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Students' Attitudes towards Group Collaborative Learning Experiences: A Case of University of Eastern Africa, Baraton

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Abstract

This piece of work investigated students' attitudes towards group collaborative learning experiences and frustration. The study also sought to find out the relationship that existed between the student's gender, year of study, courses registered that semester, the number of hours dedicated to group collaborative learning per week with the students mean attitudes towards collaborative learning. The study established that most of respondents liked participating in collaborative working experiences, had great preference to work in collaboration with others, viewed collaborative learning experience as important except those in their second year of study who did not rate collaborative learning as very important, and tended to agree that they learned more in group than alone. It is therefore recommended that in the course of the lesson, teachers set time for group work to motivate the learners, not only interacting with the content, but also with the group members.

Keywords: Students, Attitudes, Group Collaborative, Learning Experiences, Frustrations

INTRODUCTION

The concept of collaborative learning, the grouping and pairing of students for the purpose of achieving an academic goal has been widely researched and advocated throughout the professional literature. Chambers Dictionary defines collaboration as to work in association with. It is the opposite of one working in isolation. The idea of collaborative learning is supported by Atkinson (1964) in Gillies, Ashman and Terwel (2007) who once said, "Achievement is a we thing, not a me thing, always the product of many heads and hands."

Collaborative learning is described by Barkley, Cross and Major (2005) as learning activities expressly designed for and carried out through pairs or small interactive groups, working with one another or others, in pairs or small groups to achieve shared learning goals. It also means group working together rather than learning by working alone. It is the instructional use of the small groups so that students work together to maximize their own and each other's learning. Another term that can be used interchangeably with collaborative learning is cooperative learning though the two are not the same in operation.

According to Moore (2009), cooperative learning is more than simply putting students in groups but it requires that students work together in mixed-ability, gender and ethnicity groups in accomplishing a set of tasks. The percentage of high, middle or lower learners in each group should represent the appropriate population of each group in the whole class.

Kauchak and Eggen (2008) consider collaborative learning as a set of instructional strategies that is used to help learners meet specific learning and social interaction objectives in structured groups. Barkley, Cross and Major (2005, p. 4) give three features for effective collaborative learning:

- **Intentional Design:** The teacher must intentionally and not by chance group learners in a systematic way.
- **Co-laboring:** All participants in a group must engage actively in working together toward the stated objective.
- **Meaningful learning:** As students work together on collaborative assignments, they must increase their knowledge or deepen their understanding of the topic under discussion.

Leadership and Size of Small Collaborative Groups

Groups cannot succeed without leadership. Bergh and Theron (2006) support this when they argue that a working group is an unorganized mob. It must have a formal leader who can be identified with a varied range of titles such as manager, supervisor, foreman, project leader or head. They also maintain that this leader plays an important role in the group's success, and conclude that for high satisfaction in the group participative leadership is more effective than autocratic leadership. This idea suggests that a leader in class discussion groups should not dominate group activities but should give opportunity for each group member to give out their views and contributions. Furthermore, the leadership in the groups should be rotational so that many members in the group will have opportunity to develop leadership skills.

Significance of well sized groups for collaborative learning is indicated by Sharan et al., (1984); Sharan and Shachar, (1988) in Slavin (2009, p. 223) who have it that if students are well prepared to work in small groups and if the groups are well organized, students collaboration can increase students achievement more than traditional methods of learning. Johnson and Johnson in Slavin (2009, p. 223) further maintain that small group discussions have greater effects on students achievement if students are encouraged to engage in controversy rather than to seek a consensus. Gagne, Wager, Golas and Keller, 2005, p. 290) state that "a great deal of instruction is done with learners assembled in groups of various sizes."

The size of collaborative learning groups varies, depending on the task to be accomplished, but the common group size tends to be four (Moore, 2009). Slavin (2009, p.222) argues that "in small group discussion, students should work in four-to-six members to discuss a particular topic."

Unity and Dynamics in Small Groups

Small groups are formed by people of different personalities, backgrounds, attitudes, culture and behavior. Amid all these dynamic differences, the target is to ensure togetherness, which can be brought by common interests. Togetherness is an important ingredient for the success of collaborative learning experiences.

Rue and Byars (1993) support this when they argue that once groups have been formed, they seem to take on a life of their own and over time, they develop certain characteristics and a set way of doing things. This is what is referred to by Bergh and Theron (2006) as group norms-standard of behavior that are shared by the group members and that provide guidance about what to do or not to do in certain circumstances. They further argue that when agreed and accepted by the group, norms act as means of influencing the behavior of group members with a minimum of external controls.

In the context of collaborative learning groups, a teacher needs to encourage every group to set a varied range of norms which do not contradict with school culture. This is also supported by Moore (2009, p. 203) who argues that team members should be allowed a great deal of freedom as they decide how to deal with the assigned task.

Rue and Byars (1993) and Fincham and Rhodes (2005) also argue that group norms are important sources of unity in the groups. They refer to group norm as an understanding among group members concerning how members should behave.

Motivation in Group Collaborative Learning

Group works cannot be effective without motivation. The teacher is the chief supervisor of class groups. He is one of the sources for motivation in the group. He needs to encourage and motivate each member of the groups to actively participate in group activities. Rue and Byars (1993) brings to view roles of supervisors of groups at work. He argues that the supervisor needs to consciously encourage members to participate in group activities, interact well with group members and have high performance goals. It is therefore the responsibility of the teacher to build these qualities among group members.

Besides, group members' individual accountability and personal responsibility are important ingredients for motivation (Moore, 2009 and Gillies, Ashman and Terwel (2007). This is supported by Moore (2009, p. 203) who has it that "individual accountability is an essential characteristic of all cooperative learning. He suggests that accountability means that the success of the group is based on the individual learning of each team member. Accountability occurs when each student in the group is held responsible for the required learning goals."

This is supported by Gillies et al. (2007, p. 22) who maintain that positive interdependence creates responsibility forces that increase group members' feeling of responsibility and accountability for completing one's share of the work and facilitating the work of other group members. They cite Matsui et al. (1987) who argues that when person's performance affects the outcomes of collaborators, the person feels responsible for their welfare as well as his own. Thus, the shared responsibility created by positive interdependence adds the concept of "ought to" to group members' motivation. They conclude that "such feelings of responsibility increase a person's motivation to perform well."

THEORETICAL FRAMEWORK

"Coming together is a beginning. Keeping together is progress. Working together is success." (Henry Ford, the former President of America).

One of the most important principles of educational psychology is recognizing the fact that knowledge can only be constructed through one's mind and through social interactions. This study is grounded on Lev Vygotsky's theory of social interaction and learning, and constructivist theoretical framework which advocates for learners being guided by the teachers in self-discovery experiences that yields effective learning.

Social learning theory help us to understand how people learn in social contexts (learn from each other) and informs us on how teachers, construct active learning communities. Vygotsky (1962) examined how our social environments influence the learning process. He suggested that learning takes place through the interactions students have with their peers, teachers, and other experts. Consequently, teachers can create a learning environment that maximizes the learner's ability to interact with each other through discussion, collaboration, and feedback.

Constructivism theory, on the other hand, believes on the ideas that learners must individually discover and transform complex information if they are to make it their own (Slavin, 2009 p.231). This view has profound implications for teaching because it suggests a far more active role for students in their own learning than is typical in many classrooms. Because of the emphasis on students as active participants, constructivist strategies are often called student-centered instructions. The role of the teacher in this view as observed by Weinberger and McCombs (2001) is to guide students to discover their own meaning instead of lecturing and controlling all classroom activities.

A study by Geen and Gredler (2002, p. 54) comments further that when students are left alone with minimum supervision but with goal centered accomplishments, they can generate knowledge by constructing their own models of learning and hence keep the body of knowledge alive. Bruning, Schraw, Norby and Ronning (2004), have developed a number of different perspectives to constructivism theory showing how better the approaches can help improve learning. The conceptual framework (figure 1) illustrates the essence of engaging students in interaction through Group Collaborative Learning (GCL).

It is reemphasized that all of the above perspectives share the common assumption that knowledge must be constructed to be meaningful and can only be achieved through active involvement of the learner who not come in contact with the teacher *tabulae rasae*.

It is through this theory of constructivism, terms such as cooperative learning, discovery learning, collaborative learning, and team learning originate from. However, collaboration entails many components such as students teaching one another, students teaching the teacher, and the teacher teaching the students. More importantly, it means that students are responsible for one another's learning as well as their own and that reaching the goal implies that students have helped to understand and learn each other's experiences. Conclusively, when students are fundamentally exposed to such extensive use of methodologies, they will more easily discover and comprehend difficult concepts if they can talk to one other on a horizontal level (Pontecorvo, 1993).

METHOD

This study employed a descriptive survey design (cross sectional survey). Students from the school of Education were the target population. Stratification sampling technique was used to get the specific students from each year. The undergraduate Education students in first, second, third and fourth years formed the strata for this study. For each of the strata, cards with 'Yes' and 'No' were generated and put in baskets. Each basket had fifteen cards with 'Yes' and the rest of the Cards were 'No'. To draw a representative sample of students, the researcher made use of simple random sampling procedure in that, those who picked 'Yes' filled the questionnaire which was the only means of data collection. In this way, each student had equal chance of being selected. The researchers came up with 60 students as representative sample, which is 33% of all Bachelors of Education students. Questionnaires were used to collected data. A pilot study was done to validate the reliability of the instruments.

RESULTS AND DISCUSSION

The following four point Scale was used to determine the respondents rating of the components in the questionnaire: 1= Disagree 2= Tend to Disagree 3= Tend to Agree and 4=Agree. Respondents circled the appropriate numbers to indicate their perception in different items. The respondent groups were interpreted as follows:

- 1.00-1.49 =Disagree
- 1.50-2.49 =Tend to Disagree
- 2.50-3.49 =Tend to Agree and
- 3.50 -4.00 =Agree

Table 1: Respondents' Rating on their attitude towards participation in group Collaborative learning experiences

Sample	Categories	No. of Respondents	Average
Gender	Male	23	3.39
	Female	28	3.36
Age	16-18 years	4	3.25
	19-21 years	12	3.42
	22-24 years	11	3.45
	25-27 years	16	3.31
	28-30 years	2	2.50
	31& above	6	3.67
	First	10	3.50
Year of study	Second	14	3.07
	Third	11	3.55
	Fourth	16	3.44
Courses registered for this semester	Two	5	3.40
	Three	4	2.75
	Four	42	3.43
Hours per week dedicated to group collaborative learning course	1 – 5 hours	41	3.24
	6 – 10 hours	4	3.75
	11 -15 hours	5	4.00
	16 or more	1	4.00

Table 1 indicates that respondents generally accepted that they liked to participate in group collaborative learning experiences. Categorically, those of 31 and above years, first years, third years and those who dedicated at least eleven hours in group collaborative learning experiences showed stronger acceptance than their counterparts. This indicates that the attitude of respondents, regardless of their varying characteristics, is generally positive towards collaborative learning experiences.

Table 2: Respondents' ratings on how they preferred to do activities alone

Sample	Categories	No. of Respondents	Average
Gender	Male	23	1.87
	Female	28	2.18
Age	16-18 years	4	1.75
	19-21 years	12	2.25
	22-24 years	11	2.18
	25-27 years	16	1.87
	28-30 years	2	4.00
	31& above	6	1.33
	Year of study	First	10
Second		14	2.50
Third		11	2.00
Fourth		16	2.00
Courses registered for this semester	Two	5	2.00
	Three	4	3.25
	Four	42	1.93
Hours per week dedicated to group collaborative learning course	1 – 5 hours	41	2.24
	6 – 10 hours	4	1.00
	11 -15 hours	5	1.00
	16 or more	1	3.00

It is quite evident from Table 2 that most of participants in different categories did not prefer doing collaborative learning activities alone. This implies that most of the students have great preference to work in collaboration with others in the groups. Those few who indicated preference to work alone are in the age bracket of 28-30. This is probably because of their commitment in their places of work or in their families. In addition, those in their second year of study, those who registered for three courses and those who dedicated 16 or more hours in collaborative experiences also tended to prefer working alone, but in a comparative sense, these categories had fewer respondents than their counterparts.

