

Climate Change and Implication for Senior Secondary School Financial Accounting Curriculum Development in Nigeria

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Abstract

Climate change as a new reality is the latest challenge to sustainable human development. The scientific evidence is clear: climate change is likely to have negative impacts on efforts to achieve Nigeria's development objectives, including the targets set out in Nigeria Vision 20:2020 and the Millennium Development Goals (MDGs). The paper tries to look at financial accounting as an indispensable part of every human endeavour which curriculum development in this climate change era should be considered a priority. It also looked at different definitions of financial accounting, and its purpose, curriculum development and agencies involved, climate change and causes, climate change impacts in Nigeria. Education and climate change. Impacts of climate change on financial accounting curriculum development at secondary school level and finally recommended programmes that will enhance its development.

Introduction

There is enough evidence that climate change is taking place at the local level of Nigeria. Assessment report of the governmental panel on climate change by Building Nigeria's Response to Climate Change (BNRCC) Project (2011) shows that Nigeria and all the countries within Sub-Saharan Africa are highly vulnerable to the impact of climate change. Climate change is a significant and lasting change in statistical distribution of weather patterns over periods (Wikipedia, 2012). It includes patterns of temperature, humidity, wind and seasons. Climate change is a global phenomenon which is evident in Nigeria. It is an international issue which requires both national and international approach and indigenous knowledge. The impact of climate change has no border and it directly affects global sustainable development, livelihood and man's ability to coexist on earth (Sambo, 2010).

The impact of climate change on the environment and the syllabus of Financial Accounting taught require attention for sustainability. It will be proper to plan financial accounting curriculum in such a way that it will suit the changing climate, the teachers and learners as well so that the aims and objectives of such curriculum will be achieved. Thus the objective of this paper is to examine how climate change might have affected the content, scope, facts and figures in the school Financial Accounting that may require adjustment and caution to teach and learn about.

Developing curriculum on climate change at secondary education looking at financial accounting curriculum as one of the indispensable subjects is a timely decision that needs to be encouraged by the government and other stakeholders. Therefore development of curriculum for such a valuable subject during this climatic change era should be considered a priority because accountability is the base of success in every business endeavour and also it is required in every sector of the economy to enhance growth and development. Developing curriculum on climate change with financial accounting as one of the indispensable subjects is highly recommended following the climate changes which have resulted to global warming.

Climate Change

The most general definition of climate change is a change in the statistical properties of the climate system. It is also changes in the earth's weather including changes in temperature, wind, etc. It needs to be emphasized that climate change should be taught even at the secondary school level.

Senior Secondary School

Secondary school level is the bridge between the primary and tertiary levels (Ekundayo, 2010). The importance of secondary education made the federal government to state the broad aims of secondary education as preparation for useful living within the society and for higher education. The underlining principle here is that the secondary schools should be able to provide quality secondary education to all those who can benefit from it.

Financial Accounting

Financial accounting is one of the vocational subjects offered at the senior secondary level of education in Nigeria. The vocational subjects such as technical drawing, typewriting, and shorthand form part of the curriculum of the senior secondary education. The financial accounting is tremendously important to the economy of Nigeria, as it provides a solid foundation for the training of future accountants, managers and

entrepreneurs (Aluwong, 2002). Every individual irrespective of its class require the knowledge of accounting to meet its day to day activities. Noran (2006) cited by Atetayo and Kiadese (2011) buttresses this point, when he says accounting is the language of business and everyday activities.

The general objectives of financial accounting as stated in the National Policy on Education for senior secondary schools are to provide:

- a. Specialized instruction to prepare students for career in accounting field;
- b. Fundamental instruction to help students assume their economic roles as consumers, workers and citizens;
- c. Background instruction to assist students in preparing for other professional careers requiring advanced studies in accounting; and
- d. accounting skills for personal use in future.

The relevance of financial accounting cannot be over emphasized. Apart from its being offered at the Senior Secondary level for Senior Secondary School Certificate Examination, it is a discipline taught at the university level as Accountancy. The West African School Certificate Examination Council (WAEC) has been reviewing its syllabi over the years to reflect contemporary issues, respond to public concerns and adjust to realities of time (Aderogba and Ogunnowo, 2010). The National Examination Council (NECO, 2004) also fashioned its syllabus closely to that of WAEC.

The aim of the programme taught at this level is to provide the candidate with a deeper knowledge of the principles and methods of keeping financial records (WAEC, 2008). Ordinarily, accounting is seen as the act of keeping or checking of financial records. But recent researches have proved that accounting has gone beyond mere keeping and checking of financial records to being a process of measuring and communicating financial information to enable interested parties inside and outside the firm to make informed decision. Inside the firm, accounting information helps the management to decide how the firm should be operated. And outside the firm, it helps the Investors to decide whether to invest in a company or not. It aids in ascertaining the financial position of a business and proper planning and forecasting which helps the owner of the business to know its assets and liabilities.

