

Perception of Teachers on the Inclusion of the Disaster-Risk-Reduction (DRR) Strategy in Schools Curriculum in Port Harcourt Metropolis, Rivers State Nigeria

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Abstract: The study examined a sample of about 323 primary and secondary school teachers in Port Harcourt Metropolis to investigate their perception of integrating disaster risk reduction concept into primary and secondary schools curriculum. The study adopted the cross sectional survey method. Primary and secondary data were utilized, the generated data was analyzed using five point likert scale mean and the hypotheses tested using z-test and t-test methods. The test showed that there was no statistical significance difference between primary and secondary teachers perception of integrating disaster risk reduction concept into educational curriculum. It was also found that the teachers were willing to accept the concept, about 251 respondents (77.8%) strongly agree and there were opportunities for integrating disaster risk reduction concept into the curriculum (table 5) buttressed. The teachers lack proper knowledge and understanding of the concept. This may hinder the mainstreaming of the programme into the curriculum but this study's findings and suggestions were made to allay the fears as follows: that curriculum developer should provide teachers with national guidelines in form of learning materials and practical skills on how to effectively integrate into the programme; also there was need to provide training that will equip teachers with critical thinking and creative skills, as well as providing meaningful support that can motivate them to be result oriented while carrying out their tasks in the new curriculum innovation. The Curriculum Development Unit within the National Department of Education should use its strategic planning unit to address disaster risk reduction issues through schools as well as assist schools to build a culture of safety as a way of life in the school and the society at large. The schools should be guided on further steps to develop local safety and disaster risk reduction policies which shall be sustained as the schools culture.

Keywords: Perception, Teachers, Inclusion, Disaster- Risk –Reduction, Strategy, Curriculum.

Introduction

This study examined the need to realize the dreams of the education sector by fostering the implementation of programmes that impacts on the lives of communities and that can best be applied in formal schooling through a more focused policy approach and an interactive process of mutual learning at school levels with minimal risk. In an attempt to build the culture of safety, resilience and behavioral change at the household level as advocated by the principles of disaster risk reduction, there is need to advocate disaster risk reduction at the Primary and Secondary levels of our education, (International Strategy on Disaster Reduction, 2009). This study admits that the government of Nigeria has shown commitment and political will for both disaster management and risk reduction in educational policy reform. It is through these policy reform processes, that holistic, strategic and integrative curriculum development and implementation opportunities initiatives were put in place. Schools curriculum in Nigeria will develop the full potential for each learner at high level of skills and knowledge when acquired through this integration and linkage. According to, (Twigg, 2004) on the integration process, he opines that it creates a forum where Non-Governmental Organizations (NGOs) may visit schools and talk to them and their children about their disaster preparedness initiatives, teachers may choose to introduce in their lessons, particularly some aspects that are relevant to their communities. In this way, the message will reach out to large numbers of people who are teaching together especially the “children are believed to be more receptive to new ideas than adults, and it is also believed that they influence their peers and their parents” (Mohammed and Rahman, 1998). The Nigeria National Curriculum Statement on Education needs to show a convincing alignment between schools’ curriculum and the requirements as stipulated in the National Disaster Management Framework (about the integration of disaster risk reduction into schools’ curriculum planning) at both primary and secondary schools. To address the risk and vulnerability aspects of communities exposed to unsafe conditions, this study argues for the development of a world population that is aware of, and concerned about disasters and their associated problems, and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively toward solutions of current disaster

