

# Students' Safety Measures and Their Implications on Provision of Quality Secondary Education in Kenya

<sup>(1)</sup> **Omae, Nelson Siocha** <sup>(2)</sup> Henry Onderi and <sup>(3)</sup> **Mwebi Benard**

School of Education, Jaramogi Oginga Odinga University of Science and Technology  
P.O. Box 210-40601, Bondo, Kenya.

<sup>(1)</sup>[nelsonsiocha@gmail.com](mailto:nelsonsiocha@gmail.com) <sup>(2)</sup>[honderi@jooust.ac.ke](mailto:honderi@jooust.ac.ke) and <sup>(3)</sup>[bmwebi@jooust.ac.ke](mailto:bmwebi@jooust.ac.ke)

## **ABSTRACT**

*The purpose of the study was to explore implications of student safety measures on quality education in public secondary schools in Kisii County, Kenya. Objectives of the study were to establish students' safety measures and their implications on quality of education in public secondary schools. This study employed the Production Function Theory and adopted sequential explanatory design that was employed within mixed methods approach. Units of analysis were 334 public secondary schools within 9 Sub-Counties in Kisii County. Study population constituted of 9 education officers, 334 principals and 334 senior teachers. Simple random sampling was used to select the number of schools required in the sample size. Purposive sampling technique was used to select 181 principals and 181 senior teachers in the study while saturated sampling was used to select 9 education officers. Instruments for data collection were questionnaires, interview schedule and document analysis guide. Reliability was ensured by doing piloting in 34 schools through the split-half method. The reliability index for the instrument that is questionnaire was 0.826. Validity of the questionnaire was ensured by expert judgment and making them simple. Quantitative data for the study was analyzed using descriptive and inferential statistics. Qualitative data was analyzed using thematic analysis. The findings of the study highlighted that secondary schools safety measure facilities are inadequate, have not attained perfect utilization due to low technical capacity, inadequate monitoring by stakeholders. The researcher recommends that the Ministry of Education (MoE) and schools revisits their policies related to provision of safety measures and work towards their implementation.*

**Keywords:** *students' safety measures, educational facilities, learning outcomes, quality education and Kenya*

## **Background of the Study**

UNICEF (2000) asserted that quality education includes: learners who are healthy, well-nourished and ready to participate and learn, and supported in learning by their families and communities; school environments that are healthy, safe, protective and gender-sensitive, and provide adequate resources and facilities; content that is reflected in relevant curricula and materials for the acquisition of basic skills, especially in the areas of literacy, numeracy and skills for life, and knowledge in such areas as gender, health, nutrition, HIV/AIDS prevention and peace; processes through which trained teachers use child-centred teaching approaches in well-managed classrooms and schools and skilful assessment to facilitate learning and reduce disparities and outcomes that encompass knowledge, skills and attitudes, and are linked to Armstrong (2010) notes that school children in the United States of America (USA) are faced with a variety of school safety issues including prevention of unauthorized entry, vandalism and theft, alcohol and drug usage, fighting, disrespect of school personnel; weapons brought to the school, lack of funding to purchase equipment and security services needed, denial that a school violence situation could occur some schools have not established safety committee, schools do not conduct safety drills for many types of hazards.

Omolo and Simatwa (2010) assert that clear rules governing the minimum standard of infrastructure to be approved before any educational institution may be established and be run, the ownership of the school or institutional land and inspection of infrastructure be included in appropriate legislation even though such standards could vary from one area to another. The Ministry of Public Works building regulations are supposed to provide suitable site plans and such plans adhered to. Any facility which has not been put up in conformity with existing regulation should be modified and the concerned school management to adhere to the laid down building regulations. The Directorate of Quality Assurance and Standards of

the Ministry of Education (MOE) are supposed to inspect a school with regard to compliance with safety standards and guidelines. With regard to basic education, the government focuses on promotions of access, equity, relevance and quality of education. Specifically the policy framework aims at achieving Education For All (EFA) by 2015, ensuring the right of children to basic education as underscored in the Children's Act (2001), increasing access, equity and relevance of basic education and delivering quality services efficiently and effectively at all times and at all levels (Republic of Kenya, 2005).

