Early Childhood Education as an Index for Measuring Sustainability in Rivers State

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Abstract

The purpose of this study is to ascertain the Indices Measuring Early Childhood Education for Sustainability in Rivers State, Nigeria. Three research questions and three hypotheses guided the study. Correlational research was adopted and simple random sampling technique was used in selecting the sample of the study in which 100 early childhood centres from the population of 572 early childhood centres in Rivers State (UBE Data base, 2021) 100 centre managers responded to a structured questionnaire "Indices Measuring Early Childhood Education for Sustainability Questionnaire (IMECESQ)' designed by the researchers after the modified Likert scale mode which had its reliability index established at 0.85. answered using Pearson Product Moment Correlation (PPMC) was used while the hypotheses were tested by finding the significance of r. This was achieved by converting calculated value of r (r-cal) to t-test statistics since the sample size is more than 30. The calculated value of t. was compared with the critical value of t at 0.05 level of significance. Findings from the study revealed that the environment, the economy and the socio-culture are the indices used to measure the sustainability of early childhood education in Rivers State. The study concluded that the economic, environmental, and sociocultural subscales assess sustainability practices in early childhood education. It was recommended that the sustainability indices could be improved to ensure reliable measurement for the sustainability of early childhood education in Rivers State.

Keywords: Development, care, socio-economics, environment and sustainability,

Introduction

Children are the stakeholders inheriting and shaping future society. The International Union for Conservation of Nature and Natural Resource (1980) claimed that "we have not inherited the Earth from our parents, we have borrowed it from our children". This claim emphasizes the important relationship between inter-generational equity, children and sustainable development (SD). Child development (CD) is affected by external circumstances, and children are more vulnerable to violence, diseases and environmental pollution than adults (UNICEF, 2015). Furthermore, children's basic rights such as to express their own opinions and to have access to education can be impeded by adults (UNICEF, 2015 and Halleröd, Rothstein, Daoud, Nandy, 2013). Disregarding and violating these basic rights can lead to irreversible and severe effects on CD and consequently on future society. Index is designed to be an aggregated score that presents countries' performance with regard

to SD by considering relevant indicators addressing environmental, economic and social dimensions. The performance can be treated as the potential towards SD by emphasizing intergenerational equality and the completed picture of SD. Sustainability education is a comparatively new component of early childhood care and education which has emerged in response to growing concerns about the state of humanity and the planet on which we depend, and in recognition of the early years as foundational in the establishment of dispositions related to ways of knowing, being, doing, and relating. Such dispositions can reflect key aspects of caring, learning, and acting in accordance to values that are life-enhancing for people and planet. Education has an important role in addressing what must be done to sustain the life opportunities for future generations. UNESCO (2007) emphasizes two main principles for the inclusion of sustainability within educational policies: increase in the quality of learning and specifically teaching about sustainability. Learning about sustainable development needs to be integrated into all education levels, starting in early childhood. Social and cultural equity considers the life quality of individuals, support for human rights and social justice, respect for cultural differences, and encouragement of cooperation and participation in decision making between individuals and across societies. Economic sustainability takes into account the support for local economies, balancing of production and consumption, the minimization of gaps between the rich and poor, and the encouragement of ethical procurement and investment policies (UNESCO 2005). Considered from a holistic perspective, education for sustainability (EfS) has a vision, which respects the sociocultural values within different countries, places emphasis on environmental protection, and accounts for economic sustainability (Davis et al. 2009).