problems and prevention of new ones. According to (Fien, 1993 and Le Roux, 2001) they posit that “the well-being of all future generations dependson the knowledge base and values of those currently in our schools and colleges”. It implies that any education policy geared towards fostering the implementation of programmes to better the lives of communities should best be applied in formal schooling, meaning that there will be a need for a more focused policy approach and an interactive process of mutual learning driven through formal education at Primary and Secondary school levels. Nationaldisaster risk reduction concept, mainstreaming into the primary and secondary school curricula is one amongst the functions of the Education Research and Development Council of Nigeria, initiated and sponsored by National Emergency Management Agency (NEMA). Disasterrisk reduction concept awareness and risk reduction activities are being included in lesson plans, though much remains to be done to integrate these curricula at the local level and to train teachers. Basedon the foregoing, this study seeks to examine teacher's perceptions of integrating disaster risk reduction concept in school curriculum in selected schools in Port Harcourt Metropolis,also to serve as a tool to reduce vulnerability and promote disaster risk reduction. Studies have been conducted in Australia by the Curriculum Development Centre during the years 1978 and 1979 with focused more on an environmental education project(Gough, 1997). In the study, it was recorded that the submissions of the teachers with which the project was targeted did not meet “the expectations nor priorities of the project”. The study also revealed that much of what was taught in Australia was put forward mainly as nature study and field studies as corroborated by (Neluvhalani, 2000).In South Africa, a study was conducted by the University of Johannesburg on “Teachers' perceptions about lesson planning to include an Environmental Education focus” in line with the education policies alluded to. The study was a multiple case study of the Grade 7-9 teachers in the North West Province and findings revealed that despite the Department of Education's enabling policy regulations as mentioned, the situation was still “entrenched and influenced by the past socio-historical, socio-political, the cultural and traditional realities that have infiltrated into curriculum approaches and hindered the existence of opportunities for best Environmental Education practices” (Lekalakala, 2007)and (Wisner, Blaikie, Cannon, and Davis, 2004). These were attempts to use environmental education to address the integration of disaster risk reduction education in primary and secondary school curricula but not much was achieved.

Aim and Objectives of study

The aim of this study was to examine the perceptions of the teachers within the primary and secondary schools in Port Harcourt Metropolis Rivers State Nigeria, on the inclusion of disaster risk reduction (DRR) strategyin the school's curriculum.

The Objectives include to;

- i). Integratedisaster risk reduction concepts and principles into the schools' curriculum inPort Harcourt Metropolis.
- ii). Evaluate the methods and strategies adopted by the government to integrate disaster risk reduction into the educational System.
- iii). Evaluate the possibilities for the implementation of disaster risk reduction strategy within the city of Port Harcourt.
- iv). Evaluate the outcome of the integration of disaster risk reduction in the schools' curriculum.

Hypothesis formulated for the study

- 1) H_0 There is no significant effect in integrating disaster risk reduction concept into primary/secondary school curriculum.
- 2) H_0 There is no significance difference between primary and secondary teachers perception in integrating disaster risk reduction concept into school curriculum.

Materials and Methods

The study adopted a cross sectional survey research method, investigating the integration of disaster risk reduction concept into primary and secondary school curricula in Port Harcourt Metropolis in Rivers States. The quantitative design was chosen to obtain accurate and meaningful data for the phenomenon under study. There were 266 and 265 registered primary school and secondary schools in River State respectively(Department of Statistic River State Ministry of Education, 2015). The target population according to (Kalton, 1983) includes elements such as persons, households or any unit which are studied. The target population identified for this study includes; the different teachers in primary and secondary schools in the city of PortHarcourt. There was an estimated number of about 1,678 teachers across public primary and secondary schools the city of Port Harcourt (Department of Statistic River State Ministry of Education, 2015). The simple

random sampling technique was used to select twenty eight (28) selected primary and secondary schools which was used to estimate the sample size. Sample size was estimated at 95% confidence interval using the *Taro Yamane equation(1967)*; $n = \frac{N}{1+Na^2}$

Where;

n= sample size

N= total number of teachers in primary and secondary schools across port
Harcourt city

$\alpha= 0.05$

$$n = \frac{1678}{1+1678(0.05)^2} = 323$$

The questionnaires were administered using random method in the selected secondary and primary schools. A total number of 323 copies of questionnaires were distributed to the sampled school to elicit answers from respondents as presented in the research questions. The questionnaire was divided into three(3) sections, which reflected the objective and research questions used for the study: Section A deals with teachers pre-understanding about disasters in the country; Section B dealt with inclusion of disaster risk reduction concept into educational curricula will aid reduce disaster in the country; Section C dealt with level of awareness in the proposed mainstreaming of disaster risk reduction concept into educational curricula by Education Research and Development Council of Nigeria. The questionnaires were administered by face to face interviews to the respondents in the various schools. About 323 were administered and retrieved. The test-retest method was used to determine consistency of the instrument. In this method 50 copies of the questionnaires were administered to 50 teachers outside the chosen sample. After two (2) weeks, the questionnaires were administered again on the same group of people; the responses at the first and second interviews were correlated using the Pearson Rank Order Correlation and Reliability coefficient or $r = 0.98$ was obtained. The value was high enough to guarantee its use for the study. The data collected was analyzed by the use of Mean and Rank Order Statistics. The Likert scale was weighted in the design of the questionnaires as follows:

Strongly Agree (SA)	-1 point
Agree (A)	- 2 points
Undecided (UD)	-3 points
Disagree (D)	- 4 points
Strongly Disagree	- 5 point

Weighted Means

This was gotten by adding all the points and dividing by the number of options. For example $\frac{5+4+3+2+1}{5} = 3.0$

This implies that item mean lower than 3.0 will be accepted, while those higher than 3.0 will be rejected. The comparison between means were tested at 95% confidence interval($p=0.05$) using z test.