GoK (2012) asserted that school safety is an integral and indispensable component of the teaching and learning process. Indeed no meaningful teaching and learning can take place in an environment that is unsafe and insecure to both learners and staff. It is therefore important that educational stakeholders foster safe and secure school environment. In an apparent response to tragedies that hit schools in the last decade, Ministry of Education (MOE) introduced a Safety Standards Manual four years ago. However it is emerging that most schools have no capacity to handle emergencies and are yet to even implement Safety Standards Manual produced four years ago.

Soomeren (2002) documents that all over the world, there has been an upward trend in the numbers of school children dying or getting injured in school violence, disasters and emergencies, that would be avoided if safety policies were strictly adhered to from the incidences in America and European schools, the 2004 Besian massacre in Russia to the Chinese school blast and India school fires, hundreds of schools children have died in preventable incidents.

UNESCO (2010) indicated that in Kenya despite the MoE efforts to provide safety standards and guidelines in educational institutions it have a long standing history of ghastly disasters.

These have led to damage of property, injuries and worst of all loss of precious lives, through incidents of fire and other risk situations.

A report by Kisii County Education Conference, (2011) which brought together scholars, parents, professionals, political leaders and other players held at Kisii University Grounds indicated that there is need for research on the cause of dwindling quality education in Kisii County. It is against this scenario that that the study intended to explore selected predictors of quality education and their implications on public secondary schools in Kisii County.

### **Statement of the Problem**

The quest to achieve Education for All (EFA) is fundamentally about ensuring that students gain the knowledge and skills they need to better their lives and to play a role in building more peaceful and equitable societies. As many societies strive to universalize basic education, they face the momentous challenge of providing conditions where genuine learning can take place for each and every learner for quality education. This is why focusing on quality education is an imperative for achieving EFA. During the past decade much has been done globally to provide quality basic education for children, an obligation for the Convention on the Rights of the Child. In Kenya, Directorate of Quality Assurance and Standards (DQA&S) department in the Ministry of Education (MoE) is charged with the responsibility of ensuring quality. Statistical reports from MoE, Kisii County assert, despite the fact that major strides have been made to provide quality education through Free Secondary Education (FSE) policy, the policy seems not to be successful going by the current indicators of exhibit of low quality education. This is evidenced by poor provision of students' safety in Kisii County. This scenario has raised concern because it means that

resources devoted to education are being wasted, and this may jeopardize the future of education system in Kenya as a whole and Kisii county in particular. While some studies done in Kisii have attempted to address the issue, they did not isolate and explore on the implications of safety measures on quality education in public secondary schools in Kisii County, Kenya. Therefore, it is against this worrying trend that prompted the researcher to undertake a study on implications of safety measures on quality education in public secondary schools in Kisii County, Kenya.

### **Objective of the Study**

The following is the objective of the study:

To establish provision of student safety measures and implications on quality in secondary education in Kenya

## **RESEARCH METHODOLOGY**

### **Research Design**

This study adopted a mixed method research approach. Sequential explanatory design was employed within mixed methods approach. Sequential explanatory design is a type in mixed method approach characterized by collection and analysis of quantitative data followed by a collection and analysis of qualitative data. Its purpose is to use qualitative results to assist in explaining and interpreting the findings of quantitative study.

### **Sampling Procedures and Sample Size**

The County had 334 public secondary schools against 334 principals and 344 senior teachers. Simple random sampling was used to select schools which were sampled in each category. The lottery technique was applied where a symbol YES was placed on 181 out of 334 public secondary schools. Small pieces of paper (of equal size, colour and texture) folded into equal

size and shape, was placed in a container, mixed well and then each principal was allowed to pick one piece of paper at a time in their respective categories. In this case, the 181 principals who picked a yes, their schools were automatically included in the sample.

A total of 181 public secondary schools were sampled for the study. A total of 181 principals and 181 senior teachers were used in the study, a representation of 53.6% as justified by Fisher et al as cited in Mugenda and Mugenda, (2013). Saturated random sampling was used to select 9 education officers. Stratified random sampling was used to select schools for pilot study. Krescie and Morgan's formula was used to obtain the sample size for the research study.