As shown in Table 3, respondents generally viewed activities carried out in collaborative learning experiences as important. Categorically, most of respondents strongly viewed the activities as important except those in their second year of study who comparatively viewed the activities important but in a lesser degree of importance. In relation to the importance of collaboration, Johnson and Johnson (1991) have emphasized the importance of positive interdependence, which occurs when students can only complete a task by working together; the task cannot be completed as effectively or at all when working individually. Effective positive interdependence is likely to result in joint attention to the tasks at hand (Barron, 2003). This means that there is no way a task that is supposed to be done collaboratively can be done otherwise hence echoing the importance of collaborative learning and especially in the contemporary classes where learning is learner centered.

Table 3: Respondents' ratings on the importance of activities carried out in group collaboration in their learning.

Sample	Categories	No. of Respondents	Average
Gender	Male	23	3.52
	Female	28	3.32
Age	16-18 years	4	3.25
	19-21 years	12	3.08
	22-24 years	11	3.55
	25-27 years	16	3.44
	28-30 years	2	3.50
	31& above	6	3.83
	Year of study	First	10
Second		14	2.93
Third		11	3.64
Fourth		16	3.56
Courses registered for this semester	Two	23	3.40
	Three	28	3.50
	Four	4	3.40
Hours per week dedicated to group collaborative learning course	1 – 5 hours	12	3.34
	6 – 10 hours	11	3.50
	11 -15 hours	16	3.80
	16 or more	2	4.00

Table 4: Respondents' ratings on whether they learnt more working in groups than alone

Sample	Categories	No. of Respondents	Average
Gender	Male	23	3.17
	Female	28	3.00
Age	16-18 years	4	3.25
	19-21 years	12	2.92
	22-24 years	11	2.82
	25-27 years	16	3.13
	28-30 years	2	2.50
	31& above	6	3.83
	Year of study	First	10
Second		14	2.43
Third		11	3.27
Fourth		16	3.38
Courses registered for this semester	Two	5	3.20
	Three	4	2.75
	Four	42	3.10
Hours per week dedicated to group collaborative learning course	1 – 5 hours	41	2.90
	6 – 10 hours	4	3.50
	11 -15 hours	5	4.00
	16 or more	1	4.00

Majority of respondents in different categories, as shown in Table 4 agreed or tended to agree that they learnt more in groups than alone. This observation could be informed by the fact that

in group learning, different individuals are talented differently. This helps all involved in the group to benefit from each other's contributions as they discuss. Those in their second year of studies, however, disagreed that they learn more working in groups than alone.

Table 5: Respondents' rating on whether members of the group shared same goals

S/NO	Sample	Categories	No. of Respondents	Average
	Gender	Male	23	1.48
		Female	28	1.32
	Age	16-18 years	4	1.25
		19-21 years	12	1.25
		22-24 years	11	1.36
		25-27 years	16	1.56
		28-30 years	2	1.00
		31& above	6	1.50
		First	10	1.20
	Year of study	Second	14	1.36
		Third	11	1.27
		Fourth	16	1.62
	Courses registered for this semester	Two	5	1.20
		Three	4	1.25
		Four	42	1.43
	Hours per week dedicated to group collaborative learning course	1 – 5 hours	41	1.32
		6 – 10 hours	4	2.50
		11 -15 hours	5	1.20
		16 or more	1	1.00

As shown in Table 5, there was a consensus among the participants in different categories of respondents that not all group members shared the same goals in the process of collaborative learning. Some common obstacles to achieving common goals among group participants are discussed by O'Donnell and O'Kelly (1994) and Salomon and Globerson (1989). First, wastage of time in off-task behavior. Secondly, students engagement in social loafing, in which some of them do little or none of the common work, relying instead on others to do the work for them. Third, unequal interactions , in which some students talk most of the time, and/or some students participate very little or not at all. Fourth, negative interactions among students (e.g., criticism, ridicule, or harassment). All these are causatives for lack of common goals among group members. .

In Table 6, the participants' responses indicate variation of responses about organization and distribution of tasks and responsibilities among group members. Particularly, majority tended to agree that it is easy to organize collaborative learning. This could be informed by the fact that in most academic group work initiated by the instructor, the first agenda is normally to constitute the officials of the group who include the chairperson, secretary and the time keeper. It is only two sub samples who view this task as not being easy. On the contrary, the females, the third years, and those who dedicate at least 11 hours for collaborative experiences tended to disagree that it is easy to organize collaborative learning.

Table 6: Respondent's rating of the organization and distribution of tasks and Responsibilities among group members

Sample	Categories	No. of Respondents	Average
Gender	Male	23	3.00
	Female	28	2.21
Age	16-18 years	4	2.00
	19-21 years	12	2.75
	22-24 years	11	2.55
	25-27 years	16	2.81
	28-30 years	2	1.50
	31& above	6	2.33
	Year of study	First	10
Second		14	2.57
Third		11	1.64
Fourth		16	3.13
Courses registered for this semester	Two	5	2.60
	Three	4	1.50
	Four	42	2.67
Hours per week dedicated to group collaborative learning course	1 – 5 hours	41	2.51
	6 – 10 hours	4	3.75
	11 -15 hours	5	2.40
	16 or more	1	1.00

Table 7: Respondents' ratings of their being in commode with the group members taking active roles

S/NO	Sample	Categories	No. of Respondents	Average
Gender		Male	23	2.00
		Female	28	1.89
Age		16-18 years	4	1.00
		19-21 years	12	2.17
		22-24 years	11	2.00
		25-27 years	16	1.88
		28-30 years	2	3.50
		31& above	6	1.67
		Year of study		First
Second	14			2.00
Third	11			1.82
Fourth	16			2.13
Courses registered for this semester		Two	5	3.40
		Three	4	3.50
		Four	42	3.14
Hours per week dedicated to group collaborative learning course		1 – 5 hours	41	1.90
		6 – 10 hours	4	2.50
		11 -15 hours	5	2.00
		16 or more	1	1.00

Table 7 indicates mixed responses in regard to being in commode with group members, taking active role. Most categories of respondents tended to disagree while a few (such as those between 28 and 30) agreed that they feel uncomfortable with group members taking active roles. It is interesting to note that comparatively, the categories of those that dedicates more than 11 hours per week and those is in the age group of 16-18 disagreed that they feel uncomfortable with group members taking active roles.

Table 8: Respondents' ratings of their feeling whether they are not bothered when other members work more than themselves

S/NO	Sample	Category	No. of Respondents	Average
	Gender	Male	23	3.17
		Female	28	3.21
	Age	16-18 years	4	3.25
		19-21 years	12	3.17
		22-24 years	11	3.36
		25-27 years	16	2.88
		28-30 years	2	4.00
		31& above	6	3.50
		First	10	3.20
	Year of study	Second	14	2.93
		Third	11	3.73
		Fourth	16	3.06
	Courses registered for this semester	Two	5	1.80
		Three	4	2.25
		Four	42	1.38
	Hours per week dedicated to group collaborative learning course	1 – 5 hours	41	3.10
		6 – 10 hours	4	3.00
		11 -15 hours	5	4.00
		16 or more	1	4.00

As indicated in Table 8, majority of participants in different categories agreed that it does not bother them when some members work more than them. Those who had registered for two courses and those who had registered for four courses, however, disagreed and showed that it bothered them when some members worked more than them. This could perhaps be due to the fact that there are some in the group who tend to dominate everything without allowing others to share their experiences. The major intention of collaborative learning is to create a situation where all the participants are able to discuss and contribute what they know to the groups. This means each individual is given an opportunity to showcase their academic prowess. However, there are still some who will work more than others in the group.

DISCUSSION

Learners in collaborative groups experience a wide range of positive and negative perceptions and emotions that influence their attitude towards group learning (Wissel, 2008). These perceptions and emotions are influenced by dynamics and interaction skills within a given group. Findings in this study are in consistence with those of Brownstein (2001) and Dayal (2007) who posited that collaborative learning approaches that are learner-centered with the teacher as a guide and facilitator enhances longer retention of learned concepts regardless of age or gender of group members. Such strategies develop higher order thinking, disciplinary knowledge base and practical skills by placing the learner in the active role of problem solver.

The findings are also in harmony with that of Adolphus, Alamina and Aderonmu (2013) on effects of Collaborative Learning on problem solving abilities, which found no significant difference between the boys and girls. Therefore, as argued by Rue and Byars (1993), teachers as immediate supervisor of instruction need to consciously encourage members of different characteristics to form and actively participate in group collaborative activities and interact well with group members of opposite characteristics in order to reach high performance goal.

The results, however, disagree with the findings of Onah and Ugwu (2010) who indicated that performance in certain subjects, especially sciences in Secondary School level, is dependent on gender. It is also against the findings of Pinto (2012) whose investigation on the efficacy of homogeneous groups in enhancing individual learning revealed a significant improvement in individual student performance in the year the groups were made homogenous.

With these regards, therefore, it is advised that teachers should be creative enough to construct both heterogeneous and homogeneous collaborative groups of learners in order for learners to go through variety of learning experiences in order to affect effective learning.

CONCLUSIONS AND RECOMMENDATIONS

This work investigated students' attitudes towards group collaborative learning experiences. The results show that students liked participating in collaborative working experiences, had great preference to work in collaboration with others, viewed collaborative learning experience as important, and tended to agree that they learned more in group than alone. Although group members did not share the same goals in the process of collaborative learning, they tended to agree that it was easy to organize collaborative learning experiences.

Based on findings of this study, the following recommendations are suggested:

1. In the course of the lessons, teachers should set time for group work to motivate the learners not only to interact with the content, but also with the group members.
2. Since varying characteristics of learners do not influence their attitudes towards collaborative learning, teachers should organize groups of varying heterogeneous characteristics such as gender and age for effective collaborative learning so that learners will taste different types of experiences from their counterparts.
3. Since collaborative learning experiences are somehow frustrating in nature, teachers should be creative enough to motivate students and create joyful moments in collaborative learning so that learners will desire to participate in their groups amid frustration moments.
4. Teachers also need to train learners to work together in a mutual relationship considering the group dynamics principles.

AREAS FOR FURTHER STUDY

Future studies need to investigate:

1. Effective ways on assessing and evaluating group collaborative learning.
2. Psychological and Sociological management of frustration in group collaborative learning.

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Interaction Ritual and Industrial Conflicts

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Abstract

This study examined industrial conflicts in East Java from the perspective of Randal Collins' theory of interaction ritual. In particular, it looked at interaction ritual between labors and employers, members and committee of labor unions, and inter-labor unions after the New Order, and attempted to explain the significance of industrial conflicts among labors. In the post-New order era considered more democratic, the interaction rituals between labors and employers have not been effective. The ineffectiveness of the rituals could produce suspicion, lack in the spirit of work, and no sense of belonging, causing conflicts between the labors and employers. In addition, while freedom of establishing unions is considered democratic, it can also make labors disintegrated because the more the unions, the tighter the competition in recruiting the member. Horizontal conflicts are likely to occur as the labor unions also become exclusive and more concerned with their own interests, which then makes the negotiation capability and organizations of the labors become weak. Their bargaining position is also getting weaker since the number of labors who join unions becomes smaller as a result of the increased number of outsourcing workers. Another consequence is that each labor activist has different interpretation of industrial conflict. Some view it as a measure of last resort to press the employers, and some other see it an arena of learning and struggling for labors' normative rights.