Results

Demographic characteristics of respondent teachers

The demographics representations of the respondent include; gender, age distribution, and educational qualification

Gender distribution of the respondents

Tables 1 and 2 shows that out of 323 total respondent teachers; 112 were males and 87 were female representing 56.2% and 43.2% respectively for secondary school while that of primary schools were 58 males and 66 females representing 45.9% and 54.1% respectively.

Table 1 Percentage Gender Distribution of Secondary and Primary School Respondents

Secondary School Teachers	Sex	Frequency	Percentage (%)
	Male	112	56.2
Female		87	43.8
Total		199	100
Primary School Teachers	Sex	Frequency	Percentage (%)
	Male	58	45.9

	Female	66	54.1
	Total	124	100

From the table 1, it can be deduced that there was more male than female teachers in secondary schools while vice versa for primary schools. Also it can be said that in the entire system (primary and secondary education) had more males employed than female teachers, this was shown in table 2 below.

Age distribution of respondents

Table 2 Percentage Age Distribution of Secondary and Primary School Respondents

secondary school teacher			primary school teachers	
Age	frequency	Percentage (%)	frequency	Percentage (%)
16-25	16	8	14	11.3
26-35	35	17.8	12	9.7
36-45	81	40.6	64	51.6
46-55	55	27.8	31	25
56 above	12	5.8	3	2.4
TOTAL	199	100	124	100

The analysis in table 2 was further buttressed in figure 1, which could be deduced that majority of teachers age falls within the age class 36-45 and this amount to 40.6% and 51.6% for secondary and primary school teachers respectively.

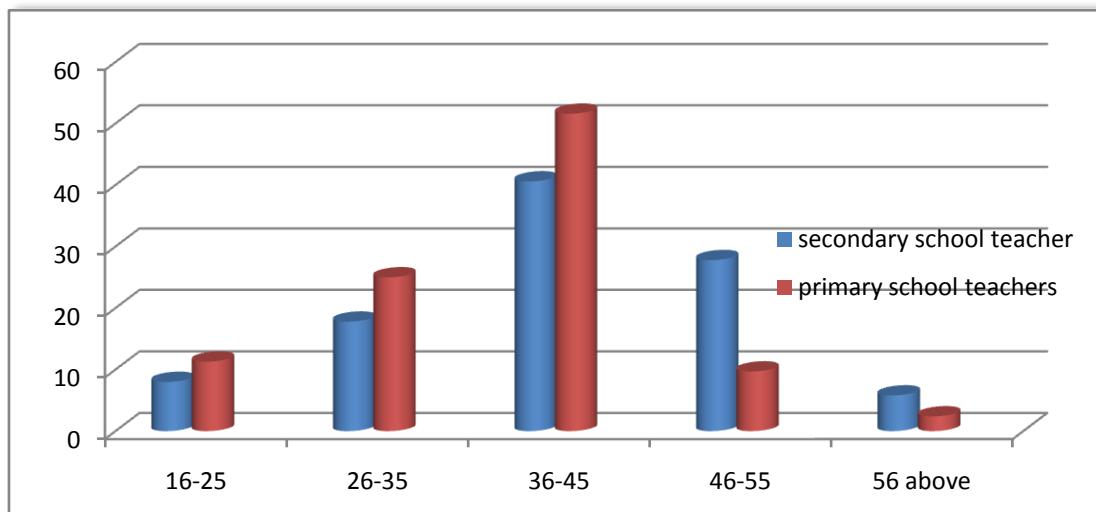


Figure 1 Bar chart showing percentage age distribution among secondary and primary school teachers

Educational Attainment of the Respondents

The educational qualifications of respondents varied from national diploma (ND), to professionals in various fields. The educational frequency attainment for both secondary and primary school are shown in the table 4 below;

Table 3 Education Attainment of Teachers

secondary school teachers			primary school teachers	
Qualification	frequency	Percentage (%)	frequency	Percentage (%)
ND	9	4.5	26	21
BSc or equivalent	128	64.3	83	66.9
MSc/MBA/MA	56	28.1	15	12.1
PhD	6	3.1	-	-
TOTAL	199	100	124	100

From the table 3, it can be deduced that majority of teachers highest educational qualifications was BSc or equivalent with 64.3% and 66.9% for secondary and primary school teachers (respondents) respectivelyas also shown in figure 2.