### **Research Instruments**

This research used questionnaire and interview schedule for Sub- county education officers, principals, and senior teachers to collect primary data for the study. Document analysis schedule was used to collect data that are not directly obtainable from the other research instruments

### **Questionnaires**

Questionnaires were used to collect data from principals and senior teachers developed by the researcher. Data was collected using two questionnaires. Each questionnaire was divided into part A and B. Part A of each questionnaire had four items based on background information of the respondents. Part B of the questionnaire had test items based on the four objectives of the study. Each questionnaire had closed ended test items measured on a 5-point likert scale. For questions with a positive stem Strongly Agree (SA) scored highest (5), while Strongly Disagree (SD) scored lowest (1). For questions with a negative stem Strongly Disagree (SD) scored highest (5), while Strongly Agree (SA) scored lowest (1).

### **Interview Schedule**

. The researcher administered a structured interview schedule to education officers which contained closed ended questions based on the research objectives. An in-depth interview was deemed ideal for investigating where researchers were seeking individual interpretations and responses.

### **Document Analysis Schedule**

The researcher examined secondary school stores records to check on availability of school CCA equipment. The information obtained was discussed with the principals with the aim of collecting data.

### **Validity of the Instruments**

To ensure construct validity, short and straightforward close-ended questions was used. Questionnaire was made simpler and easier to understand by using short and simple sentences. They were arranged from simple to complex. These allowed the respondent to approximate the exact response as close as possible. In addition, a detailed verbal descriptions and clear instructions were provided during the group administration, which the researcher personally conducted. To ensure validity of the questionnaire, the expert judgment of lecturers of the university was sought and recommendations incorporated in questionnaire.

### **Reliability of Instruments**

Split-half method was used to ascertain the reliability of the questionnaires. Using Split-Half reliability by Spearman Brown Formula:

An SPSS output indicates a correlation coefficient ( $r = 0.826$ ) greater than 0.6.

## **Data Collection Procedures**

According to Creswell, (2002) respecting of the site where the research takes place and gaining permission before entering a site is paramount in research. Permission to conduct the research was sought through the Director, Board of Post graduate studies, Jaramogi Oginga Odinga University of science and technology. Before data collection was conducted, a research permit was sought from the National Commission of Science Technology and innovation (NACOSTI). Permission was further sought from the County Director of Education (T.S.C). Subsequently, introductory letter from the county education office was sought. The principals of the sampled schools to be included in the study were then consulted in advance to obtain consent. This gave the researcher the privilege of meeting the respondents and clearly explaining the purpose of the study. Two sets of questionnaires, document analysis were administered to the principals, senior teachers whereas interview schedule was administered to sub-county education officers by the researcher. In order to ensure a high level of response, the researcher visited the individual secondary schools and in all cases the instruments administered by the researcher personally. The researcher explained how to fill the questionnaires and document analysis to the respondents. A period of two weeks was given in which to fill the questionnaires and document analysis after which the researcher collected them. The purpose of administering the questionnaires and document analysis for two weeks was to give the respondents enough time to go through them and clearly understand the items so as to give the most accurate answers. They were sorted out to see if there are incomplete ones. The instruments was then organized and then scored ready for analysis. Respondents were assured of confidentiality of their responses. At the same time the researcher conducted audio taped, face to face interview to the education officers in their

offices at different dates each lasting for one hour. After the field, the data was taken for analysis.

### **Data Analysis**

The quantitative data collected was analysed with the aid of the Statistical Package for Social Sciences while the qualitative data collected was analysed using the thematic analysis.

### **Quantitative data analysis**

Quantitative data collected was first edited and checked for completeness. During coding, the questionnaire which was for the principals was assigned P whereas that of senior teachers was assigned S. For section A of the questionnaire, question 1 on gender male was coded 0 and female coded 1. Those who did not specify their gender were coded 9, labeled unknown and the same code was used for those who ticked both male and female or had a missing specification. Question 2, on the level of education, diploma coded 1, bachelors coded 2, masters was coded 3 and others was coded. Question 3, year of experience, below 4 years was coded 1, between 4-6 years coded 2, 7-9 coded 3 and 9 years and above was coded 4. The missing age was coded 999. Finally on the staffing of schools, understaffed was coded 1, balanced was coded 2, overstaffed was coded 3. The missing was coded 999. For section B of this questionnaire, the responses to all the questions strongly agree were coded 5 agree coded 4, neutral coded 3, disagree was coded 2 and strongly disagree was coded 1. The Objective consisted of one part which had a set of Likert scaled 10 test items that sought to investigate their views on CCA and its implications on quality of education in public secondary schools. The questionnaire was administered to principals and senior teachers whose responses were computed as percentages and reflected. Their responses were computed as percentage frequencies. To establish whether there was any significant relationship between educational

facilities and quality of education in public secondary schools, the research computed Pearson's Product-Moment Coefficient of correlation between the scores of the two variables.