The sustainable development goals endorse the importance of early childhood educational policies (United Nations 2015). Attention to these policy goals should occur at all levels of education from early childhood teacher education to the actual delivery of early childhood education programs. Pramling-Samuelsson (2011) identified that addressing sustainability in early childhood education can be related to themes such as biodiversity, recycling, alternative energy, saving water, environmental protection, sustainable production and consumption, accountable citizenship, peace education, cultural diversity, gender equity, and social justice. In many of the developing and developed countries, one of the most important goals of the education system is to include basic principles, values, and practices of education for sustainability into their current education processes by using holistic approaches. When current education practices for sustainability in early childhood are analyzed, many countries implement project-based studies on environmental sustainability for short periods of time but maintaining this focus while addressing how education programs for sustainability can be broadly implemented is limited. Integrating sustainability practices into early childhood education around the world requires the integration of important social and cultural elements, for example, more attention to social justice, racial equality, multiculturalism, multilingualism, and gender equality is necessary (Siraj-Blatchford and Pramling-Samuelsson 2016).

Early childhood education and care (ECEC) programs for young children have become increasingly available in countries around the globe. There is consensus across a variety of fields that early childhood is a sensitive period of life, marked by development of critical cognitive, social–emotional, and physical skills. Although the aims of ECEC initiatives vary considerably from

country to country, a common priority of these programs is to offer educational services and/or care to children during the years prior to their entry into primary school, which occurs by age 6 in a majority of countries. Implementation of ECEC programs internationally has been marked by divisions between the types of services offered to children from birth to age 3 and those offered for children from ages 3 to 6. When government agencies are involved in the provision of ECEC, this age boundary is often replicated at the government level as well, with different agencies or ministries responsible for overseeing ECEC programs depending on a child's age. Regardless of the level of government involvement, ECEC programs for children younger than age 3 tend to focus mainly on child care, while ECEC programs for children ages 3 and older tend to be conceptualized as pre-primary education. The family-support pathway indicates that impacts on child outcomes derive from greater parental investments in children's development, such as greater parent involvement in education, increased parenting skills, and greater resource supports for parents.

The school-support pathway suggests that longer-term effects would occur to the degree that post-program school experiences reinforce learning gains. Enrolment in higher-quality schools and schools with positive learning environments would strengthen or maintain learning gains while enrolment in schools lower in quality would neutralize earlier learning gains.

The social adjustment and motivational-advantage hypotheses indicate that noncognitive skills can be the mechanism of effects of ECD programs, such as increased classroom and peer social skills, positive teacher–child relationships, achievement motivation, and school commitment. The greater the magnitude of effect of program experiences on a particular pathway or multiple pathways, the more likely that enduring effects would occur.

The economic status of parents, the environment and the socio-cultural activities influence children's school readiness and in turn impact on children's cognitive, literacy and numeracy development, and their physical well-being and emotional competencies. Risk factors including poor child health, poor maternal education, increased maternal stress, poor parent and school support, and inadequate stimulation in the home and school settings, can negatively affect development and achievement of the child. The importance of good nutrition, good health, a stimulating environment, and loving care in the early years of life, for the physical, mental and social development of a child. From better school performance to lower criminal behavior, the right combination of health care, adequate food, a pro-learning environment and good parenting, installs qualities, however defined, that result in more productive, more socially adapted, and in a general sense "better" children and adults, compared to when one of these factors is missing. It is not surprising that there is general consensus that ECD programs are particularly beneficial for disadvantaged children. Most of the components that contribute to the proper development of a child are usually present in relatively well-off households. It is also well-known that, generally speaking, ECD programs are expensive. Though cost estimates vary widely (Wilson, 1995), the annual cost per child can easily exceed the cost for one year of primary education. The need to target costly interventions at resource-poor areas or poor households, underscores the importance of providing policy makers with information that will allow them to judge which interventions are most beneficial while still being affordable. One possible exception is the improved employment opportunity for mothers who enroll their children in an ECD

program. If the child-care service inherent in an ECD program allows the mother to work in the market place (and thus, presumably, realize earnings that exceed the value of her productivity at home), the income gain (minus the possible loss in home-productivity) can be counted as a benefit of the ECD programme.