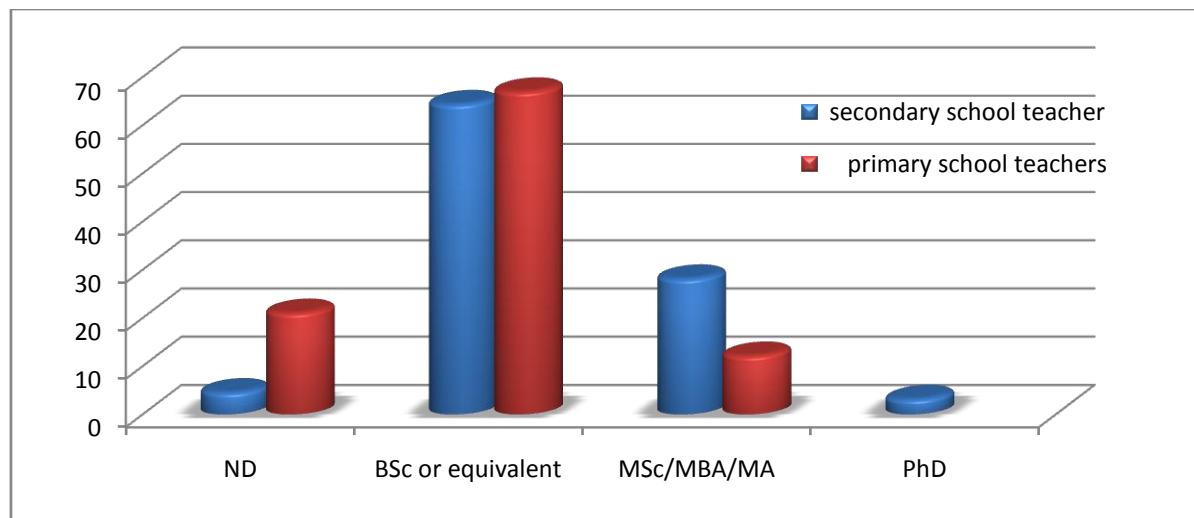


Figure 2 Bar chart showing percentage educational attainment of secondary and primary school teacher.

Table 4 Research questions addressing opportunities' created by the curriculum to include disaster risk reduction concept

s/n	Items	school teachers	SA	A	UD	D	SD	X	remark
1	The curriculum will provide opportunities to include disaster issues in the learning area/subject	secondary	-	80	10	16	9	1.65	accept
		primary	87	46	4	8	5	1.79	accept
2	schools have resources to support the inclusion of disaster topics in lessonplanning	secondary	14	16	21	54	93	3.7	accept
		primary	6	11	8	58	41	3.94	reject
3	public awareness and knowledge enhancement about disaster is a tool that will reduce disaster facing the country	secondary	101	85	5	6	2	1.6	accept
		primary	69	54	12	3	6	2.06	accept
4	the proposed mainstreaming of disaster risk concept in primary /secondary curricula will enhance public awareness and knowledge about disaster	secondary	106	92	1	1	-	1.49	accept
		primary	78	42	2	1	1	1.43	accept

5	the proposed mainstreaming of disaster risk concept in primary/secondary curricula will aid reduce the current disaster challenge in the country	secondary	102	89	4	2	3	1.58	accept
			94	63	1	2	1	1.9	accept
6	the proposed mainstreaming of disaster risk concept in primary/secondary curricula integrated and thought among selected subject will be more impactful as against separate subject entity	secondary	56	98	14	22	10	2.17	accept
			97	41	1	12	2	1.95	accept