The results of the analysis were shown in descriptive statistics and correlation results

### Qualitative data analysis

Data from interview schedule was analyzed using the thematic frame work and the following steps were considered; this research followed the principles of thematic analysis. In this study, the researcher gathered data based on one main theme co-curricular activities. Thematic analysis of the four was performed through the process of coding in phases to create established and meaningful patterns.

## FINDINGS, INTERPRETATION AND DISCUSSION

### Descriptive analysis of the Study

**Table 1: relationship of Safety Measures and Quality Education (n=151,136)**

ITEM	Frequency						TF	TS	AV	%SCORE
	R	1	2	3	4	5				
Quality assurance officers constantly evaluate safety programs in school with a view to improving it.	ST	76	36	0	15	24	151	328	2.17	43.44
	P	39	73	0	15	24	151	365	2.41	48.34
The school does not have a constituted strong and effective security and safety committees.	ST	49	19	5	49	39	161	493	2.06	61.24
	P	24	19	10	29	54	136	478	2.51	70.29
The school infrastructure is repaired, maintained and serviced when required.	ST	57	53	9	19	13	151	331	2.19	43.84
	P	19	57	9	53	13	151	437	2.89	57.88
Students rarely report on any spotted risk situations in the school	ST	46	10	5	56	28	145	445	5.06	91.37
	P	10	8	5	60	62	145	591	4.07	81.51
The school physical infrastructure are constructed and occupied in consultation with approval of Ministry of Public Health (Public Health Department).	ST	35	45	13	34	24	151	420	2.78	55.62
	P	41	40	13	19	23	136	351	2.58	51.61
The school is well fenced to deter unauthorized entry into the compound.	ST	60	37	12	23	19	151	357	2.36	47.28
	P	37	60	12	19	23	151	384	2.543	50.86
The school has only one entry point to the compound manned by security guards.	ST	71	42	5	15	13	146	295	2.02	40.41
	P	76	14	5	37	14	146	337	2.308	46.16
There is inadequate lighting in the school	ST	48	18	26	28	29	149	419	2.12	56.24
	P	29	26	10	67	18	150	469	2.82	62.53
The school has sufficient lightening arresters.	ST	73	29	10	24	15	151	332	2.19	43.97
	P	74	39	5	10	8	136	247	1.81	36.32
All doorways in the school do not open outwards and are not bolted from outside.	ST	19	9	5	79	49	161	613	1.80	76.14
	P	13	65	8	35	15	136	382	2.80	56.17
The school has been fitted with sufficient fire extinguishers.	ST	53	57	19	9	13	151	325	2.15	43.04
	P	58	43	15	5	8	129	249	1.93	38.60

There is students' involvement by administration in students' conflicts and conflict resolution	ST	56	66	5	10	8	145	283	1.95	39.03
	P	66	36	6	20	8	136	276	2.02	40.58
The school has a reliable alarm system.	ST	55	65	13	13	4	150	296	1.97	39.46
	P	28	56	20	18	13	135	337	2.45	49.92
The school administration regularly talk to students on preparedness and awareness on safety measures	ST	60	23	12	37	19	151	385	2.54	50.99
	P	59	35	14	13	15	136	298	2.19	43.82
There is no cleared defined thought out plan for parental involvement in safety measures.	ST	5	14	14	76	37	146	564	4.86	77.26
	P	31	35	15	29	26	136	392	4.88	78.64
There is insufficient first Aid Kit (s).	ST	68	26	10	29	18	151	356	4.35	74.15
	P	54	53	10	13	5	135	267	4.97	69.55
Means of means		41.39	33.61	8.97	26.72	19.06	129.33	336.17	2.30	46.06