Thomas and Ward (2009) has defined financial accounting as “the classification and recording of monetary transactions and presentation of the financial results of the activities of an entity, in other words the scorecards that shows how the business is doing”. In view of the importance of financial accounting to the individual and national development, most countries all over the world have placed unprecedented emphasis in the teaching of financial accounting in schools. This is in a bid to attain a significant level of development in financial reporting of business organizations.

The Purpose of Financial Accounting

The purpose of financial accounting is to provide the information that is needed for sound economic decision making. The main purpose of financial accounting is to prepare financial records that provide information about a firm’s performance to external parties such as investors, creditors, tax authorities, etc. Other purposes include the following:

- i. It provides stake holders legal information such as financial statement, audited account and balance sheet.
- ii. It shows the mode of investment for shareholders
- iii. It provides business trade credit for suppliers
- iv. It notifies the risks of loan in business for bankers and lenders.

‘Accounting is the consciousness of the business world’. Consciousness in this context means that accounting helps the business owners to be careful about their spending, investments, lending, the type of business risk to undertake, etc.

There is need to plan our educational system and develop processes in such a way that the learners after going through the process will be able to perform their roles appropriately in the society. Financial Accounting curriculum has been planned for accounting students in the senior secondary schools from senior secondary one to three and the syllabus is made available.

Curriculum Development

Curriculum development in the words of Obasi (2009) is seen as involving the whole process of designing and re-designing curriculum materials, trying them out, collating and synthesizing data emanating from trial tests, utilizing human and material resources to ensure that the objectives of the planned curriculum are achieved. This means that for the developed curriculum to be well implemented, there should be proper selection and adequate utilization of curriculum materials and material resources which will ensure the achievement of the objectives of the planned curriculum. The tasks of curriculum development are enormous and for it to be effectively carried out, all hands must be on deck. This implies that for the work of curriculum development to be effectively carried out, all that are concerned, that is all the stake holders in education must

put in their best. In Nigeria, these tasks are carried out by a number of bodies or agencies among which are:

1. The Nigerian Educational Research and Development Council (NERDC).
2. The State and Federal Ministries of Education
3. The West African Examination Council (WAEC)
4. The Curriculum Organization of Nigeria (CON)
5. The Science Teachers' Association of Nigeria (STAN) etc.

Others are association of curriculum experts, teachers, administrators and scholars who are interested in curriculum research and development.

Climate Change and Causes

Climate change as a new reality is the latest challenge to sustainable human development. The scientific evidence is clear: climate change is likely to have negative impacts on efforts to achieve Nigeria's development objectives, including the targets set out in Nigeria Vision 20:2020 and the Millennium Development Goals (MDGs). In particular, climate change will impede efforts to reduce the poverty experienced by the majority of Nigerians. It will retard the drive to ensure equity in the distribution of development benefits, particularly among women and men; and it will check the effort to promote sustainable livelihoods. In addition, climate change will likely lead to other changes such as ecosystem degradation and reduced availability of water and food. It is therefore likely to become a major driver of increased human conflict. (BNRCC Project, 2011).

Climate change has been defined as any change in climate over time, whether due to natural variability or as a result of human activity. Current global concern is focused on climate change resulting from human activity, and specifically from the release of carbon dioxide and other greenhouse gases to the atmosphere. The burning of fossil fuels, clearing of forests, and certain other human activities are major sources of greenhouse gas emissions. Climate Change is a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods (<http://unfccc.int/essentialbackground/convention/background/items/1349.php>) It is also a significant and lasting change in the statistical distribution of weather pattern over periods ranging from decades to millions of years. It may be a change in average weather conditions (i.e., more or fewer extreme weather events) http://en.m.wikipedia.org/wiki/climate_change.

The most general definition of climate change is a change in the statistical properties of a climate system when considered over long periods of time regardless of cause. Climate change is sometimes used interchangeably with global warming, while global warming refers to surface temperature increases, climate change includes global warming and everything that increases greenhouse gas levels and its effects.

Climate change is caused by factors that include oceanic processes (such as oceanic circulation), variation in solar radiation received by earth, volcanic eruption and human-induced alterations of the natural worlds. These later effects are currently causing global warming and "climate change" is often used to describe human-specific impacts. Other causes include the rate at which energy is received from the sun and the rate at which it is lost to space. This determines the equilibrium temperature and climate of the earth. This energy is distributed around the globe by winds, ocean currents and other mechanisms to affect the climate of different regions.

Climate Change Impacts in Nigeria

Climate change is already having significant impacts in Nigeria, and these impacts are expected to increase in the future. Recent estimates suggest that, in the absence of adaptation, climate change could result in a loss of between 2% and 11% of Nigeria's GDP by 2020, rising to between 6% and 30% by the year 2050. This loss is equivalent to between N15 trillion (US\$100 billion) and N69 trillion (US\$460 billion). This large projected cost is the result of a wide range of climate change impacts affecting all sectors in Nigeria such as Agriculture (Crops and Livestock), Freshwater Resources, Coastal Water Resources and Fisheries, Forests, Biodiversity, Health and Sanitation, Human Settlements and Housing, Energy, Transportation and Communications, Industry and Commerce, Disaster, Migration and Security, Livelihoods, Vulnerable Groups and Education.