Key words: industrial conflict, outsourcing, interaction ritual, normative rights, last resort, win-win solutions.

INTRODUCTION

Conflicts between labors and employers as well as rallies held on National Labor Day or other events post-New Order era are a socio-political phenomenon which has tendency to occur more frequently in many regions, including East Java. Whenever there is a new policy issued by the government, concerning the welfare of labors in particular, such as the cost of proper living, the determination of wage components and the minimum provincial/municipal wage, it is certain that rallies or, even, conflicts will take place, particularly when employers do not immediately resolve their demands.

A study conducted by SMERU Research Institute (2002) found that what the labors demanded during the industrial conflicts or a strike was a demand for non-basic rights such as increase in food allowances, transport allowances and menstruation leave. Based on the records of the Regional Office of Manpower in some research areas, disputes caused by issues non-basic rights occurred as many as 70%. Meanwhile, those caused by the demands for basic rights occurred as many as 30%. A study conducted by Sutinah et al. (2009) about the industrial conflict mapping in East Java found some pivotal issues related to conflict issues or industrial disputes, including issues about the wages (the amount of wages, wage components and the determination of wages), the increasing number of companies using contract labor and outsourcing, settlement of industrial disputes and so on.

In accordance with the data from January to July of 2011, there were strikes and labor protests as many as 26 cases in East Java, involving 24,256 labors with the number of working hours lost as many as 1,503,872 hours (Ditjend PHI and JSK, 2011). East Java was ranked second, after Banten (25,420 labors), by the number of labors involved. However, the number of working hours lost during strikes and demonstrations in East Java reached almost 80% out of national working hours lost. In the first semester of 2011 there was a tendency of increasing industrial conflicts ahead of Hari Raya, in which the labors went on strike and demonstrations to demand for holiday incentives and at the end of the year, upon the determination of the minimum wage for the following year.

Based on an annual report by the East Java Police as presented by the Head of Public Relations of the East Java Police, Police Commissioner Rahmat Mulyana, on Saturday (12/31/2011), throughout 2011, demonstrations in East Java dropped by 11.1 percent from the previous year (2010). In 2010 there were 1,254 rallies, while in 2011 there were 1,240 rallies. From January to June 2012 there were 548 cases with different causes of industrial disputes (conflicts), comprised of layoffs, demands for basic rights, conflicts of interest, conflicts between the unions/labors and strikes (Polda Jawa Timur, 2011).

What are the causes of the growing number of industrial conflicts occurring between labors and employers in East Java? Industrial conflicts are triggered by various factors, including low labor costs, the increasing number of companies using contract labors and outsourcing. On the other hand, the cost of basic needs increases due to rising prices of fuel oil. This article is not intended to explain the occurrence of industrial conflicts because of non-fulfillment of the basic rights of labors, but to argue that the conflicts are more likely motivated by the unsuccessful interaction ritual between labors and employers.

METHODS

The present study is a qualitative study using in-depth interview with labor activists. The activists are either the board of committee of labor unions or non board of committee members of labor unions in East Java. The number of activists interviewed in the present study was 16, who were chosen purposively. In addition to interviewing the activists, the researcher interviewed a businessman in East Java and two informants from The Regional Office of Manpower in Surabaya.

LITERATURE REVIEW

The present study uses non-Marxian perspectives, particularly Collins' theory about interaction ritual or interactional conflicts that adopts phenomenology approach, thus emphasizing on deep observation at the level of individuals. Collins suggests that some of the basic elements of organizational theory consist of individuals who seek their own interests, who are willing to accept sanctions at the expense of the fulfillment of their demands. Therefore, the analysis at the micro level reflects relationship of domination and obedience, symbolized by the rituals of respect, trust, especially when lower status people interact with people of higher status. Such rituals may happen either in a state of open conflict, in meetings or daily conversations.

Abercrombie, Hill and Turner (2010: 274-275) explained that the industrial conflicts have various manifestations such as strikes, sabotage, output restriction, non-cooperation, etc., occurring either individually or collectively. Labor issues left unresolved (rallies, strikes, etc.) have caused a number of companies to pull out of the country. In this case, there are two phenomena emerging simultaneously, i.e. labor action in the form of demonstrations or strikes

and the issue of investors leaving, relocating, and canceling their investment plans in Indonesia. These two phenomena have the same function, i.e. to pressure the government.

Given that there are a number of companies that will relocate their business, stopping the production process, using contract labor and outsourcing, protests by labors, directly or indirectly, will result in dismissals and other following problems such as the issue of severance pay. If these issues are not immediately resolved, new conflicts between labors and employers, or even with the State, will arise.

Conflicts between labors and employers, according to Haryani, are caused by both individual and organizational factors. Individual factors arise because of differences in individual characteristics or interaction between individuals, causing resentment toward others, miscommunication and mistrust between individuals. On the other hand, organizational factors comprise competition for limited resources, unclear responsibilities and legal rights, wage system, and power differences among members of the organization.

Less harmonious industrial relations caused by lack of mutual trust between labors and employers occur in most regions in Indonesia, including East Java. While labors see employers as the party that always expresses the loss, employers look at the labors and trade unions as the party that is full of demands regardless of the difficulties employers face (Euis D. Shadiman in *Jurnal Ilmu Hukum Litigasi*, 2009, Vol 19, Number 1 February). Law No. 13 of 2003 on Labour includes negotiation mechanism, but does not require negotiations between labors and employers when there is a problem of industrial relations between the parties, as expressed by Rekson Silaban, Chairman of the Confederation of Indonesian Prosperity Trade Union (KSBSI) (Rekson Silaban 2006 : 6).

Inconsistent law implementation makes employers easily avoid negotiations. As a consequence, industrial relations get disturbed and communication is hampered. This circumstance often trigger protests or, even, strikes. Collins explained unsuccessful interaction ritual, including communication between labors and employers which is not going well, becomes a source of industrial conflicts. Industrial conflicts, according to Collins, do not occur because one party (employers) holds power (authority), while the other party does not have the power (authority).

Authority relations or power relations, according to Collins, are a continuous hierarchical distribution where a number of people are given commands, which later becomes the basis for exploitation and social conflict in modern society that is increasingly industrialized (Syed Nur Santosa Kristeva. *Negara Marxis dan Revolusi Proletariat*, Yogyakarta: Pustaka Pelajar, 2011: 12-15). According to Collins, the main source of conflict in social life is the result of man's efforts to influence or control the subjective definitions of others in order to increase his advantage in interpersonal encounter (Doyle Paul Johnson, *ibid*: 207 and George Ritzer and Douglas J. Goodman, 2003, *ibid*: 207).

Greenberg and Baron explain that industrial conflicts arise because of the differences in the interests of the company. Conflict is a process yielded by individual or collective action, and has negative effects on labors' interests. Meanwhile, the Law No. 2 of 2004 on the Settlement of Industrial Relations Dispute defines industrial disputes as a dissent causing conflict between employers or a group of employers and labors or labor unions because of the dispute about the

rights, interests, dismissals as well as disputes between unions in a company (UU NO. 2 of 2004).

FINDINGS AND DISCUSSION

Almost every year, East Java face various socio-economic problems, among which are labor issues such as unemployment, low wages, strikes, layoffs, contract labor and outsourcing. Industrial conflicts recently occurred in the form of rallies and strikes, often with riot, road-blocking, hostage-taking, and so forth. Industrial conflicts are more likely caused by labors demanding improvements in facilities or working conditions. Sutinah (2010) (Sutinah, et al, 2009: 80) found that the facilities/working conditions in need of improvements were as follows.

Table 1: Facilities/Conditions in Need of Improvements

Facilities/Conditions Need Improvements	Very Necessary	Necessary	Fairly Necessary	Not Necessary
1. Wages	42.4	46.5	10	1.2
2. Holiday incentives	14.1	75.9	8.8	1.2
3. Overtime wages	5.9	78.2	13.5	2.4
4. Contract labors	52.4	32.9	12.4	2.4
5. Layoffs mechanism	16.5	68.4	8.2	4.7
6. Work hours	2.4	56.5	27.1	14.1
7. Workforce insurance	16.5	46.5	25.9	11.2
8. Labor union	8.8	47.1	22.4	21.8
9. Right to Worship	2.4	47.6	12.2	31.8
10. Leave	2.4	47.6	12.2	31.8

Source: Sutinah, et al (2010) about Conflict Mapping in East Java

In accordance with the list, facilities/conditions that need improvement are of labors' basic rights, in addition to the issues of contract labor, outsourcing and layoffs. The demands presented by the labors are closely related to physiological needs, which, according to the labors, can be resolved without having to go down to the street, as long as employers are willing to engage in dialogue with labors to discuss issues between labors and employers. In fact, a similar study also found that conditions such as wages, THR, overtime and transport are still insufficient. If fuel prices rise, the wages received is getting more insufficient. However, labors can understand suppose market demand is declining or rising prices of raw materials, as long as the employer expressed openly. The frequent occurrence is that either in difficult conditions or increased market demand, employers always state that the company is facing difficulties, causing distrust and the seeds of conflict.

Consequently, well established relationship between labors and employers will deteriorate, and the production process will also decrease, which can then lead to industrial conflicts that often disturb the public. On the one hand, industrial conflict is an issue that directly brings a serious impact on the business climate as a result of unsuccessful interaction ritual and communication deadlock. Even the company needs to take out a huge cost for security officers in addition to severance pay in case there is a layoff. On the other hand, there are issues of employment, unemployment and poverty which need to be addressed immediately.

Industrial conflicts in East Java, in general, can be seen through various rallies/demonstrations, protests and labor strikes. Central issues voiced out in the recent rallies include the abolition of outsourcing, contract labor, low wage rejection, other labors' basic rights, and layoffs. In East Java, industrial conflicts between employers and labors occur frequently. Based on the number of labors involved in the rallies or demonstrations and strikes, the industrial conflicts occurred in a large scale. In various areas in East Java, protests to ask for holiday incentives prior to Hari Raya most certainly happen, as it did in July-August 2012 in which many labors demanded holiday incentives and higher provincial minimum wage that coincidentally occurred nearly at the same time. Besides, rallies or demonstrations of labors in commemoration of International Labour Day on May 1, known as Mayday, invariably happen.

CONCLUSION AND SUGGESTION

The study found that the involvement of labors in various rallies, demonstrations and strikes are forms of industrial conflict motivated by the ineffectiveness of negotiations or dialogue involving bipartite and tripartite elements. In the mechanism of determining the costs of proper living and minimum wage, 'deadlock' occurred frequently. When labor representatives entered the room, the employers left and vice versa, so they could not sit together to solve the problems. The unsuccessful dialogue has made the interests of labors left unaccommodated, including low wages, determination of the minimum wage, costs of proper living and components of proper living. Thus, conflicts could not be avoided.

The increasing number of contract labors, outsourced labors in the production process (core business) and severance are an indicator of the lack of interaction between the employers (management) and labors. This causes labors to feel disrespected. In addition, the lack of socialization of related laws and regulations often creates suspicion of the government's bias to employers, not to mention the inconsistent implementation of the legislation, as well as lack of commitment to implementing the regulations and policies. Thereby, industrial conflicts are not only because of the labors who are always demanding, but also issues of the communication deadlock among various elements involved in industrial relations. Labor as an element directly involved in the production process is often compared to the manufacturing machine. Thus, when the cost of production increases, the labors' wage is the most flexible element to be pushed. Hence, the phenomenon of industrial conflict is not a stand-alone issue, but involves many intertwined elements.

Labors realize that they have a very pivotal role in the production process and hope they are recognized as partners by their employers. Holding rallies, demonstrations and even strikes is actually their last choice in order to make each element in industry realize their respective positions and consistently implement legislation.

In order to reduce the frequency of various actions held by labors to voice their demand, a number of recommendations below can be taken into consideration.