Legend: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2) and Strongly Disagree (1), P- principals, ST-senior teachers

The findings of the study show that safety measures have considerable influence on quality of education in Kisii County. This was revealed by the senior teachers who took part in the survey. For example, the findings of the study show that 76 (50.3%) of the senior teachers agreed that quality assurance officers do not constantly evaluate safety programs in school with a view to improving it. When the views of the principals were sought on the safety measures implications on quality of education, the findings of the study show that the principals concurred with their senior teachers in many areas. Specifically, on constantly evaluating safety programs, a significant majority of 112 (82.4%) of the principals strongly agreed that quality assurance officers constantly evaluate safety programs in school with a view to improving it. It was discovered that although it is generally believed that schools have a constituted strong and effective security and safety committees findings of this study show that schools do not have a constituted strong and effective security and safety committees, as revealed by more than a half 76 (55.9%) of the principals who took part in the study. The findings of the study show that the school does not have a constituted strong and effective security and safety committees; whereas 80 (53.0%) of the senior teachers held the belief that the school has a constituted strong and effective security and safety committees, some 58 (38.4%) of the senior teachers were in agreement that the school does not have a constituted strong and effective security and safety committees in schools in Kisii County.

The school administrators and teachers need techniques to be competent in safety measures implementation, and to be encouraged to keep them up. Despite the fact that teachers are best placed to raise the alarm over failures to adhere to basic safety rules, the job is left to the small number of Quality Assurance officers working for the Ministry of Education. This may not be possible without putting in place a safety policy implementation framework.

In fact, only 13 (8.6%) of the senior teachers held the belief that school infrastructure is repaired, maintained and serviced when required. On the same note, it was discovered that although school infrastructure ought to be repaired, maintained and serviced when required this study has established that schools infrastructure is rarely repaired, maintained and serviced when required, as was held by 96 (69.9%) of the principals. On risk situations in the school, the findings of the study indicate that majority 79 (58.8%) of the senior teachers agree that students report on any spotted risk situations in the school. Similarly, 55 (41.4%) of the senior teachers who were sampled for survey were on the opinion that students do not report on any spotted risk situations in the school. On the flip flop, majority 112 (89.7%) of the principal who took part in the study asserted that students report on any spotted risk situations in the school.

On school physical infrastructure, the finding of the study show that whereas 93 (61.6%) of the senior teachers believe that the school physical infrastructure are not constructed and occupied in consultation with approval of Ministry of Public Health (Public Health Department). On the contrary, it was established that 58 (48.4%) of the senior teachers were of the agreement that the school physical infrastructure are constructed and occupied in consultation with approval of Ministry of Public Health (Public Health Department). Similarly, schools physical infrastructure are not constructed and occupied in consultation

with approval of Ministry of Public Health (Public Health Department), this was observed by an overwhelming majority 81 (59.72%) of the principals who participated in the survey. The findings of the study show that although schools are well fenced to deter unauthorized entry into the compound, it is inadequate. This was observed by the senior teachers whose 109 (81.1%) agreed that schools are well fenced to deter unauthorized entry into the compound. Only 42 (27.8%) of the senior teachers held the opinion that schools are well fenced to deter unauthorized entry into the compound. Nearly four out of every five, [118 (80.1%)] of the senior teachers disagreed that schools have only one entry point to the compound manned by security guards. School compounds should be fenced using either barbed wires or live fences. Although establishing a good live fence is very involving, it is also stronger and tends to last longer when compared to barbed wire with only entry point to the compound.

An overwhelming majority, 92 (62.2%), of the senior teachers who took part in the survey denied the assertion that there is adequate lighting in the school. The findings of the study show that principals were also in disagreement that there is adequate lighting in the school. Nearly half, 113 (94.1%), of the principals who took part in the survey concur that there is inadequate lighting in schools. This implies that both students and teachers lack emergency preparedness. Teachers may be aware of what to do to a certain extent but not in some serious issues like using security lighting.

The findings of the study indicate that 110 (72.8%) others said that schools do not have sufficient lightening arresters, 94 (62.2%) of the senior teachers insisted that the bursary funds for the needy learners is inadequate.

