technologies for consultation, use and adaptation.
- They are to be used for educational purposes.
- They are offered freely and openly for educators, students and self-learners.
- They are to be used and re-used for teaching, learning and research.
- They reside in the public domain and have a license that permits their use or re-purposing by others.
- They may not require the payment of royalties or license fees or even permission from the copyright holder.
- They are any educational resources including: curriculum maps, modules, text books, streaming videos, course materials, podcasts, tests, multimedia applications, software and other tools, materials or techniques used to support access to knowledge.

Wiley (2007) gives four Rs that summarize the ways in which OERs can be used. They can be re-used, revised, remixed and redistributed.

A number of OER initiatives have been carried out in Sub-Saharan Africa. We shall treat two briefly: Teacher Education in Sub-Saharan Africa (TESSA) and OER AFRICA and then move on to the Teacher Education through School-based Support (TESS-INDIA) .

The Teacher Education in Sub-Saharan Africa (TESSA) was officially launched in 2005. Its website, <https://www.tessafrica.net/about-us>, hosts all the TESSA materials (whether individual sections or modules). Its materials can be downloaded into CDs or flash drives and printed for sharing with others. It is a bank of OER study units that can be adapted for multiple contexts and cultures. It provides materials to support school-based, classroom focused teacher professional development.

The OER Africa, <https://www.oerafrica.org/african-teacher-education-network>, is an initiative of the South African Institute for Distance Education (Saide). It aims at playing “a leading role in driving the development and use of Open Educational Resources (OER) across all education sectors on the African Continent”. Its mission “is to establish dynamic networks of African

OER practitioners by connecting like-minded educators-teachers, academics, and trainers- to develop, share, and adapt OER to meet the education needs of African societies.”

The Teacher Education through School-based Support (TESS-INDIA) (<https://www.open.edu/openlearncreate/mod/oucontent/view.php?id=56846>) aims at improving the classroom practices of elementary and secondary school teachers in India through the provision of Open Educational Resources (OERs) to support teachers in developing student-centred, participatory approaches. They offer activities for teachers to try out in their classrooms with their students, together with case studies showing how other teachers have taught the topic and linked resources to support teachers in developing their lesson plans and subject knowledge. Like TESSA, TESS-India is led by The Open University UK and funded by the UK government.

Using OERs to Enhance School Governance, Leadership and Management

The above OER Initiatives have relevant materials that can be used to enhance the capacity of school leaders.

The TESS-India School Leadership Titles include:

- The secondary school leader as enabler
- Building a shared vision for your school
- Leading the school’s self-review
- Leading the school development plan
- Using data on diversity to improve your school
- Planning and leading change in your school
- Implementing change in your school
- Managing and developing self: managing and developing yourself
- Leading improvements in teaching and learning in the secondary school
- Leading assessment in your school
- Supporting teachers to raise performance
- Leading teachers’ professional development
- Mentoring and coaching
- Developing an effective learning culture in your school
- Promoting inclusion in your school
- Managing resources for effective student learning
- Leading the use of technology in your school
- Engaging parents and the wider school community

These Modules provide activities for school leaders to try out in their schools with their teachers and students, together with case studies showing how other school leaders have done them. It is important to emphasize that the materials have to be re-modified, re-mixed, and adapted to the peculiar needs of the user.

TESSA also has materials for school leaders' development, including:

- Working with teachers- a handbook for teacher educators
- Working with pupils- a guide for teachers
- TESSA Teaching lower secondary science- a handbook for teacher educators
- TESSA inclusive education toolkit- a guide to the education and training of teachers in inclusive education
- School experience toolkit- It is intended as a collection of tools to use to tackle the challenges student teachers face during school experience supervision.
- TESSA/NTI/NCCE Teaching Practice Supervisors Toolkit.

The **OER Africa** also has materials on School Leadership, Management, Administration and Governance.

Using OERs to Enhance Teacher Quality

Teachers are the greatest determinants of student achievement yet there is the serious challenge of providing good quality teachers and in sufficient quantity. It is also important to support them to continuously raise performance. There are various open educational resources that teachers can use for their professional development individually or collaboratively.