First, in order to minimize the occurrence of industrial conflicts, employers, the state (government) and labors should sit together to discuss the problems faced by employers and labors, so that their interests are met in one point and they can find solutions that are not detrimental to either party, but win-win solutions. Each party should be mutually tolerant. Employers have to be aware that labors are the spearhead of the production process, while labors also need to realize that the availability of job fields at such time is very limited.

Second, commitment of all related parties in industrial relations is required particularly in implementing policies, laws and regulations related to labors and employment issues. The state (government) who formulates legislation should not violate the provisions made, including freedom of association, the application of minimum wage and the use of outsourced labors so as not to cause 'prejudice' that the state (government) with its legislation is siding with the employers. As the state (government), admittedly or not, feels 'scared' against the threat of employers who will relocate their business overseas, labors are at disadvantaged position again.

Third, the state (government) and employers need to understand the significance of industrial conflicts among labors. Hence, in handling industrial conflicts in the form of rallies, demonstrations and even strikes, they should not be repressive. Insteade, they should handle any conflict with a more empathetic and democratic approach, so that the problems can be solved without creating new problems. They need to understand that various labor actions are labors' efforts to fight for their basic rights, even they are done as their last choice (necessity) and last attempt when the dialogue and sit-down, either bipartite or tripartite is not reached.

Fourth, a joint forum may be needed to fight for labor rights and to raise awareness that the role of labor unions is to accommodate the aspirations of members (labors) and jointly defend or fight for labor rights, and not to become provider of outsourced labors. Therefore, the establishment of labor unions which have been regulated in the Law no. 21 in the year of 2000 concerning Trade Union/Labour Union requires supervision or control of the related parties concerned, whether the unions currently developing are appropriate or deviating the provisions. Thus, inter-union conflicts can be eliminated. The joint forum can be realized in the form of joint exercises and morning coffee session between employers (management) and labor representatives. It can be an "early warning system" so that various labor actions can be anticipated, and positive interaction rituals can occur.

Fifth, there is a need to evaluate the number of existing labor unions because the number of unions is not in proportion to the number of labors registered as the members. Increasing number of labor unions results in division among the labors and, consequently, makes labors' position weak and not solid. Therefore, control upon the unions is necessary.

Sixth, given the determination of minimum wage is the most crucial conflict trigger, the Wage Council should be objective and neutral. Discussion forums related to the results of a survey on the components of proper living are necessary prior to the submission of the proposed wage to mayor/regent or governor. Thus, the determination of the minimum wage can meet the interests of both sides, i.e. labors and employers. ***)

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Do Perceived Organizational Justice and Trust Determine Satisfaction of Performance Appraisal Practice? A Case of Malaysian Secondary School Teachers.

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Abstract

The purpose of this study is to investigate the organizational justice and trust as the determinant of satisfaction in teachers' performance appraisal system. This study was carried out by using survey method. In this research, this questionnaire was administered to 714 teachers from 102 secondary public schools in the Northern Region of West Malaysia. The data were analyzed by "Hierarchical Moderated Multiple Regression Analytical Procedures" (HMMR), using the statistical package program (SPSS15.0). As a result, it is revealed that the organizational justice (distributive, procedural, interpersonal) poses a positive influence on the performance appraisal satisfaction. Elevating the degree of trust and satisfaction among teachers towards the performance appraisal, and creating a conducive environment for teachers to improve their performance are the best strategies to achieve teacher's performance appraisal satisfaction.

Keywords: perceived organizational justice, trust, performance appraisal.

INTRODUCTION

Overcoming the matters of teachers in a school organization flushed with various assumptions exposes the Malaysian school principals with uncertainties towards the act and consequences that involves one's career and remuneration (Yusof, 2004). In leading schools for the global age, principals must ensure the existence of transparency, honesty, and sincerity. When a principal is perceived to be just and fair, the degree of confidence and assurance of teachers towards the principal will increase besides decreasing the bias subjectivity in the performance appraisal (Hoy & Tschannen-Moran, 2003). The fact is teachers' trust towards the leader and the organization is prominent as it has the ability to influence justice in the work place (Lewicki, Wiethoff, & Tomlinson, 2005). Besides, trust is approved to have the ability of encouraging cooperative acts, reducing conflicts and dissatisfactory among teachers in various

aspects (Geist & Hoy, 2003). According to Petersen (2008), perceived justice and trust among teachers towards the school can influence the effectiveness of the execution of performance appraisal in a school. Similarly, Harrison, Newman and Roth (2006) found that teachers' trust towards the leader and the organization pose a direct impact to the increase satisfaction of performance appraisal practice among teachers in a school. When teachers feel that their contribution, concerns and matters of welfare acknowledged while receiving rightful consideration from their employer (principal) and organization, in return, it increases the teacher's trust towards the leader and the organization (Petersen, 2008).

Therefore, the aim of this research is to identify empirically the potential of perceived organizational justice and trust (towards the leader and the organization) as important factors in determining the satisfaction of performance appraisal practice among Malaysian secondary school teachers.

PERFORMANCE APPRAISAL SYSTEM IN MALAYSIA

The employees' performance appraisal was introduced in Malaysia during 1992. This evaluation system is also known as New Performance Appraisal System (SSB) where it is a continual evaluation process throughout the year. Usually, the discussion between the employer and employees regarding the achievement of various targets used to be held in the mid-year to give employees the opportunity to standardize targets that were being set earlier before the actual performance appraisal during the end of the year. Although, new appraisal techniques were introduced, as a result the Performance Appraisal System faced critiques and opposition from various sources including the employees and the Labor Association, e.g.: CUEPACS (News Straits Times, 2000). The main issue being raised is the concern of justice during the performance appraisal process. The concerning researches revealed that most employees are dissatisfied with the evaluator (Hamid, 1999), also the biased assessment in their performance evaluation (Abdul-Manap, 1996). Hence, after weighing the weaknesses in the New Performance Appraisal System (SSB), a more comprehensive appraisal method, also known as Malaysia Remuneration System (SSM) was introduced on the first of November 2002. The system was evaluated through Annual Performance Appraisal Form and also through the evaluation of Level of Efficiency Test (PTK).

Despite the fact that performance appraisal is considered as a tool for improving performance. Yet, the studies on teachers performance appraisal are limited. According to Erdogan (2002), teacher's perception towards justice exercised in the performance appraisal lacks inspection. Similarly, Kelly, Ang, Chong, and Hu (2008) and Kropidlowski (2007) stated that performance appraisal should be examined every year to determine whether changes are necessary to increase its efficiency. A number of studies that have been carried out in the last few decades in Malaysia spark off similar issues related to the justification process and the performance appraisal system (Abdul-Manap, 1996), dissatisfaction towards the evaluator (New Straits Times, 2000; Mohamed, 1998); dissatisfaction towards the performance grades given (Hashim, 1998), dissatisfaction towards the utilization of the continual evaluation method (Ahmad, Ismail, & Khairulzaman, 2007). Thus, the justness and integrity aspect plays a prominent role in the efficacy of performance evaluation where these aspects should be emphasized in an organization especially in a school's organization.

PERCEIVED ORGANIZATIONAL JUSTICE AND TRUST

Justice in an organization are gaining their importance as justice effects of any organization's achievement in the aspects of work efficacy, whereby it motivates employees' loyalty to the organization, besides causing them to feel dignified and respected in the organization

(Sheppard, Lewicki, & Minton, 1992). According to Singer (1993), when justice is not emphasized, there is a great possibility that negative consequences may befall the organization. Because justice is a social phenomenon that does not only affect the social lives of the employees but also their professional activities (Beugre, 1998). Justice in the work place is found to have correlation with employees' attitude, for example, their degree of satisfaction (Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Poulus, 2004).

Although, organizational justice is not a new phenomenon, but it has been ignored in the educational field (Hoy & Tarter, 2004). Teachers who attain justice in decisions made were discovered to have positive attitudes towards the school (Colquitt et al., 2001). Justice is not only important for an organization but is also crucial to the employees' welfare (Poole, 2008), and help to increase the degree of satisfaction among employees (Johns & Alan, 2001). Recently, organizational justice is viewed in four dimensions includes distributive justice, procedural justice, interpersonal justice and informational justice (Colquitt et al., 2001). Distributive justice is defined as employees' perception towards allotments endowed, for example, promotion or salary increment (Adams, 1965). Procedural justice is defined as employees' perception towards the procedures used in endowing allotments (Thibaut & Walker, 1975). Interpersonal justice describes the employees' perception towards the interpersonal treatment given while in the process of allotting endowment (Bies & Moag, 1986). Further, informational justice is the perception of employees towards their employer in providing clear explanations regarding a decision made (Bies, Shapiro & Cummings, 1988).

Meanwhile, trust in this research is based on Blau's Social Exchange Theory (1964), whereby this theory explains the relationship between individuals which is based on the outcome/benefit one gets from that relationship. When one puts his trust in another person, favors are expected in return (Blau, 1964). From the organizational perspective, trust can be seen in two aspects includes trust towards the organization and trust towards the leader. According to Mayer and Davis (1999), employees who have a high degree of trust towards the organization will strive to assist the organization in achieving its targets. Further, Setton, Bennet and Liden (1999) found that employees are willing to exceed targets set to prove their trust and assurance towards the organization.

In the school's context, teachers' trust towards the school is very significant as teachers who put trust in the school display commitment in their work (Hoy & Tschannen-Moran, 2003). Trust includes one's credibility and if this aspect is not being acknowledged or recognized, the trust that exists in the organization can be easily effaced. Hence, trust should always be preserved and sustained to ensure the continuance of an organization. The trust among teachers towards their leader is important in an organization as this trust is fundamental in building a productive school (Tschannen & Moran, 2004). In the school's context, teacher's trust towards the principal is important in creating an awareness of justice among the teachers in school. A leader in the school will not be capable of leading if he/she does not gain trust from the teachers (Brewster & Railsback, 2003). The teacher's trust towards the principal will encourage an open interaction among the teachers and the principal whereby this indicates that the principal is dependable, trustworthy, diligent and is concerned towards the teachers (Geist & Hoy, 2003). When a principal earns trust from teachers, the teachers will feel dignified in their workplace (Hodson, 2001). Teachers' trust towards the principal is also important in schools as this trust is the cornerstone in propelling towards school's excellence (Tschannen & Moran, 2004). A principal cannot lead efficiently if there is no trust among the teachers (Brewster & Railsback, 2003). Teachers' trust towards the principal will encourage an open

interaction between the teachers and the principal, in which this demonstrates the principal's reliability, efficacy, honesty, and attention to the teachers (Geist & Hoy, 2003).

Justice and trust towards an organization are the key elements in every process that involves human resource especially in executing the performance appraisal. The performance appraisal is the process where the authorities evaluate the employees in terms of quality and work performances (Kirkpatrick, 2006). The employees' performance appraisal is a prominent factor in the human resource aspect in an organization as it influences and propels an employee's productivity (Murphy & Cleveland, 1995). Likewise, dissatisfaction among employees towards the performance appraisal leads to the system's failure (Cardy & Dobbins, 1994). Unfortunately, in previous research, the aspect of employees' perception regarding the performance appraisal was not emphasized much as researchers concentrated more on the psychometric and accuracy aspects in the performance appraisal rather than focusing on the aspect concerning employees' satisfaction (Balzer & Sulsky, 1990). Therefore, this research attempts to find out the employees' perception towards the performance appraisal which should be viewed as equal importance as the employees' satisfaction plays a significant role in boosting one's motivation while inducing positive attitude at work (Jawahar, 2005). According to Jawahar (2005), satisfaction in the performance appraisal has a positive correlation with one's job satisfaction and commitment towards the organization while being able to downturn one's wish in withdrawing from his job.