Table 4 showed the different responses on the opportunity to include disaster risk into the school's curriculum. The analysis obtained as shown from the table 4 above indicates that item 1 has mean below the criterion mean (3.0) for both primary/secondary school, as a result of this it was accepted that the curriculum will provide opportunities to include disaster issues in the learning area/subject. Item 2 for secondary school has mean below the criterion mean, hence was accepted on the fact that secondary schools have resources to support the inclusion of disaster topics in lessonplanning while primary school teachers whose mean was above the criterion mean rejected this assertion. Item 3, 4 & 4 mean for both primary/secondary schools were below the criterion mean (3.0), therefore was accepted on the fact that public awareness and knowledge enhancement about disaster was a tool that will reduce disaster in the country. The proposed mainstreaming of disaster risk concept in primary/secondary curricula will enhance public awareness and knowledge about disaster and in turn will aid to reduce the current disaster challenge in the country. In other to make the curriculum useful the number of subjects to be offered as deduced from item 6 for both primary/secondary school teachers was accepted meaning that the proposed programme should be integrated.

Table 5 Awareness of teachers on the propose mainstreaming of disaster risk reduction concept into educational curricula.

	secondary school teachers		secondary school teachers	
	frequency	Percentage (%)	frequency	Percentage (%)
YES	31	15.6	7	5.6
NO	168	84.4	117	94.4
TOTAL	199	100	124	100

From the table 5, it was shown that 15.6% and 5.6% of secondary/primary school teachers were aware, while 84.4% and 94.4% were not aware respectively of the integration of disaster risk reduction concept into educational curricula by education research and development council of Nigeria. Also, table 6 and 7 on percentage of trained teachers showed that there were no trained primary or secondary school teachers in DRR as well as no document in these schools on disaster management issues.

Table 6 Percentage of trained primary and secondary school teachers on DRR concept

	secondary school teachers		primary school teachers	
	frequency	Percentage (%)	Frequency	Percentage (%)
YES	—	0	—	0
NO	31	100	7	100
TOTAL	31	100	7	100

Table 7Percentage of schools with policy document on management of disaster issues.

	secondary school teachers		primary school teachers	
	frequency	Percentage (%)	frequency	Percentage (%)
YES	—	0	—	0
NO	31	100	7	100
TOTAL	16	100	12	100

Table 8 Possible perception shared by teachers in primary/secondary school about the inclusion of disaster risk reduction concept into educational curriculum

s/n	Items	SA	A	UD	D	SD	X	Remark
1	it is a good policy	169	146	2	6	-	1.5	Accept
2	it will reduce disaster in the country	181	142	-	-	-	1.43	Accept
3	it will breed future generations aware of their environment	186	132	3	-	-	1.42	Accept
4	it will foster natural unity	67	49	54	61	92	2.2	Accept
5	it is an achieved policy	171	62	4	43	34	2	Accept

Table 8 shows responses on perception of the teachers on the inclusion of the DRR into the curriculum. Item 1,169(52.3%) reported strongly agree, 146(45.2%) shows agree, 2(6%) were undecided and only 6(2%)disagreesfrom the entire population that that the integration of disaster risk reduction into school curricula is a good policy indeed. Item 2, 181(56%) shows strongly agree and 142(44%)of the total respondent agreed that it will reduce disaster in the country. Item 3, 186(57.6%) strongly agreed, 132(40.9%) agreed and 3(1%) were undecided that it will breed future generations aware of the disaster challenges within their environment.Item 4 shows that 67(20.7%) strongly agreed, 49(15.2%) agreed, 54(16.7%) were undecided, 61(18.9%) disagreed and 92(28.3%) strongly disagreed the fact the programme when initiated will foster natural unity. Finally item 5 shows that 171(53%) strongly agreed, 62(19.2%) agreed, 4(1.2%) were undecided, 43(13.3%) disagrees and 34(10.5%) strongly disagree the possibility of the achievement of this policy.However, the result obtained as shown from the table 9 above, indicates that all item 1-5 have their respective mean below the criterion mean (3.0) as a result of this each of the item statement validated was accepted by both primary/secondary school teachers perception about the inclusion of disaster risk reduction into their curriculum. These further infer the hope that if this programme is mainstreamed properly it will reduce the risk and rate of exposure of people and community to disaster in the country.