Many policies and intervention programs could be used to help children from low Socio-economic-status (SES) families overcome the academic disadvantages. For example, policies providing cash supplements and housing assistance might reduce maternal depression and stress. These problems arising from poor health of SES children could be addressed both with food assistance programs designed to improve general nutrition and reduce nutrition-based illnesses and with introducing children's health insurance so that health-related absences could be minimized. Incentives to attract high-performing teachers and principals to schools, and to provide free lunch programs and free textbooks located in low SES communities could be used and money put in to increase family and school resources to enhance the development of low SES children. If parents have the ability and time to give their children the same enriched environment as is found in middle SES families, then an improvement in school readiness and academic achievement should result. But before such programs could be implemented low SES families need to have financial assistance so that resources and time become available. Early literacy and numeracy intervention programs are designed to improve the academic achievement of low SES children. Parents who acquire literacy and numeracy skills also contribute to children's learning experience. In addition, children connect learning and achievement with positive social interactions and attention with their parents.

While the early childhood field has been rather slow to take up the challenge of sustainability, it has a potentially significant role – not least because of underlying concerns for children's welfare, interest in children's environments (consider the kindergarten), and its attention to social justice. Recently, a new dimension has been added to early childhood education. This is early childhood education for sustainability (ECEfS), an emerging national and international field, given a fillip with the launch of the United Nations Decade of Education for Sustainable Development (2005-2014) (UNESCO, 2005). ECEfS recognizes that young children have capacities to be active agents of change now, as well as into the future, and that early learning is important for shaping environmental attitudes, knowledge and actions. This is because early childhood is a period when the foundations of thinking, being, knowing and acting are becoming 'hard wired', and relationships – with others and with the environment – are becoming established. It is also a time for providing significant groundings for adult activism around environmental issues (Chawla, 1998; Davis and Gibson, 2006; Wells and Lekies, 2006).

There are solid economic reasons for society to reduce poverty. For example, if poverty breeds crime and violence, the non-poor have a good reason to reduce poverty. Or, to take an example from the international development community, if poor countries start to grow, international trade will flourish and all countries - including the rich - will benefit. Indeed, many advocates of social welfare programs or international aid will use these "selfish" reasons to argue their case.

Many countries, and the international development society as a whole, have taken the reduction of poverty as a major, sometimes the overarching, social objective, either because of these "selfish" reasons, or based on more altruistic motives. Either way, when societies put a large social value on reducing poverty (or on "reducing inequality" or "promoting social justice") the social value of programs and policies that foster these outcomes should be considered as "benefits".

Statement of the Problem

There seems to be a decrease in number of children in early childhood centres in Rivers State. Early childhood education has the capability to develop the skills such as cognitive, psychosocial affective and literacy of the child. Unfortunately, these skills could not be developed and those which were developed could not be sustained. This could be due to the socio-economic status, environmental issues and sociocultural issues of both parents and the children that hinder the sustainability of early childhood education in Rivers State of Nigeria. It is on this pedestal that this study is out to ascertain the relationship between indices measuring early childhood education and sustainability in Rivers State in Nigeria.

Aim and Objectives

The aim of this study is early childhood education as an index for measuring sustainability in Rivers State. Specifically, the objectives of the study are to:

1. Determine the relationship between socio-economic status and sustainability of early childhood education in Rivers State.
2. Find out the relationship between environment and sustainability of early childhood education in Rivers State.
3. Examine the relationship between sociocultural and sustainability of early childhood education in Rivers State.

Research Questions of the Study

1. What is the relationship between socio-economic status and sustainability of early childhood education in Rivers State?
2. What is the relationship between environment and sustainability of early childhood education in Rivers State?
3. What is the relationship between sociocultural and sustainability of early childhood education in Rivers State?

Hypotheses of the Study

1. There is no relationship between socio-economic status and sustainability of early childhood education in Rivers State.
2. There is no relationship between environment and sustainability of early childhood education in Rivers State.
3. There is no relationship between sociocultural and sustainability of early childhood education in Rivers State.