RESEARCH PURPOSES

The purpose of this study is to investigate the perceived organizational justice and trust (towards the leader and the organization) as the determinant of the satisfaction in teachers' performance appraisal system. Thus, the study aims to identify:

- a) The main effects of perceived organizational justice and trust (towards the leader and the organization) on the satisfaction of performance appraisal practice.
- b) The moderation effects of trust (towards the leader and the organization) on the relationship between perceived organizational justice and satisfaction of performance appraisal practice.

RESEARCH METHODOLOGY

The respondents for this research were trained teachers who chosen randomly from 102 national secondary public schools in the Northern Region of West Malaysia. In total, 714 teachers (7 respondents from each school) were chosen randomly to take part in this research.

Meanwhile the data for this study was gathered by using a set of questionnaire consist of three sections. The first section measures the perceived organizational justice developed by Price and Mueller (1986), and Colquitt et al. (2001). The second part of the questionnaires measures the trust among teachers towards the organization using four items constructed by Scott (1981). The third section was used to measure the satisfaction towards the performance appraisal system developed by Colquitt, et al. (2001).

RESEARCH FINDINGS

Descriptive Statistics

The descriptive analysis includes mean, standard deviation, the Cronbach Alpha reliabilities value and the intercorrelation of all research variables as tabulated in Table 1.

Table 1: Mean score, Standard Deviation, Cronbach Alpha's coefficient and Correlation between Variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Distributive Justice	3.64	1.23	(.93)									
2. Procedural Justice	3.88	1.28	.60**	(.77)								
3. Interpersonal Justice	3.62	1.07	.54**	.67**	(.82)							
4. Informational Justice	3.69	1.16	.49**	.70**	.77**	(.88)						
5. Trust towards Leaders	3.04	1.18	.54**	.67**	.60**	.76**	(.95)					
6. Organizational Trust	3.85	1.28	.36*	.45**	.58**	.49**	.29*	(.89)				
7. Performance Satisfaction	3.34	1.05	.49**	.57**	.42**	.47**	.45**	.62**	(.91)			
8. System Satisfaction	3.80	1.12	.53**	.63**	.70**	.63**	.54**	.61**	.61**	(.88)		
9. Evaluator Satisfaction	3.02	1.14	.43*	.52**	.54**	.50**	.34*	.42**	.34*	.56**	(.86)	
10. Feedback Satisfaction	3.85	0.97	.50**	.58**	.49**	.52**	.35*	.67**	.54**	.34*	.57**	(.87)
* sig. at the level of $p < .05$; ** sig at the level of $p < .01$ Cronbach Alpha's value as stated in brackets												

The results show that the reliabilities for the instruments are high with the values of Cronbach Alpha obtained in a range of 0.77 to 0.93. The intercorrelation value ($.29 \leq r \leq .77$) shows that all organizational justice's variables have a significant relationship with the satisfaction of performance appraisal practices variables. This finding is important in the effort of identifying the distinct and unique contributions of variance obtained from the perceived organizational justice's variable and the satisfaction of performance appraisal practice variable for future research analysis.

Aggregate Effects of Organizational justice and Trust (towards the leader and the organization) on the Satisfaction of Performance Appraisal Practice

When conducting the analysis regarding the effects of aggregate, a few steps have been employed. Firstly, the sum of variance obtained from the perceived organizational justice and trust towards leaders and organizations' variables versus the satisfaction of performance appraisal practice variables was calculated. This analysis was carried out by using the regression analysis of each satisfaction of performance appraisal practice variable towards four variables of perceived organizational justice and two variables of trust. The full equation of the regression model for this research is as follows:-

$$Y_i = \alpha + \sum_j \beta_{ij} KO_j + \sum_k \beta_{ik} T_k + \varepsilon$$

Where,

- Y_i = Satisfaction of Performance Appraisal Practice variable (i = 1 till 4)
- β = Regression's coefficient
- KO_j = Perceived organizational justice variable (j = 1 till 4)
- T_k = Trust variable (k = 1 till 2)

Above is an estimation of the model where each dimension of perceived organizational justice is extracted distinctively from the full regression model in order to identify: a) the unique contribution of the variance summation from every dimension of organizational justice in the satisfaction of performance appraisal practice variables and, b) the summation of the satisfaction of performance appraisal practice variables as contributed by all shared perceived

organizational justice variables, and by subtracting the contribution of each set from the sum of perceived organizational justice variance. The results are reported in Table 2 below:

Table 2: Variance Fractions in the Satisfaction of Performance Appraisal Practice by the Perceived Organizational Justice and Trust (towards the leader and the organization).

	Dimensions of satisfaction of Performance Appraisal			
	Grades	System	Evaluator	Feedback
<i>Perceived Organizational Justice</i>				
(A) Variance contributed by distributive justice	10%	8%	11%	12%
(B) Variance contributed by procedural justice	6%	7%	7%	6%
(C) Variance contributed by interpersonal justice.	1%	1%	1%	1%
(D) Variance contributed by informational justice	2%	1%	1%	1%
Total variance shared from (A) to (D)	13%	12%	13%	13%
Total variance contributed by Perceived Organization Justice	32%	29%	33%	33%
<i>Trust</i>				
(E) Variance contributed by Trust towards Leader	5%	6%	8%	6%
(F) Variance contributed by Trust towards Organization	1%	2%	1%	1%
Total variance shared by (E) and (F)	7%	7%	9%	8%
Total variance contributed by Trust	13%	15%	16%	15%
Total variance shared from (A) to (F) regarding satisfaction of performance appraisal practice	29%	28%	26%	20%
Total variance contributed by both Perceived Organizational Justice and Trust	74%	72%	75%	68%

The findings obtained from the aggregate analysis presented in Table 2 display an interesting pattern. Firstly, the figures of the total variance explained in the dimension of satisfaction towards performance appraisal grade (74%), satisfaction towards the performance appraisal system (72%), satisfaction towards the performances' evaluator (75%), and satisfaction towards performances' feedback (68%), in which these variables obtained from the aspects of perceived organizational justice, trust towards leaders and the organization is very encouraging. Also, the finding reveals that perceived organizational justice factor has a higher impact towards the variables satisfaction of performance appraisal compared to the factor of trust towards the leader and organization. This situation is obvious in variables, for example satisfaction towards performance appraisal's grades (32% contributed by organizational justice versus 13% by the factor of trust), satisfaction towards the performance appraisal's system (29% contributed by organizational justice versus 15% contributed by the factor of trust), satisfaction towards the performances' evaluator (33% contributed by perceived organizational justice versus 16% by the factor of trust) and satisfaction towards performance appraisals' feedback, and finally (33% contributed by perceived organizational justice versus 15% by the factor of trust).

Secondly, in viewing the total of variance explained by both groups of perceived organizational justice variables as well as trust towards leader and organization variables versus satisfaction of performance appraisal practice variables, it is very encouraging as the figure falls between 20-29%. Furthermore, the total variance shared by variables of the perceived organizational justice is far more (twice as much or more) if compared to the total variance contributed by the factor of trust towards leaders and organization out of every dimension of satisfaction of performance appraisal practice.

For not losing the explanatory value there is a great need to measure the effects of perceived organizational justice variation in explaining satisfaction of performance appraisal practice in a school organization. For example, the findings indicated that the variance combination contributed by perceived organizational justice and the trust towards the leader and organization influences the percentage of satisfaction towards the performance evaluator by 75%. Yet, under scrutiny, the findings showed a unique proportion of 16%, obtained only from the variance differences, contributed by the trust towards the leader and organization whereas the remaining 59% is obtained from the perceived organizational justice factor (33%), and sharing a percentage of 22% between the perceived organizational justice factor and the trust towards the leader and organization factor.

Practically, this finding presents two significant contributions. Firstly, in terms of methodology, this finding explains that when the variables of trust towards the leader and organization is omitted from the analysis, the researcher will only lose 16% of the variance from the total of variance contributed by the trust variable concerning the satisfaction of performance appraisal practice in a school organization. In fact, similar changing patterns of variance can be seen in other variables for example the satisfaction towards the performance appraisals' grades, satisfaction towards the performance appraisal system, and satisfaction towards performance appraisals' feedback. Secondly, this research discovers that satisfaction of performance appraisal practice in a school organization is very much affected by the factors of perceived organizational justice, especially distributive and procedural justice compared to the factors of trust towards the leader and organization. Hence, in this research, it is proven that perceived organizational justice is the more critical determinant compared to the factors of trust towards leader and organization concerning the matters of satisfaction of performance appraisals practice.

Individual Effects on the Satisfaction of Performance Appraisal Practice

In the second phase of analysis, the effects of each variable of organizational justice and trust towards satisfaction of performance appraisal practice variables (satisfaction in the performance grades, satisfaction in the performance appraisal system, satisfaction towards the performances' evaluator and satisfaction towards the performances' feedback) were evaluated individually. Through this, the researchers will be able to determine individually the effects contributed by each dimension of organizational justice and trust towards the satisfaction of performance appraisal practice while manipulating all the other predictions. The total of individual contributions by every variable can be referred as the relative estimation of the magnitudes' coefficient regression which has been standardized and its value () as displayed in Table 3 below.

Satisfaction towards Performance Appraisals' Grades

The findings reported in Table 3 showed that only two dimensions of organizational justice has a positive influence towards the satisfaction concerning performance appraisal grades. Both dimensions are the distributive justice ($\beta = .22$) and procedural justice. ($\beta = .35$). In turn, this finding suggests that schools which exercise high distributive and procedural justice will be experiencing an increase in teacher's degree of satisfaction towards their performance grades in school.

Satisfaction towards Performance Appraisal System

The findings showed that there are two dimensions of organizational justice that influences the satisfaction towards the appraisal system. They are, procedural justice ($\beta = .17$) and

interpersonal justice ($\beta = .24$) which pose direct positive influence towards the teachers' satisfaction regarding the performance appraisal system. Meanwhile, trust towards leader ($\beta = 0.28$) is also found to have a direct effects towards teachers' satisfaction regarding the performance appraisal system. This finding indicates that schools that practice high procedural and interpersonal justice are found to have high satisfaction regarding the performance appraisal system. Furthermore, teachers' satisfaction towards the performance appraisal system will increase when the teachers' trust towards the principal is high.

Table 3: Standardized Regressions' Coefficient (β) in the Organizational justice and Trust (towards the leader and the organization) towards the Satisfaction of Performance Appraisal Practice

	Dimensions of Satisfaction on Performance Appraisal Practice			
	Grades	System	Evaluator	Feedback
Organizational justice				
• <i>Distributive Justice</i>	0.22*	-	-	0.20*
• <i>Procedural Justice</i>	0.35**	0.17*	-	0.29**
• <i>Interpersonal Justice</i>	-	0.24**	-	-
• <i>Informative Justice</i>	-	-	-	-
Trust				
• <i>Trust towards the Leader</i>	-	0.28**	-	-
• <i>Trust towards the Organization</i>	-	-	-	-

Sig at the level of * $p < 0.5$; ** $p < 0.01$

Satisfaction towards the Performance Appraisal Feedback

The findings revealed that only two dimensions of organizational justice have positive and significant effect towards the teachers' satisfaction in the performance appraisal feedback. They are distributive justice ($\beta = .20$) and procedural justice ($\beta = .29$). In other words, this finding explains that when schools practice distributive and procedural justice, teachers' satisfaction towards the performance appraisal system feedback will also increase.

Moderation Effects of Trust (towards the leader and the organization) on the Relationship between Organizational Justice and Satisfaction on Performance Appraisal Practice

The moderation effects of trust towards the leader and organization has been analyzed by determining the change of value R^2 contributed by the interaction of organizational justice variables X trust when being added in the final procedure of the hierarchy regression. If the interaction aspect is being added to the regression analysis procedure, a significant change in the value of R^2 will be produced (through the summation of the total variance explained in the performance appraisal satisfaction), whereby the trust variable can be labelled as the moderator in the relationship between organizational justice and the variables of performance appraisal satisfaction. The result of the analysis concerning the effects of moderation trust towards the relationship between organizational justice and performance appraisals' satisfaction is displayed in Table 4. The values reported in Table 2 shows only the significant figures of the weightage values of standardized regression (Beta) for the organizational justice interaction variables X Trust.