Table 9Respondent possible perceptions on measures needed to be put in place by federal/state educational sector to institutionalize disaster risk reduction concepts.

s/n	Items	SA	A	UD	D	SD	X	remark
1	Inclusion of DRR in schools curriculum	176	147	7	2	-	0.9	accept
2	adequate training of teachers on disaster risk concept	251	72	3	-	-	1.22	accept
3	provision of infrastructural materials in schools to aid the policy	243	80	2	-	-	1.7	accept

Table 9 shows respondents' perception on the measures to be put in place by federal and state to institutionalize DRR. For Item 1; 176(54.49%) reported strongly agree, 147(45.5%) shows agree, 7(2.2%) were undecided and only 2(0.6%) disagrees that Inclusion of Disaster risk concept in schools curriculum as one of the measures needed to institutionalize the disaster risk reduction concept. Item 2, 251(77.8%) showing strongly agree, 72(22.2%) disagrees and 3(0.9%) were undecided from the total respondent that adequate training of

teachers on disaster risk concept is one of the measures needed to institutionalize the disaster risk reduction concept in primary/secondary school educational system. Item 3, 234(72.4.6%) strongly agreed, 80(24.8%) agreed and 2(0.6%) were undecided that provision of infrastructural materials in schools to aid the policy is also a measure as well. From the overall result obtained, it indicates that all the item questions have their respective mean below the criterion mean (3.0) as a result of this each of the item statement validated was accepted by both primary/secondary school measures needed to be put in place by federal/state educational sector to institutionalize disaster risk reduction concepts.

Table 10 Respondent's possible perception within the school system that may hinder the effective achievement of the integrating of disaster risk reduction concept into education curriculum

s/n	ITEMS	SA	A	UD	D	SD	X	remark
1	poor training of staff	114	201	7	2	-	1.75	accept
2	lack of awareness	165	148	3	10	7	1.5	accept
3	the concept not institutionalized	243	79	2	-	-	1.26	accept

Table 10 shows respondents' perception on factors that may hinder the effectiveness of the programme. Item 1, 114(35.3%) reported strongly agree, 201(62.8%) agreed, 7(2.2%) were undecided and only 2(0.6%) disagrees that poor training of staff could be a possible perception within the school system that may hinder the effective achievement of the integrating of disaster risk reduction concept into education curriculum. Item 2, 165(51.8%) showing strongly agree, 148(45.8%) agreed, 3(0.9%) were undecided and 10(3.1%) disagreed from the total respondent that lack of awareness can be a hindrance as well. Item 3, 234(72.4.6%) strongly agreed, 97(30%) agreed and 2(0.6%) were undecided that the concept not institutionalized can be a hindrance factor. The result obtained from Respondents possible perception within the school system that may hinder the effective achievement of the integrating of disaster risk reduction concept into education curriculums shown above, indicates that all the items have their respective mean below the criterion mean (3.0) as a result of this each of the item statement validated was accepted by both primary/secondary school measures needed to be put in place by federal/state educational sector to institutionalize disaster risk reduction concepts. For this policy to see the light of the day and achieved its desired result the issue of not only including disaster risk reduction into the educational curricula is needed, but adequate training can not only be over emphasized but mandatory as teachers have shown to lack understanding in this area.

Table 11 Respondent Possible perception on suggested ways to adopt integrating of disaster risk reduction concept into education curriculum

S/N	ITEMS	SA	A	UD	D	SD	x	Remark
1	legal backing	92	76	53	60	42	2.62	Accept
2	provision state of the art equipment to enhance learning of the concept	142	115	17	37	13	1.93	Accept
3	aggressive campaign of possible danger of disaster in the school/community if precautions are not taken	123	129	5	38	28	2.13	Accept
4	institution of an award for best school compliance scheme	51	130	27	72	41	2.43	Accept

Table 11 shows respondents suggested ways to adopt in integrating of disaster risk reduction concept into education curriculum; Item 1, reports that 92(28.4%) strongly agree, 76(23.5%) agreed, 53(16.4%) were undecided, 60(27.9%) disagrees and 42(13%) strongly disagrees legal backing can be a tool that will aid to foster of the integration of disaster risk reduction concept into education curriculum. For Item 2; 142(44%) showing strongly agree, 115(35.3%) agree, 17(5.3%) were undecided, 37(11.5%) disagreed and 13(4%) strongly disagree from the total respondent that provision state of the art equipment to enhance learning in this area is a suggested option. Item 3, 123(38.1%) strongly agreed, 129(40%) agreed and 5(1.2%) were undecided 38(11.8%) disagree and 28(8.9%) strongly disagree from the entire population that aggressive campaign of possible danger of disaster in the school/community can foster the adoption of this mainstreaming programme. Result from item 4 shows 51(15.8%) strongly agreed, 130(40.2%) agree, 27(8.4%) were undecided, 42(13%) disagree and 46(14.2%) strongly disagree from the total respondent that institution of an award for best compliance school will also foster the integration of disaster risk reduction into school curricula. Finally the result obtained from