Methodology

The study adopted the correlational research design which established the relationship between indices measuring early childhood education and sustainability in Rivers State in Nigeria. This study was conducted in Rivers East, Rivers West and Rivers South. Rivers East, Rivers West and Rivers South form the Senatorial Districts of Rivers State (South-South Nigeria). In Rivers East, three (3) Local Government Areas were chosen which comprised: Obio-Akpor, Omuma and Okrika. Also, Rivers East Senatorial District hosts the metropolitan Local Government Areas in Rivers State such as Obio-Akpor and Port Harcourt (as the capital of Rivers State). In Rivers West, three (3) Local Government Areas were chosen which were; Ogba/Egbema/Andoni, Ahoda East and Abua/Odua. Rivers South East had three Local Government Areas selected which were Oyibo, Gokana and Tai. The population of this study consists of all the 572 Early Childhood Centres in Rivers State. (Rivers State Universal Basic Education Board, 2021). 114 centres from the chosen Local Government Areas served as the target population of this study. 114 Early Childhood Centres in 9 LGAs of Rivers State (20 Early Childhood Centres from Obio/Akpor, 11 Early Childhood Centres from Okrika, 12 from Omuma, 12 from Ogba/Egbema/Andoni, 15 from Ahoada East, 10 from Abua/Odual,13 from Oyibo, 13 from Gokana and 8 from Tai) constituted the sample size that participated in the study. An instrument was developed for the study which was tagged 'Early Childhood Education as an Index for Sustainability Questionnaire (ECEISQ)'. The instrument was validated. The reliability and internal consistency of the instrument was ascertained or determined using the Cronbach Alpha method. The Cronbach Alpha method computes that the internal consistency of the items which yielded 0.85. Data collected were collated and subjected to statistical analysis.

Results

Research Question 1: What is the relationship between socio-economic status and sustainability of early childhood education in Rivers State?

Table 1: Relationship between socio-economic status and sustainability of early childhood education in Rivers State.

Variables	n	$\sum X$	$\sum Y$	$\sum X^2$	$\sum Y^2$	$\sum XY$	r-cal
socio-economic status (X)	114	297.80	259.53	820.69	770.30	761.85	0.638
sustainability (Y)	114						

Source: Field data, 2023

The data presented in Table 1 shows that the correlation coefficient socio-economic status and sustainability of early childhood education in Rivers State is (r-cal) = 0.638. This value shows that there is a positive and strong relationship exists between socio-economic status and sustainability of early childhood education in Rivers State. This implies that as socio-economic status decreases, effectiveness of sustainability of early childhood education in Rivers State decreases.

Research Question 2. What is the relationship between environment and sustainability of early childhood education in Rivers State?

Table 2: Relationship between environment and sustainability of early childhood education in Rivers State.

Variables	n	$\sum X$	$\sum Y$	$\sum X^2$	$\sum Y^2$	$\sum XY$	r-cal
Environment (X)	114	249.71	249.33	774.08	770.30	735.11	0.683
Sustainability (Y)	114						

Source: Field data, 2023

The data presented in Table 2 shows that the correlation coefficient between environment and sustainability of early childhood education in Rivers State is (r-cal) = 0.683. This value shows that a positive and strong relationship exists between environment and sustainability of early childhood education in Rivers State. This implies that as environmental factors decreases, effectiveness in the sustainability of early childhood education in Rivers State reduces.

Research Question 3: What is the relationship between sociocultural and sustainability of early childhood education in Rivers State?

Table 3: Relationship between sociocultural and sustainability of early childhood education in Rivers State

Variables	n	$\sum X$	$\sum Y$	$\sum X^2$	$\sum Y^2$	$\sum XY$	r-cal
Sociocultural (X)	114	249.60	249.33	776.80	770.30	733.31	-0.698
Sustainability (Y)	114						

Source: Field data, 2023

The data presented in Table 3 shows that the correlation coefficient sociocultural and sustainability of early childhood education in Rivers State is (r-cal) = -0.698. This value shows that a negative and strong relationship exists between sociocultural and sustainability of early childhood education in Rivers State. This implies that as sociocultural increases, effectiveness in sustainability of early childhood education in Rivers State increases.