Next, a continual analysis was carried out to identify the existing moderator patterns in this research. Hence, in determining the moderator's pattern, the definition suggested by Howell, Dorfman and Kerr (1986) was used. According to Howell et. al., (1986), "neutralizer" is formed

when effects obtained from both variables of organizational justice and interaction (organizational justice X trust) are significant yet having two distinctive signs. In other words, the “neutralizer” moderator decreases the effect of organizational justice towards the satisfaction of performance appraisal practice. Meanwhile, the “enhancer” moderator takes shape when results obtained from both variables of organizational justice and interaction (organizational justice X trust) are significant and having the similar signs. When this occurs, then the “enhancer” moderator is said to be able to increase the effects of organizational justice towards the satisfaction of performance appraisal practice.

Table 3: A Brief Analysis on the Moderated Regression of the Moderating Effects Trust towards the Relationship between Organizational Justice and the Performance Appraisals’ Satisfaction

	Dimensions of Performance Appraisal Satisfaction			
	Grades	System	Evaluator	Feedback
Distributive Justice				
• Trust towards the Leader	-	.32* (E)	.25* (E)	.27* (E)
• Trust towards the Organization	-	-	-	-
Procedural Justice				
• Trust towards the Leader	-	.19* (E)	.18* (E)	.29* (E)
• Trust towards the Organization	.27* (E)	-	.29* (N)	-
Interpersonal Justice				
• Trust towards the Leader	.50* (E)	-	-	.21* (E)
• Trust towards the Organization	-	-	-	-
Informative Justice				
• Trust towards the Leader	-	-	-	-
• Trust towards the Organization	.22* (N)	-	-	.18* (N)

Note: Sig at the level of * $p < 0.5$;
E- Moderator Enhancer
N- Moderator Neutralizer

As shown in Table 4 the findings revealed that among 32 possibilities of interaction outcomes being examined (4 Organizational Justice variables X 2 Trust Variables X 4 Satisfaction of Performance Appraisal Practice variables), only 12 significant effects of moderation are obtained. Secondly, the moderator patterns found abundant in this research is the enhancer, with the amount of 9, compared to the neutralizer pattern, with only an amount of 3. The variable of trust towards the leader appears to be the most frequently variable that act as the moderator compared with the variable of trust towards the organization in this research. Meanwhile, procedural justice is found to have received trust moderation effects the most in its relationship with the satisfaction of performance appraisal practice variables. Finally, the findings of the research also indicate that the moderation effects of the trust variable occur most frequently towards the satisfaction towards performance appraisals’ feedback. The explanation concerning the findings of moderation effects according to each variables of organizational justice are as follows:-

Distributive Justice Moderation

The findings of the research revealed that the factor of trust towards the leader act as the enhancer in the relationship between distributive justice and the satisfaction towards the teachers’ satisfaction towards performance appraisal system, satisfaction on the evaluator and the performance appraisals’ feedback. This result indicates that trust towards the leaders is able to increase the effects of distributive justice towards the appraisal systems’ satisfaction, satisfaction in the performances’, evaluator and satisfaction in the performance appraisals’ feedback.

Procedural Justice Moderation

The findings indicate that teachers' trust towards the leader act as the enhancer in the relationship between procedural justice and the satisfaction towards the performance appraisal system, satisfaction on the evaluator, and the satisfaction in the performance appraisals' feedback. This result reveals that trust towards the leaders is able to increase the effects of procedural justice towards the appraisal systems' satisfaction, satisfaction in the performances', evaluator and satisfaction in the performance appraisals' feedback.

Meanwhile, trust towards the organization acts as the enhancer moderator in the relationship between procedural justice and satisfaction towards the performances' grade. In another context, trust towards organization also act as the neutralizer moderator in the relationship between procedural justice and the satisfaction towards the performance appraisals' evaluator. This finding explains that trust towards the organization is able to elevate the effects of procedural justice towards the satisfaction in the performances' grade. Teachers' trust towards the organization also decreases the effects of procedural justice towards the performance appraisals' feedback.

Interpersonal Justice Moderation

The findings of the research revealed that, trust towards the leader act as the enhancer moderator in the relationship between interpersonal justice and the satisfaction towards the performances' grade and also the satisfaction towards the performance appraisals' feedback. This result indicates that the trust towards leader is able to elevate the effects of interpersonal justice towards satisfaction of the performances' grade and the performance appraisals' feedback.

Informational Justice Moderation

The findings show that only the factor of teachers' trust towards the organization act as the neutralizer moderator in the relationship between informational justice and the satisfaction towards the performances' grade and also the satisfaction towards the performance appraisals' feedback. This result explains that trust towards the organization is able to elevate the effects of informational justice towards satisfaction of the performances' grade and the performance appraisals' feedback.

DISCUSSION

Inspection on the effects of aggregates towards organizational justice and trust variables towards the performance appraisal's satisfaction in this research has produced a few interesting findings. Firstly, the addition of two variables of trust (leader and organization) together with the variables of organizational justice (distributive, procedural, interpersonal, informational) has increased the total of variance contributed towards the four variables of performance appraisals' satisfaction. Secondly, the finding also revealed the trust variable contributes its variance towards every variable of the performance appraisals' satisfaction (grades, system, evaluator, feedback), yet its total is still lower compare to the contributions of organizational justice towards the variable of performance appraisals' satisfaction. When taking into consideration the findings concerning the effects of aggregate towards the performance appraisals' satisfaction, the results from the research reveals the importance of inserting both of the organizational justice and trust variables to gain a comprehensive understanding regarding the antecedents of the performance appraisal's satisfaction variable in this research. In fact, analysis results of the aggregate effects prove the implication aforesaid, especially when a large amount of variance has been shared together with the organizational and trust variables. Hence, when examining the effects of organizational justice

towards the criterion variables, it is a rightful to insert trust variables to avoid a bias parameter estimation which may result from the mistake of the regression model.

Inspection on the individual effects towards the variable of performance appraisals' satisfaction indicates that the organizational justice (distributive, procedural, interpersonal) poses a positive influence to the performance appraisal satisfaction. This is because the perception of justice concerning a performance appraisal is prominent as dissatisfaction will lead to failure (Cardy & Dobbins, 1994; Smither, 1988; Taylor, Tracy, Renard, Harrison, & Carroll, 1995). In fact, this study also enforces previous researches conducted in Singapore which discovered that justice and clarity among performances' evaluator can increase teachers' satisfaction in the performance appraisal, satisfaction in jobs, while boosting teachers' motivation (Kelly, Ang, Chong, & Hu, 2008). This finding also stands parallel with the research conducted by Greenberg and Folger, (1983) which discovered that employees would be more satisfied with the performance appraisal process if the justice criteria are fulfilled. Cook and Crossman (2004) also voiced similar matters that satisfaction in the performance appraisal can be increased by involving every employee in the appraisal process whereby they are provided with training during the performance appraisal feedback. A good interpersonal relationship between the employer and employee also propels productivity as a good relationship helps employees to understand reasons of certain decisions that were made (Mani, 2002).

The findings from the previous studies revealed that teachers' trust towards the leader has a positive effect towards the appraisal systems' satisfaction. This is because trust is the key element in the building relationships between employer and employees (Patton, 1999). This connection is said to be influential in the effectiveness of performance appraisal. However, when employees' trust towards the employer is shaken, their level of satisfaction in the performance appraisal results will decrease, whereby employees will also decline any feedbacks provided (Hedge & Teachout, 2000). Nevertheless, when employees are given opportunities to be involved in performance appraisal, their degree of trust towards the employer will increase, leading to satisfaction towards the performance appraisal (Korsgaard & Roberson, 1995). Employees who have a high degree of satisfaction towards the performance appraisal were also reported to possess a high degree of trust towards the management system (Levy & Williams, 2004; Mayer & Davis, 1999).

Inspection on the moderation effects discovered that the most occurring moderator patterns in the research is the enhancer, with 9 occurring frequencies, while the neutralizer pattern with only 3 times of occurrence. Meanwhile, the variable of trust towards the leader emerged as the most occurring variable, acting as the moderator compared to the variable of trust towards the organization in this research. This situation is reported to be similar by (Bryk & Schneider, 2002; Daly & Chrispeels, 2005; Louis, 2003; Tschannen & Moran, 2004) that trust is the prime ingredient pertaining a school's excellence. Most schools that have a high regard in justice exhibit teachers who give cooperation, working together in achieving organizational goals besides demonstrating an increase in education achievements (Hoy & Tschannen-Moran, 2003; Tschannen & Moran, 2004). Hence, the findings of the research runs parallel with Bryk and Schneider (2002) who discovered that schools that practices a culture of trust are capable of accepting any performance appraisal results in a positive manner. Meanwhile in a research conducted by Mani (2000), it was discovered that trust towards the leader is an important aspect in determining the degree of satisfaction towards the performance appraisals' system.

Employees who reported a high degree of satisfaction towards the performance appraisal are also satisfied with the management system (Mayer & Davis, 1999).

RESEARCH IMPLICATIONS

The findings of this study could be used as a basis for developing teachers' performance. In a school's context, justice is a fundamental factor that should be viewed prominently. The school's managing board of directors should show their concern towards matters of equity as they are universal issues, regardless of physical borders, hierarchy and various departments. Leaders who position justice rightfully will be successful in shattering the walls of self-centeredness, discrimination and prejudice. Hence, prejudice and disagreements among leaders towards teachers should not be an excuse for them to exercise impartiality. Although, organizational justice may exist in schools but the results of this research discovered that its existence is not explicit in quality and quantity wise. This is because a few situational and leadership factors which correlate with factors of attitude, perception of teachers' role and performance have been overlooked. Therefore, the principal should remind teachers the importance of cultivating trust toward leaders during the stage of implementation. The quality of trust towards a leader is able to increase teachers' confidence and assurance concerning the practice of justice by the principal, which leads to an increase in the performance appraisal's satisfaction. Similarly, in the process of elevating the degree of trust and satisfaction among teachers towards the performance appraisal, the principal should also create a conducive atmosphere for teachers to improve their skills. Conducive environment is capable of establishing a "joy of working" situation, where there is minimal stress. An environment such as this will propel values of loyalty and also a high degree of satisfaction among the teachers.

The effects of moderation obtained in this research acknowledges the contribution of organizational justice towards the performance appraisals' satisfaction, but it is more inclined in explaining how a principal, as a leader, should exercise the trust as a moderator to establish justice in the effort of increasing satisfaction towards the teachers' performance appraisal. Moreover, the findings stresses that effectiveness of justice in schools can be enforced by the attributes of the principal himself, in other words, the degree of teachers' trust towards the principal. When the school has no assurance in the principal's leadership, he would not be able to perform well and will be always torn between dilemmas, predicaments, and complications in solving the issues of teachers' satisfaction towards the performance appraisal. As such, as the leader responsible for the schools' transformation, the principal should manage both the trust moderators, the "enhancer" and the "neutralizer" differently while diligently choosing suitable moderators and manipulating them creatively in managing human resource. When a principal diligently and rightfully manipulates these two moderators, justice can be established besides increasing teachers' satisfaction towards the performance appraisal.