respondents possible perception on suggested ways to adopt integrating of disaster risk reduction concept into education curriculum as shown, indicates that all the items have their respective mean below the criterion mean (3.0) as a result each of the item statement validated was accepted by both primary/secondary school. This means that if these measures are put in place, it will foster the integration of disaster risk reduction in school curricula.

TESTING HYPOTHESIS.....1

The hypothesis1 was tested using arithmetic (criterion) mean of 5-point likert scale as the statistical tool. A table of frequency is constructed first to enable the computation of the grand mean.

Decision rule when the grand mean(calculated mean) was greater than the criterion mean(3.0) the statement will be rejected and vice versa.

H_o There will be no significant effect in Integrating Disaster risk reduction concept into primary/secondary school curricula

Table12 (a) hypothesis 1

respondent teacher	SA	A	UD	D	SD
Secondary	4	2	5	82	106
primary	1	5	-	49	69
total	5	7	5	131	175

Using the 5-point likert scale of 5, 4,3,2,1 as

$$\frac{5+4+3+2+1}{5} = 3.0$$

Criterion Mean= 3.0

To calculate the grand mean of the response above, we have

Table 12(b) hypothesis1

Level of agreement (x)	frequency(F)	FX
Strongly agree=1	5	5
Agree = 2	7	14
Undecided= 3	5	15
Strongly disagree= 4	131	524
Disagree =5	175	875
TOTAL	$\Sigma f=323$	$\Sigma fx =1461$

$$\text{Mean}(\tilde{x}) = \sum \frac{F}{fx} = \frac{1461}{323}$$

$$\text{Grand mean } (\tilde{x}) = 4.5$$

Since we have grand mean of 4.5 which is greater than 3.0 (the average of the 5-point scale). It implies that H_o which is the statement base question will be rejected and Therefore accept H₁ which state that there will be significant effect in Integrating Disaster risk reduction concept into primary/secondary school curricula.

HYPOTHESIS2

The hypothesis 2 was tested using the z-test since we will be comparing the level of difference between two means whose a sample size are above 30.

H_o There is no statistical significance difference between primary and secondary teachers perception in integrating disaster risk reduction concept into educational curriculum.

H₁ There is statistical significance difference between primary and secondary teachers perception in integrating disaster risk reduction concept into educational curriculum.

Decision rule:

Null hypothesis (H_o) = $\mu_1 - \mu_2 = 0$

Research hypothesis (H₁) = $\mu_1 - \mu_2 \neq 0$

Statistical test = z-test appropriate

Level of significance (α) = 0.05

Reject H_0 if $z > 1.96$ or $z < -1.96$

Table 13 (a) Hypothesis..... 2

weighted scale(x)	frequency(f)	fx	fx ²
1	4	4	4
2	2	4	8
3	5	15	45
4	82	328	1312
5	106	530	2650
Total	199	881	4019

$$\text{Mean } (\tilde{x}) = \sum \frac{FX}{F} = \frac{881}{199}$$

$$\text{Mean } (\tilde{x}) = 4.42$$

$$\text{Standard-Deviation (SD)} = \sqrt{\frac{4019}{199}} - 4.42^2 = \sqrt{20.19 - 19.57} = \sqrt{0.63} = 0.71$$

Table 13 (b) Hypothesis..... 2

weighted scale(x)	frequency(f)	F	fx ²
1	1	1	1
2	5	10	20
3	-	-	-
4	49	196	784
5	69	345	1725
Total	124	552	2530

$$\text{Mean } (\tilde{x}) = \sum \frac{FX}{F} = \frac{552}{124}$$

$$\text{Mean } (\tilde{x}) = 4.45$$

$$\text{Standard-Deviation (SD)} = \sqrt{\frac{\sum FX - \sum Fx^2}{F}} = \sqrt{\frac{2530}{124}} - 4.45^2 = \sqrt{20.40 - 19.81} = \sqrt{0.59} = 0.77$$

$$\begin{aligned} S_{x1-x2} &= \sqrt{\frac{n_1 s_1^2 + n_2 s_2^2}{n_1 n_2}} \\ &= \sqrt{\frac{199(0.17)^2 + 124(0.77)^2}{199 \times 124}} \\ &= \sqrt{\frac{100.3 + 73.52}{24675}} \\ &= \sqrt{\frac{173.82}{24675}} \\ &= \sqrt{0.007} \\ &= 0.08 \end{aligned}$$