However, an overwhelming majority of 101 (74.2%) of the principals said that schools do not have sufficient lightening arresters. Many [83 (54.9%)] of the respondents agree that

although the bursary scheme to schools has been partly effective in meeting its objectives, it is inadequate. Nearly three quarters, 113 (74.8%), of the senior teachers who took part in the survey agree that the bursary scheme to schools has been partly effective in meeting its objectives, it is inadequate. As it is, the findings of the study show that all doorways in schools open outwards and are bolted from outside, 133 (88.3%) of the senior teachers said this is not true. The findings of the study show that, many 84 (61.8%) of the principals agree that all doorways in the school do not open outwards and are not bolted from outside. The principals argue that although schools are expected to be fitted with sufficient fire extinguishers, this not the case. In fact, true to the generally held perception, the findings of the study confirm that schools are not fitted with sufficient fire extinguishers. This point of view was advanced by a significant majority of 115 (84.1%) of the senior teachers who took part in the survey. Majority (99; 74.9%) of the principals confirm that schools have not been fitted with sufficient fire extinguishers. The school should provide an environment that nurtures positive health in order to protect, promote and improve health for all. The most striking is that doorways should be adequate for emergency purposes, open outwards and should not be locked from outside at any time when learners are inside. Fire-fighting equipment should be provided as a sign that the school has emergency preparedness plan in case of arson or fire outbreak. It is also an indication that the school cares for its students. Having fire extinguishers and training staff on how to use them is one important precaution against fire related disasters.

On the issues of students' conflicts and conflict resolution, the findings of the study 103 (84.8%) indicate that rarely are students involved by administration in students' conflicts and conflict resolution. Head teachers should reside in schools to enable efficient and effective implementation of safety policies. The constant presence of the school principal makes the students feel safe, secure and will deter them from indiscipline cases. The roles of students

include keeping order in school, assisting in identifying potential safety hazards in the school, taking corrective action when there is a threat to safety and encouraging fellow students on the need to maintain safety in the school. The findings of the study show that many schools do not have a reliable alarm system as was confirmed by 133 (92.4%) of the senior teachers who took part in the study. The findings of the study show that, many principals are not satisfied that schools have a reliable alarm system. This was revealed by 84 (61.8%) of the principals who accepted that their schools has have a reliable alarm system.

On the other hand, the findings of the study show that there is limited students' involvement by administration in students' conflicts and conflict resolution, as indicated by the majority 102 (74.9%)] of the principals who took part in the survey. It was confirmed, by the findings of this study that schools administration rarely talk to students on preparedness and awareness on safety measures [95 (62.8%)]. Further, some 66 (57.55%) of them strongly held the belief that school administration regularly talk to students on preparedness and awareness on safety measures. In fact, although about a tenth 15 (11.0%) of them were undecided, 33 (21.9%) of them strongly believe that there is no well thought out plan for parental involvement in safety measures. On the other hand, the findings of the study disagreed that there is a cleared defined thought out plan for parental involvement in safety measures, this was confirmed by the majority 127 (84.1%) of senior teachers who took part in the survey. Sometimes schools resist the implementation of safety policies because they are ignorant of their roles. They either do not know about the existence of the policies or have little information about them or do not understand their role in implementing them. The implementers of safety policies must furnish all affected parties (teachers, students, parents and community members) with information about the nature of the safety policies implementation program and its rationale.

On the other hand, an overwhelming majority of the senior teachers agreed that there are irregular fire drills in school on awareness of fires; this was revealed by about nine out of ten [151 (90.1%)] of the senior teachers who took part in the study. The findings of the study show that there is irregular fire drills in schools on awareness of fires, as was confirmed by 84 (61.8%) of the principals who took part in the study. In fact, true to the generally held perception, the findings of the study confirm, 94(68.8%) there is insufficient first Aid Kit. On the issues of sufficient first Aid Kit (s), the findings of the study indicate that 10 (7.4%) of the principals remained neutral on this matter, however many, 107 (78.7%) of them agreed that there is insufficient first Aid Kit (s).