CONCLUSION

The findings of this research have demonstrated convincing statements regarding moderation effects of trust variables towards the relationship between organizational justice and satisfaction in teachers' performance appraisal. In a more functional aspect, these findings denote that any model structure that examines the effects of organizational justice towards the performance appraisals' satisfaction without inserting trust variables can be assumed as "misspecified". Rejecting the capacity of trust variable when examining the effects of organizational justice in a schools' setting will only lead to bias assumptions concerning the effects of organizational justice towards satisfaction in performance appraisal. Moreover, researches' results which prove that trust variable is influential towards the performance appraisals' satisfaction also suggest that the principals' leadership and charisma have definite

impact towards teachers' attitude, role perception and their performance. Finally, the results also indicate that for the goodwill of organization, a principal should know ways to manipulate and enforce the enhancer and neutralizer moderators to increase the influence of justice practices towards the teachers' performance appraisal satisfaction.

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Types of Family Adopting Orphaned Learners - A Reflection on Challenges and Coping Strategies of Orphaned Learners in Public Primary Schools in Kenya.

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Abstract

Orphan hood is a depressing status in life and has adverse effects yet every child in Kenya has a right to quality education that should lead to good learning in pursuance to Universal Primary Education (UPE). Majority of orphaned learners are widely affected and fail to attain good performance. However exceptional few perform well and attain high grades enabling them to join good High schools and pursue their academic dreams. The study therefore assessed the types of family set up that host orphaned learners and the coping strategies they device in the new set up. Descriptive survey design was used to collect data from 13 public primary schools with a sample constituting of head teachers, teachers, and orphaned learners. Random sampling technique was used to select the schools; purposive sampling technique choice head teachers and orphaned learners, and random sampling selected teachers. A questionnaire, interview schedule, and document analysis collected the qualitative and quantitative data. Descriptive statistics analyzed the quantitative data and findings were presented in the frequency/mean tables and graphs while qualitative data was presented thematically. The study established that a good number of orphaned learners in Kenya lived with older siblings and received a lot of motivation and encouragement from the sibling that led to their achievement. The second highest number of orphaned learners lived with grandparents who were economically unable to manage the responsibility. The study concluded that majority of orphaned learners lacked guidance from adults and therefore recommended that grandparents who took care of the orphans but not fully financially assisted by the government should be supported, and the Ministry of Health in collaboration with other good will stake holders to launch health and nutrition program in schools where none exists. The findings of the study are important to the government, educational planners, stakeholders, parents and the community.

Key Words: Family Set Up, Academic Achievement, Orphaned Learners, Primary Schools, Kenya

INTRODUCTION

Current reports indicate that there are between 143 million and 210 million orphans worldwide [1] and every day 5,760 more children become orphans. This renders many children orphaned and 2,102,400 more children become orphans every year in Africa alone. 92% of the world's orphans are in developing countries. The increasing situation of orphan hood is incapacitating children's learning ability.

It is estimated that by the year 2020 with the rate that children are becoming orphaned, there will be more than 200 million children orphaned around the globe and this is over 2.8% of the

world's population [2]. In Russia and Ukraine, studies have shown that 10% - 15% of these children commit suicide before they reach age eighteen yet single child is precious child just like other children whose parents are alive. The negative effects of orphan hood have important implications for future opportunities in terms of education, employment, health, social support and economic development. [3] Find that parental loss decreases school attendance and participation rates of children by seven percentage points. Orphans are at risk and significantly affected by their inability to meet basic needs such as shelter, food, clothing health care and education [4]. There are more orphans in sub-Saharan Africa than all of the children in Denmark, Ireland, Norway, Canada, Sweden combined. This calls for interventions and ways of caring for the orphans in sub-Saharan Africa.

About 150 million boys and girls which is 8% of the child population in developing countries, have lost at least one of their parents [5]. Above all in sub-Saharan Africa, the high rates of orphan hood can be largely attributed to diseases, accidents and natural disasters. The Research Council [6] stated that Durban, South Africa will face the challenge by 2015 of having to look after 1.85 million children orphaned by HIV/ AIDS pandemic.

There are over 2.8 million orphans in Uganda [7]. Out of this, half of the population is under the age of 15 years old. There are suspected over 10.6 million cases of malaria deaths leaving behind millions of orphans. This has forced many children to resort to be in Ugandan streets where they can beg and get something to eat. A recent survey estimates that every fourth family in Uganda is hosting an orphan. 57% of the total populations in Uganda are children of whom 15% are orphans with 46% of the orphans due to HIV/AIDS. The orphans are living with caregivers either too old or too young and most often impoverished to provide adequately for their needs such as physiological, emotional and spiritual needs although a good number of orphans are in schools [8]. The burden of caring orphans is thus putting too heavy strain to the extended family.

Data collected by UNICEF on over 10,000 children in Burundi showed that a significantly lower percentage of children with both parents deceased are in school compared with children with both parents alive [9]. Thus at the national level, the orphans crisis poses a challenge to preserve Africa's human capital asset for the future. The impact of the orphans' crisis in the countries is being felt on households and communities and due to the sheer numbers involved; it is also being felt as a systematic shock on economy. This means that if no action is taken to help the orphaned children then Africa is likely to have economy wide impact.

In Kenya the situation is equally the same. Most orphans in Kenya and indeed the highest percentage is as a result of parents dying from the dreaded disease HIV/AIDS. The total number of pupils in Kisumu East District is 21,352 out of which 30% of the total populations are orphaned children. This gives a total of 6,406 orphaned children of which 55% are girls (3,523) and the remaining 45% are boys (2,883). A research study by Inter-Religious Council of Kenya sponsored by [10] indicated that most orphaned children were not able to access education due to various barriers and hindrances. Such barriers include lack of proper school uniform, inadequate food, non payments of the hidden costs like activity and exam money even though there is free education. Although the government of Kenya provides instructional materials (IM) to all primary schools to support free education, there is still inadequate support received by orphaned learners which constrain their effective learning. However there are exceptional cases where orphans who are either adopted or not performed excellently well.

Statement of the Problem

The existing number of orphans in Kenya today is alarming and has continued to escalate in the whole country. Accordingly orphans are being absorbed in families already constrained with poverty, large family sizes, social disintegration, loss of productive members and ill health due to HIV infection and age induced chronic conditions [11]. Given the situation it is necessary to note that these orphans are part of the population of the country and so are important as any other citizen. Government statistics reveal that the number of orphaned learners has risen from 20% of the total population of the children in Kisumu East District to 30%. This is from 4,270 to 6,406 orphaned learners in Primary Schools. [12]. Orphaned learners are substantially more likely to drop out of school than non-orphans. The changes in family circumstances to some extent deprive these orphaned learners of the stimulus resources found in the normal family

Due to this adverse situation, orphaned children schooling outcomes is significantly worse than those of non-orphaned children. Orphans are at risk and significantly affected by their inability to meet and access basic needs such as food, clothing, and health care among others [13]. However, there are exceptional cases where orphaned learners perform well and excel in their academics despite the challenges they go through leaving one to wonder and question the causes and contributors to their achievement and good performance. It is interesting that Winam Division outperforms Kadibo Division in KCPE yearly with 2352 orphans yearly yet Winam has a larger number of orphaned learners of 4054. In the year 2009, 2010 and 2012 Winam Division had mean scores of 267, 262 and 278 respectively while Kadibo Division had 203, 213 and 220 respectively in KCPE [14].

The scenario therefore calls for some empirical data to explain the situation in terms of: types of family set up the orphaned learners are adopted into after parental death? Whether there are challenges orphaned learners face in effort to fit into these new family set ups that probably trigger their efforts to work hard and perform better? Studies which have been conducted on the type of family set up where orphaned learners live in, target all orphans especially those orphaned as a result of AIDS pandemic, however there is a gap when it comes to their survival mechanisms in such family set up that may impact on their academic achievement. Hence it is in this context that the researchers feel the need to assess and find out the type of family set up orphaned learners live with and its' influence on their academic achievement in Winam Division, Kisumu County.

Objectives of the Study

The study examined the following objectives:

- a. To establish the type of guardian of adopted orphaned learners of public primary schools in Winam division of Kisumu County, Kenya
- b. To assess the support received from the new family adopted orphaned learners of public primary schools in Winam division of Kisumu County, Kenya
- c. To find out the relationship between challenges facing the orphaned learners and the new family set up of learners in public primary schools in Winam division of Kisumu County, Kenya

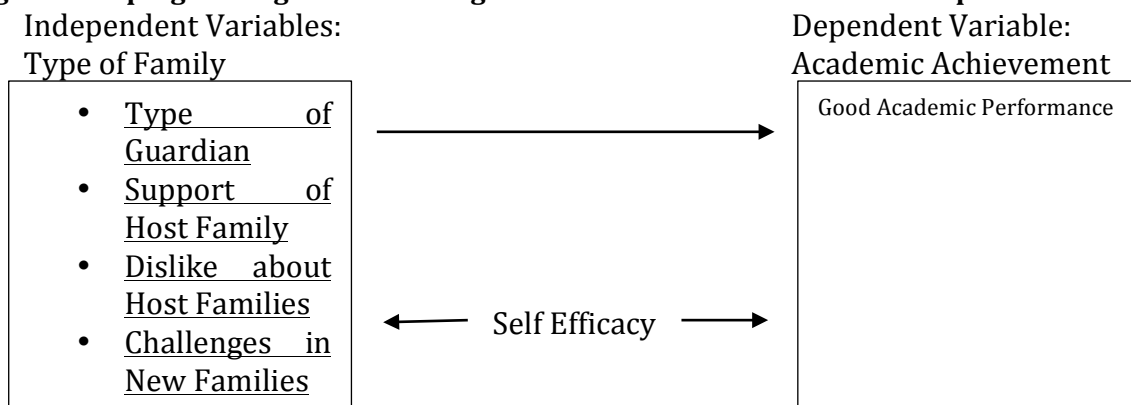
Hypothesis of the Study

H01: The type of new family set up has no significant influence on the challenges faced by the orphaned learners.

Conceptual Framework

The Conceptual framework shows the variables that influence the Academic achievement of Orphaned Learners within a type of family set up after demise of the parents. The variables are denoted as independent variable (IV) being the Type of family set and the dependent variable (DV) the good academic performance of the orphaned learners. The IV has constructs in terms of coping strategies that the orphaned learners use to excel in the academics despite of their vulnerable state of orphan hood. See fig.1

Figure 1. Coping Strategies influencing Good Academic Achievement of Orphaned Learners



RESEARCH DESIGN AND METHODOLOGY

Study Area

The study was carried out in Winam Division in Kisumu County, Kenya. The County shares borders with Nyando to the East, and Rachuonyo to the south, Siaya to the North and Kakamega to the west and boarded by Lake Victoria through way to neighbouring Republic of Uganda and Tanzania. It occupies an area of 559.2 square km. It has a total population of 473,649 with a 2.1 percent population growth rate [15]. Being a boarder county and coupled with the cultural practices of the indigenous people, the region has suffered high death rates due to HIV/AIDS related causes aggravated with cultural practices.

The division has two administrative divisions namely Winam Division and Kadibo Division. Kadibo Division performs poorly every year whereas Winam performs excellent yearly in Kenya Certificate of Primary Education (KCPE) yet has a large number of orphaned learners hence the need to use this division for the study.

Research Design

Descriptive survey design was used because of the descriptive data that was collected from a vast sample. Both qualitative and quantitative approach was used in the study. This mixed approach was necessary as the data collected comprised of both qualitative and descriptive quantitative data in terms of the type of the guardian in the family set up, the support from the family and the dislikes about the family adopted into.

Sample Size and Sampling Techniques

The study area had 43 public mixed day primary schools with 3042 orphaned learners in upper primary school, 43 head teachers and 516 teachers in mixed public primary schools in Winam Division. Only orphaned learners who had completed one year and above in the selected schools were included in the study to enable the researcher trace past academic records and assess their performance in different exams which they had done.