Teachers and students should be encouraged to source for web-based educational resources; to search for and locate relevant open educational resources (OERs), evaluate them, adopt, adapt, modify, reproduce and use them in school administration, teaching and learning.

The Teacher Education in Sub-Saharan Africa (TESSA) website has a rich repository of open education resources. The Key Resources (<https://www.tessafrica.net/key-resources-english>) are particularly useful. The key principles of practice that underpin the participatory pedagogy of the TESSA are detailed in the Key Resources. They are:

- Assessing learning
- Using mind maps and brainstorming to explore ideas
- Being a resourceful teacher in challenging circumstances

- Using explaining and demonstrating to assist learning
- Using group work in your classroom
- Using investigations in the classroom
- Tools for planning and carrying out investigations in Science
- Working with large classes
- Using the local community/environment as a resource
- Planning and preparing your lessons
- Using questioning to promote thinking
- Researching in the classroom
- Using role play/dialogue/drama in the classroom
- Using storytelling in the classroom
- Using new technologies
- Working with multigrade classes

These Key Resources are linked to the school curriculum, and designed to support teachers and teacher educators in developing active approaches to learning.

Conclusion

The challenges facing secondary schools in Nigeria and Cross River State in particular are many but surmountable. The toughest challenges have to do with the capacity and quality of school leaders and the teachers. This is an area where the use of Open Educational Resources can bring about rapid transformation.

References

- Akpan, Ben (2021). *STEAM and Collaborative Education*. A Keynote Address at the 35th Annual Congress of the Nigerian Academy of Education (NAE) delivered on 9th November, 2021 at the University of Abuja
- Butcher, N. (2011). A basic guide to open educational resources (OER). A. Kanwar & S. Uvali'c-Trumbi'c (Eds.). Vancouver and Paris: COL and UNESCO. Retrieved from <http://www.col.org/oerbasicguide>
- Federal Ministry of Education (FME) (2018). NEMIS (Nigeria Educational Management Information System) *Nigeria Digest of Education Statistics*.
- Federal Ministry of Education (FME) (2017). NEMIS (Nigeria Educational Management Information System) *Nigeria Digest of Education Statistics*.
- Klaus Schwab (2019). *World Economic Forum: The Global Competitiveness Report 2019* Retrieved on 25th July, 2022 from http://www3.weforum.org/docs/WEF-TheGlobal_Competitiveness_Report_2019.pdf
- OER Africa (2022). <https://www.oerafrica.org/african-teacher-education-network> Retrieved 18th July.
- Teacher Education in Sub-Saharan Africa (TESSA) (2022). *Key Resources* <https://www.open.edu/openlearncreate/mod/oucontent/view.php?id=153786>. Retrieved on 22nd July.
- TESS-India (2022). (Teacher Education through School-Based Support) *School Leadership OERs*. Retrieved on 18th July, from <https://www.open.edu/openlearncreate/course/view.php?id=1911>
- Wiley, D. (2006b). On the Sustainability of Open Educational Resource Initiatives in Higher Education, www.oecd.org/edu/oer.

- Yaya, D. O. (2015). Transforming the Teaching-Learning Environment for the 21st Century: Implications for Teacher Education in Nigeria. Paper presented at the Nigerian Academy of Education 30th Annual Congress held at the National Teachers Institute, SMASE Centre, Kaduna from 2nd - 6th November.
- Yaya, D. O. (2015). Pedagogies that Will Achieve “The Future We Want” for Education in Africa. Presentation at the Distance Education and Teachers’ Training in Africa Conference (DETA 2015) held from July 21-25, 2015 Mauritius Institute of Education, Reduit, Mauritius.
- Yaya, D. O. (2014). Availability and Use of Open Educational Resources (OERs) in Teacher Education in Nigeria. Paper presented at the 4th National Teachers Summit, held 13th to 14th November, 2014 at NTI Conference Centre, Kaduna
- Yaya, D. O. (2012). Using Open Educational Resources to Create Access to Higher Teacher Education in Sub-Saharan Africa. Paper presented at the 7th Regional Conference on Higher Education for a Globalised World organised by Higher Education Research and Policy Network (HERPNET) held at Conference Centre, University of Ibadan from September 17 to 21, 2012.