Test of Hypotheses

Hypothesis 1: There is no relationship between socio-economic status and sustainability of early childhood education in Rivers State.

Table 4: Pearson Product Moment Correlation between socio-economic status and sustainability of early childhood education in Rivers State.

Variables	n	df	r-cal	Sig. level	P-Value	Decision
Socio-economic statue (X)	114	112	0.638	0.05	0.000	Rejected
Sustainability (Y)	114					

Source: Field data, 2023

The result in Table 4 shows that r-value of 0.638 at significant level of 0.05 yielded p-value of 0.000. Since the p-value of 0.000 is less than 0.05 significance level, the null hypothesis was rejected. This implies that there is a significant relationship between socio-economic status and sustainability of early childhood education in Rivers State.

Hypothesis 2: There is no relationship between environment and sustainability of early childhood education in Rivers State.

Table 5: Pearson Product Moment Correlation between environment and sustainability of early childhood education in Rivers State.

Variables	n	df	r-cal	Sig. level	P-Value	Decision
Environment (X)	114	112	0.683	0.05	0.000	Rejected
Sustainability (Y)	114					

Source: Field data, 2023

The result in Table 5 shows that r-value of 0.683 at significant level of 0.05 yielded p-value of 0.000. Since the p-value of 0.000 is less than 0.05 significance level, the null hypothesis was rejected. This implies that there was a significant relationship between environment and sustainability of early childhood education in Rivers State.

Hypothesis 3: There is no relationship between sociocultural and sustainability of early childhood education in Rivers State

Table 6: Pearson Product Moment Correlation between sociocultural and sustainability of early childhood education in Rivers State.

Variables	n	df	r-cal	Sig. level	P-Value	Decision
Sociocultural (X)	114	112	-0.698	0.05	0.000	Rejected
Sustainability (Y)	114					

Source: Field data, 2023

The result in Table 6 shows that r-value of -0.698 at significant level of 0.05 yielded p-value of 0.000. Since the p-value of 0.000 is less than 0.05 significance level, the null hypothesis was rejected. This implies that there was a significant relationship between sociocultural and sustainability of early childhood education in Rivers State.

Discussions

This study provides an initial indicator set for the Sustainable Child Development Index and identifies environment, economic status and sociocultural status as indices to measure the sustainability of the early child education. In table 4 there is a significant relationship between socio-economic status and sustainability of early childhood education in Rivers State which is supported by Chang et al. (2013) that socio-economic status is an indicator for sustainable development of the child. It is also supported by UNESCO, (2015) that economic sustainability takes into account the support for local economies, balancing of production and consumption, the minimization of gaps between the rich and poor, and the encouragement of ethical procurement and investment policies (UNESCO 2005). Table 5 shows that there was a significant relationship between environment and sustainability of early childhood education in Rivers State. This was supported by Kalaitzidis (2012) and Henderson and Tilbury (2004) identifed that the physical environment provides many facilitating opportunities for sustainability practices Integrating sustainability practices into early childhood education around the world requires the integration of important social and cultural elements, for example, more attention to social justice, racial equality, multiculturalism, multilingualism, and gender equality is necessary (Siraj-Blatchford and Pramling-Samuelsson 2016) this is line with the study in Table 5 which showed that there was a significant relationship between sociocultural and sustainability of early childhood education in Rivers State.

Conclusion and Recommendations

This study explored the reliability of the measurement tool for Sustainable Development in Early Childhood Education in Rivers State, Nigeria. The study assesses the reliability of the economic, environmental, and sociocultural subscales which are in use in preschools in Rivers State, Nigeria. It was recommended that the sustainability indicators such as; the economic status of the parents, the environment of the children and the socio-cultural status could be improved in Rivers State, Nigeria to ensure that measurement of these indices be more reliable.

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