Computation for z

$$\begin{aligned} Z &= \frac{\bar{x}_1 - \bar{x}_2}{S_{x1-x2}} \\ &= \frac{4.42 - 4.45}{0.08} \\ &= -0.36 \end{aligned}$$

Hence, $Z > -1.96$

Therefore at 95% confidence level (0.05) we will reject alternate hypothesis (H_1) and accept null hypothesis (H_0) which state that there was no statistical significance difference between primary and secondary teachers perception in integrating disaster risk reduction concept into educational curriculum.

Summary and Discussions

The study has shown that the situations that exist in schools in Port Harcourt Metropolis were not different from other schools in Nigeria where there were influx of migrant population into the city in quest for employment and better living. In Port Harcourt Rivers State, this situation was exacerbated by the migration of people to Port Harcourt Metropolis in the hope of finding employment and better living. These migrants are particularly vulnerable to environmental hazards, as a result of the nature and location of their settlement and background. These households experience high degree of vulnerability when it comes to recovering from shocks such as disasters and other emergencies. Therefore, the integration of disaster risk reduction if properly mainstreamed in the educational (formal) sector, will produce future citizens that are aware of, have knowledge, skills and attitudes and are also better prepared to prevent, mitigate, respond and recover from the adverse impacts of disasters and their associated problems. This education policy and other policy reforms have been developed for use by schools and teachers to play a vital role in creating awareness of the relationship between human rights, a healthy environment, social justice, and inclusivity. The disaster risk management and the education system policy frameworks indicated that there was a convincing alignment between the two fields and that it could be achieved through the integration of disaster risk reduction focus into the schools programmes. The study revealed that teachers felt that the aim to include disaster risk reduction focus will not be achievable if thought as one subject entity but across the entire learning areas of the curriculum with adequate training of teachers. This encourages a situation where teachers, irrespective of the learning area they teach, should sit and plan together in order to collaboratively use the curriculum to address their common national and local problems. This was a huge gap which this study will fill in education in terms of increasing additional understanding about risks and to change public attitudes among different generations regarding the development of an appreciation of hazards and capabilities to manage risks.

Recommendations

The study suggests that, the Federal Government of Nigeria needs to put in place sound and more practical disaster risk reduction policies that will engender and establish resident populations that are committed to living safe daily in accordance with the principles of Sustainability. This study suggests such public education policy which creates opportunities for teachers to develop programmes that are in line with the needs, priorities, indigenous knowledge and the capacity of the communities they serve. While it should be acknowledged that it would need quite a longer time and a range of programmes of activities before community behavioural change could be witnessed, the following recommendations are also suggested for the full implementation of the programme as follows:

- 1• That the Curriculum Development Unit within the National Department of Education use its strategic planning to commit to addressing disaster risk reduction issues through schools as well as assisting schools to build a culture of society and community safety, where awareness of risk and adoption of risk-reducing measures are part of daily life.
- 2• That schools be guided on how to take it a step further and develop their contextual local safety and disaster risk reduction policies.
- 4• A need for training that can equip teachers with methods and strategies they can employ within the varying contexts of their schools, as well as providing them with foundational knowledge that can enable them develop.
- 5• A need to provide schools with proper and relevant resources to assist teachers to deal with challenges and demands brought about by the curriculum.

Conclusion

The study revealed that none of the schools had an idea or clue on how to integrate disaster risk reduction focus into their lesson planning. This was found to be influenced by lack of skills on the part of teachers, as well as lack of guidance by the policy developers on how the teachers should interpret and use the curriculum and other policies related to their practice to deal with their local issues. It was recommended in this study that while curriculum developers within the National Department of Education tries to provide teachers with national guidelines in the form of learning materials and practical techniques on how to integrate the programme, there was need to provide training that can equip teachers with critical thinking and meaningful support that can motivate teachers in becoming result oriented in the execution of their duties as the curriculum was implemented, this was corroborated in a report by (International Strategy on Disaster Reduction Research Report, 2004).

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