In fact nearly four out of five [93 (81.3%)] of the senior teachers who took part in the survey disagreed that the school management acts immediately whenever there is outbreak of fires. On the other hand, the findings of the study show that school management rarely act immediately whenever there is outbreak of fires., this was confirmed by the majority, 87 (64.0%) of principals who took part in the survey. There should be adequate number of classrooms with proper ventilation, lighting and adequate space for moving out freely in case of any emergency. Safety instructions are supposed to be displayed prominently in the laboratories and workshops. Fire drills are required once a term and it is recommended that other drills follow the same format. The significance of fire drills and first aid kit in a school set up should never be downplayed. School fire drills prepare students for what they need to know in case of fire outbreak. They also allow students and teachers to plan their escape in advance and to address learners' safety issues.

Analysis of this study illustrates that there is an association between safety measures implications in school activities and quality education. All schools need to adhere to the

safety standards and guidelines to ensure the safety and health of both children and staff. Unfortunately, some schools do not always adhere to the standards and guidelines, which have led to damage of property, injuries and loss of precious lives through fire and other related health risk situations. Typically, people refuse to believe crisis could happen to them, and school personnel are no exception. But this tendency toward denial must be replaced by active participation and preparation for a potential school crisis. Careful planning is required to reduce the impact of low incidence crises such as disasters, murders, suicides, or fires. It can then be deduced from the findings of the study that safe schools are those with structures put in place to ensure that any forms of emergency that may arise at any time are managed. Safety programs enhance preparedness, help to prevent accidents and thus minimize the resulting loss and damage to persons and property. The persistence of media reports on insecurity problems of learners in schools projects a grim picture that Kenyan schools are not as safe as the public may have thought them to be. The location of a school directly affects the safety, well-being and educational experience of the student. If a school site is selected in a haphazard manner, the educational experience for both the teacher and the student is likely to be less optimal. To enhance school safety, new buildings should be designed by, and the remodeling of older ones is supervised by an architect who specializes in or who has experience in the design and remodeling of school buildings. This in turn enhances quality education provision.

### **Testing Hypothesis on Safety Measures parameters of the Study**

From findings of the study using the Product Moment Correlation Coefficients, all the variables were significantly positively ( $PV < .05$ ) correlated to quality of education. All the correlation coefficients associated with the safety measures in public secondary schools in

Kisii County were all fairly high and had statistical significance. The parameter, parent involvement, had the highest Product-Moment of Correlation Coefficient (.888,  $p=.001$ ) and physical infrastructure, was at .854. The variable with least Product Moment Correlation Coefficients was conflict resolution at .484,  $p=.001$ ], whereas fire extinguishers, compound, security, alarm systems, first Aid Kit(s), had PMCC of .849, .763, .726, .624, and .659 respectively at sig. level=.002. In conclusion, a decision was reached on the following hypotheses;

### **Coefficients for the Safety Measures Variable**

Table 4.18 was made to evaluate the contribution of each of the parameters to the variable in question. The largest Beta coefficient was .462 which was for security implying it made the strongest unique contribution to explaining the dependent variable; the second largest Beta coefficient was .302 which was for alarm system, implying it made the second strongest unique contribution to explaining the dependent variable, when the variance explained by all other variables in the model was controlled for. This was followed by parent involvement in conflict resolution with a Beta value of .154. The Beta value for First aid Kit(s) was the lowest with 0.011, indicating that it made the least contribution to the model. Further, it was discovered that all the parameters assessing the safety measures variable made a statistically significance ( $P\text{-value}<0.05$ ) to the mode

### **The Regression Model on Safety Measures**

A regression model for the relationship between the safety measures variable and the parameters is shown below.

$$= 2.862\text{units} + 1.471x_1\text{units} + .842 x_2\text{units} + 3.063 x_3\text{units} + 1.374x_4\text{units} + .695x_5\text{units}$$

Where: Y is Safety Measures;

$x_1$ .Compound;  $x_2$ .Security;  $x_3$ .Fire extinguisher;  $x_4$ . Alarm system;  $x_5$ . First aid Kit(s);  $x_6$ . Physical infrastructure;  $x_7$ .Conflict resolution;  $x_8$ . Parent involvement.

$$1.184x_6units + .612x_7units + .996x_8units + \epsilon$$

$$= 2.632units + .124x_1units + 3.167x_2units + .583x_3units + 1.497x_4units + .002x_5units + .915x_6units + .049x_7units + .985x_8units + \epsilon$$