Education and Climate Change

The overall level of public awareness on issues related to climate change in Nigeria is considered to be low. There is great need to improve public understanding of the potential impact of climate change. Stakeholders in the education system (such as academics, researchers, teachers, students, and policy-makers) have a key role to play in national programmes to achieve this goal i.e public awareness on issues related to climate change. In addition, the education system itself will be impacted by climate change, affecting school facilities and activities, school attendance, and learning.

Impacts of Climate Change on Financial Accounting Curriculum Development at Secondary Education Temperature

1. Increased temperature may create uncomfortable conditions for learning. This means that when the classroom is hot due to increased temperature, both the teachers and the learners will not be comfortable to teach and learn as well, seeing that financial accounting deals with calculation and need to be taught in a cool environment for proper understanding.
2. Increased temperature also causes heat stress which affects teaching and learning and other school activities. Take for example, when teaching and learning is going on and the teachers and learners are sweating due to none provision of air-conditioners and fans, even when these facilities are provided, none power supply may hamper their use. This affects classroom work because both the teachers and the learners may not be comfortable to teach and learn under such condition particularly financial accounting that needs full concentration because figures are involved.
3. Increased temperature may lead to difficulty in teaching and class management: This implies that when the temperature is increased due to climate change, it will be difficult for the teachers to teach and manage their classrooms especially the learners because some of them may prefer going out to play or engage in other social activities outside the classroom instead of concentrating in their studies.
4. The above listed conditions of teaching/learning can reduce learning capacities which in turn may lead to poor performance of students in academic work and also in such situations, completion of the curriculum as planned will not be achieved.

Other impacts as outlined by Building Nigeria's Response to Climate Change (BNRCC) Project (2011) include:

Rainfall and Extreme Weather Events

Increased frequency of heavy rainfall, floods, strong winds, and storms can cause damage to school buildings and property, resulting in:

1. An uncondusive environment for teaching and learning activities
2. Possible harm to students and teachers
3. Impacts on school attendance and achievement by students.

Changes in rainfall and extreme weather events also have both short-term and long-term socio-economic and health effects on students and teachers. These include:

1. Increased spread of endemic water- and vector-borne diseases, and other infectious diseases
2. Shortages of water and food, leading to malnutrition and famine in extreme cases. These socio-economic and health impacts can reduce school attendance and result in poor performance in academic work. Other impacts include a dearth of teachers and poor education standards in the most affected areas, and movement of students to schools in less vulnerable parts of the country.

Recommended Policies, Programmes, and other Measures for Developing Curriculum on Climate Change at Secondary Education

- * The Curriculum should be developed to address climate change impacts and adaptation at all levels of the education system especially as it concerns the teaching of financial accounting in secondary schools.
- * Teachers should be trained on climate change adaptation teaching strategies and techniques in teaching financial accounting at secondary level of education in Nigeria.
- * Projects that will aim at helping children and students better respond to the threats posed by climate change should be embarked upon by the government.
- * Climate change adaptation in academic programmes and in operations should be addressed by the stakeholders (for instance, have a flexible calendar that recognizes national variations in the temperature and rainfall regimes).
- * Develop skills-based curriculum in subjects like financial accounting, science, geography, social studies, language arts, environmental education and technology that will empower children to better respond to the threats of climate change.
- * Institution of tree planting and other programmes in schools, to involve students in practical community-based responses to climate change will make for proper awareness.
- * The Government should invest in building school structures that are adapted to expected changes in the climate (which will vary from region to region, but may include increased rainfall, higher temperatures, more severe storms, etc.).
- * Research on the provision of better understanding of the impact of climate change on teaching and learning activities especially financial accounting and on the physical school environment in Nigeria should be supported by the Ministry of Education.
- * The three tiers of Government should provide increased support for public awareness and education on

climate change risks and adaptation options (including programming on state radio and TV stations in English and local languages).

Conclusion

The real impacts of climate change towards the development of financial accounting curriculum at secondary education are not farfetched. Interestingly, climate change is a global phenomenon and everybody both governments and civil societies are making some concerted efforts in mitigating the challenges of climate change in Nigeria through several independent approaches. As a global phenomenon which is evident in Nigeria, it is an international issue which requires both national and international approach and indigenous knowledge. However, more collaborative effort with international bodies is required because climate change has no border. The impact of climate change on financial accounting curriculum should be considered while planning curriculum at secondary education level and the academic programmes in such a way that there should be a flexible calendar that recognizes national variations in the temperature and rainfall regimes).

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