It can be deduced from the above equation of safety measures parameters that contributed to quality education in Kisii County in order of importance as were factored in the model as indicated above are the following;

The parameter, security had a highest input of  $R = 3.167$ , safety measures parameters; it was followed by alarm system which had an input of  $R = 1.497$  units. First aid had the lowest input of  $R = .002$  units whereas school compound, parental involvement, physical infrastructure, fire extinguisher and conflict resolution had  $R$  values of 1.24, .985, .915, .583, and .049 respectively. The model is 10.8% explained by the parameters. That is, other factors (not covered in this regression model) could account for about 89.2% of the model. This means that there is moderate relationship between safety measures variable and quality

**Regression Model Summary for the Parameters on Safety Measures**

It was noted that the coefficient of multiple determination for safety measures variable and quality education,  $R$  squared value for the model was (.108 or 10.8 per cent explained variance). The total  $R$  squared value, included the unique variance explained by each variable and also that shared.  $R$  squared = 10.8 per cent, this implies that the safety measures variable in question accounts for 10.2% variability in quality education and the unexplained variation 89.2% are the safety measures variables not considered in the equation that would contribute

to the impact of quality education. The parameters were reasonably not strongly correlated; hence there were little of shared variance that was statistically removed

## **Summary, Conclusions and Recommendations**

### **Summary**

It was found out that the unsatisfactory implementation of safety policies was attributable to a variety of factors including inadequate safety measures facilities, inadequate time, inadequate funds, low technical capacity, lack of proper coordination and supervision from the Ministry of Education, role of teachers and students not clearly defined and indiscipline among the students. Priority and support from the key stakeholders such as the Ministry of Education and School Boards of Management play a major role in the successful implementation of the safety program in school. Once the Ministry of Education and the School board make school safety program their priority, they will put effort to provide and organize the funding, staffing, training and professional development and resources required for the implementation of school safety programs. Sometimes schools resist the implementation of safety policies because they are ignorant of their roles. They either do not know about the existence of the policies or have little information about them or do not understand their role in implementing them. The implementers of safety policies must furnish all affected parties (teachers, students, parents and community members).

From the regression model, the parameter, security had a highest input of  $R = 3.167$ , safety measures parameters; it was followed by alarm system which had an input of  $R = 1.497$  units. First aid had the lowest input of  $R = .002$  units whereas school compound, parental involvement, physical infrastructure, fire extinguisher and conflict resolution had  $R$  values of 1.24, .985, .915, .583, and .049 respectively.

## **Conclusions**

In this section conclusions of this study have been given. The conclusions are presented along the research hypotheses that guided the study.

### **Safety measures implications on Quality of Education in Public Secondary Schools.**

It was concluded that safety policies is not attaining perfect implementation due to low technical capacity, inadequate monitoring and evaluation by principals and Quality Assurance and Standards Officers (QASOs). There are inadequate copies of Safety and Standards Manual in Public National Secondary Schools. Additionally, there was moderate implementation of safety policies in the schools involved in the study. As soon as one policy objective was met, other safety needs emerged. Safety policy implementation is therefore a continuous rather than a terminal process. The implementation of safety policies in public secondary schools would have been much better if these factors were put in place. Further, there was inadequate safety awareness in secondary schools. Principals, teachers, Quality Assurance and Standards Officers, students, and security personnel had little roles to play in implementation of safety policies in schools. The implementation of safety policies largely depended on the attitude and roles of the school community members and would not succeed unless the principals considered them significant enough to find value in implementing them. When principals are supportive of implementation programs, then these programs were likely to succeed. The conclusion was that QASOs, security officers and principals did not play their roles strictly and effectively, giving rise to safety implementation gaps in some schools.

## Recommendations

Based on the findings and conclusions of the study, recommendations are hereby made for teachers, students, parents and education officers:

The role of each member of the schools structure in safety should be clearly defined and communicated well. Consequently the students should be inducted on how to solve conflicts among themselves so that they can actively participate in matters relating to schools' safety. Similarly, students should be assisted to foster and maintain a safe learning environment and all members of schools' community should be trained on how to use fire equipment. Quality Assurance and Standards Officers should constantly evaluate safety programs in schools with a view to offer valuable suggestions for improvement.

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