The sample size therefore consisted of 234 orphaned boys and girls out of 3042, 39 teachers out of 516, and 13 head teachers out of 43 schools were selected from the public primary schools. Simple random sampling technique was used to select 13 schools from the 43 public primary schools in Winam Division. A simple purposive sampling technique was used to select 3 orphaned boys and 3 orphaned girls from Std 6, 7 and 8 in the 13 selected schools. Simple random sampling technique was used to select 3 teachers each teaching upper primary from the selected schools mixed public primary schools in Winam division. The sampling techniques were suitable for both the nature of the collected data (qualitative and quantitative) and the descriptive survey design used.

Data Collection Instruments

Data was collected by questionnaires, interview schedule and document analysis. The self developed instruments were validated by the experts from Moi University, school of education department of Curriculum Instruction and Education Media and the supervisor of this research. Both face and content validity of the instruments was established and appropriate adjustments made on the items that appeared weak. Reliability of the instruments was determined through pilot study in two primary schools which were not included in the study whereby the weaknesses noted were corrected to make them reliable. Interview, questionnaire and document analysis were justified based on the nature of the collected data such that the questionnaire addressed both quantitative data that included testing the hypothesis, and the interview and document analysis dealt with qualitative data plus some open ended items of the questionnaire. The sample size and the research design used also justified the instruments used. The three types of instruments collaborated the collected data; hence the strength of using mixed approach method.

Quantitative data was analyzed by use of descriptive statistics including frequency counties; percentages, means, and standard deviation to enable the researcher come up with clear counts concerning the responses. Correlation analysis technique was used to test if there was any significant relationship between new family set up of the orphaned learners and challenges faced, while ANOVA was used to test if there was any difference in challenges facing orphaned learners in the new family set up at a level of significance of 95 % or $\alpha = 0.05$. Data from interviews were organized into themes and sub- themes as they emerged based on the objectives.

RESULTS AND DISCUSSIONS

Types of Family Hosting Orphaned Learners and Coping Strategies in Academic Achievement

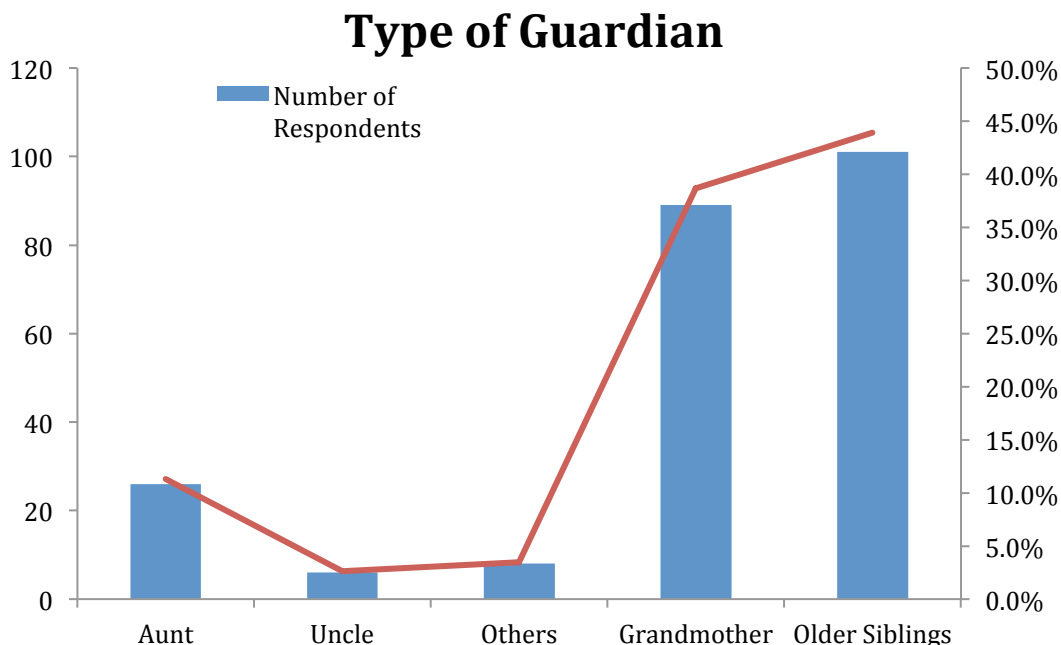
Type of Guardian

The orphaned learners were asked the type of family set up they live with. The learners' responses were illustrated in Figure 1.1

The Figure 1.1 shows the guardians of orphaned learners in the selected primary schools in Winam Division, Kisumu County Kenya. The data collected indicated that most orphaned learners live with their elder siblings who were either employed or engaged in other income generating activities. It was established that most orphans representing 44.06% lived with their older siblings, 38.90% lived with their grandmothers and 11.39% lived with their aunts. Only 2.40% and 3.35% were living with their uncles and in various orphanages respectively. This implies that the relatives from either of the parents' family who ought to be the custodian of these orphaned learners could be having their own family challenges like severe economic

problems. This could be the case since some close family members are already taking care of other orphaned learners due to the AIDS pandemic or nursing the HIV/AIDS illing family member. The relatives could also be willing to take these orphans but they prefer them brought up in their communities and home environments.

Figure 1.1. Response of Pupils on Type of Guardian



The caregivers especially the older siblings seemed to be responsible and encouraged their sisters and brothers on educational matters thus enabling them to perform well in school. This was revealed by the pupils in their open ended questions when they indicated that their elder siblings constantly told them to work hard so that they come out in future from problems related to economic constraints, HIV/AIDS infections, and related vulnerable states. This finding concurs with [16] who revealed in their study that grandparents and older orphans were forced to take the role of caregivers themselves since other relatives were also facing economic constraints.

Further studies [17] indicated that children, who lived with their brothers and sisters as guardians, pursue their education in a successful manner despite the absence of guidance and support of an adult. Whereas other orphaned learners live with their grandparents who might be unable to provide for their needs adequately, although some grandparents receive financial support from their employed children. These findings disagree with the findings by other researchers [18] who discovered that most orphans stayed with their grandparents and achieved better in their academics compared to other orphans living with other type of guardians. United States unlike Kenya, orphaned children are normally taken care by state [19]. This enables the orphans to continue with their education successfully and attain their set goals unlike in most developing countries.

Orphaned Learners' View on Support Provided by the Guardians

The study sought to establish the nature of support offered by guardians to the orphaned learner. Table 1 presents the response of the orphaned learners. According to the table majority 71.84% of orphaned learners who live with older siblings agreed that they were cared

for by their guardians while only 5.83% were not cared for by their guardians but attention was given on their academic progress. Those who stayed with their aunts (89.58%) admitted that their guardians were caring and were receiving almost equal treatment as other children (88.83%) of those who were staying with their grandmothers were also cared for even though the guardians were not able to meet all their basic needs and school requirements.

These could be the reasons why they were able to perform well in their academics. This implies that the warm and nurturing environment gives the orphaned learners confidence to work hard in school. Some (10.42%) of the orphans who were staying with their aunts also agreed that their guardians monitor their progress in school and (23.33%) of those who were staying with older siblings were visited in schools and that their guardians monitor their progress in school. This could also motivate them to work harder in their academics.

Table 1: Response of Orphaned Learners on Support Offered by their Guardians

Guardian	Caring		Not Caring		Monitor		My Progress	
	Freq	%	Freq	%	Freq	%	Freq	%
Aunt	43	89.58	0	0	5	10.42	48	100
Uncle	4	100	0	0	0	0	4	100
Grandmother	53	88.83	0	0	7	11.67	60	100
Older Siblings	74	71.84	6	5.83	23	23.33	103	100
Orphanage	10	66.67	0	0	5	33.33	15	100
TOTAL	184	80	6	2.61	40	17.39	230	100
n=230								

Majority of orphaned learners were determined such that even when their guardians did not visit them in school to monitor their progress like the uncles (0%) as shown in the Table, still they were performing very well. Further, a few who were living in orphanages received good care (66.67%) and their academic progress were adequately (33.33%) monitored. This possibly enabled them to do well in their academics.

Majority of the guardians (80%) cared for the orphaned learners but paid minimal attention (17.39%) to their academic progress. This could be due to economic constraints where they (guardians) have to find means and ways of looking after their families and the adopted orphans and therefore may not have time on their hands for follow closely the academic progress on the orphaned.

Orphaned Learners Views on Dislikes in the Host Family

Orphaned learners were asked to indicate what they did not like in the new family set up where they lived and their responses were illustrated in Table 2.

Orphaned learners who were staying with their aunts 3(6.25%) reported that they received beatings from their guardians. 5(10.42%) were discriminated by the family members while 10(20.83%) received discouraging words from family members as illustrated in Table 2. This is

a challenge to these orphaned learners never the less they got the love from teachers in their schools.

Table 2: Response of Orphaned Learner on their dislikes in the new Family set up

Guardian	Beatings by the guardian		Discrimination by family members		Discouraging words		Total
	Freq	%	Freq	%	Freq	%	
Aunt	3	6.25	5	10.42	10	20.83	48
Uncle	1	2.5	0	0	1	2.5	4
Grandparents	0	0	2	3.33	5	8.33	60
Older Siblings	13	12.62	8	7.77	16	15.53	103
Orphanages	0	0	0	0	0	0	15
Total	17	7.39	15	6.52	32	13.48	230

n=230

Other studies [20] revealed that children that live with their aunts are known to have fear, shyness, anger and lack of parental love. This leaves them prone to multidimensional challenges leading to psychological trauma and stress. Different studies have revealed different challenges and problems ranging between 18% in developed countries and 54% in developing countries. The present study to some extent concurs with their study as the learners indicated and revealed that they were not well treated. Those who were staying with older siblings 13(12.62%) received beatings, 8(7.77%) were discriminated by the family members and 16(15.53%) didn't like the discouraging words. This is a clear indication that some of these orphaned learners are treated the same way like other children in the family set up. Since they have devised their own survival mechanisms, they are able to work hard and perform better in their academics despite those challenges.

It was interesting that orphaned learners 2(3.33%) and 5(8.33%) who were staying with their grandparents and in orphanages (0%) were not seriously facing the same challenges as others. The grandparents were found to be treating most of these orphans with a lot of care. This could be because after losing their sons and daughters then their only hope was the orphans who were their children's images. Another study [21] conducted established that grandparents provided an environment that helped children to socialize well but found it difficult to respond to their legal, economic and basic needs.

The forgoing findings coincided with views of the Head Teachers during the Interview. The Head teachers confirmed that orphaned learner lived with their relatives and in orphanages but majority lived with their elder siblings and grandmothers. The reason could be because the number of orphans as reviewed in the literature has increased and the only option is to be under the care of their elder siblings. This was slightly different under normal circumstances where majority of orphans are cared for by their grandparents after parental death. In most cases especially in African countries, the moment a parent dies the most common caregivers are grandmothers.

Others were also found to be staying with volunteers who happen to be their neighbors. This could be as a result of the nature of the caregivers left to take care of these orphans. All the families were found to have influence on academic performance of orphaned learners. The fact that most of these orphaned learners stayed with their older siblings who could be advising

them on the importance of education could also contribute to their good performance. Others orphans who stayed with other relatives like uncles and aunts could find the family members who are geared towards better achievement in their education and enthusiastic enabling them to work hard.

The Influence of the Type of Family set up on Challenges faced by Orphaned Learner

The null hypothesis on: HO1. The type of the new family set up has no significant influence on the challenges faced by orphaned learners

The testing of the hypothesis was computed by use of ANOVA. Table 3 indicates the analysis of variance.

Table 3. Relationship between Family set up and Challenges facing Orphaned Learners

Variance	Sum of Square	Df	Mean of Square	F	Significance
Regression	90647.396	4	22661.849	222.710	.000
Residual	19740.47	226	101.755		
Total	110387.866	230			

According to the table 3 the significance of the test is 0.000 meaning is less than 0.05 therefore the significance level of 5% rejects the null hypothesis HO1 – The type of new family set up has no significance on challenges faced by the orphaned learners, instead is concluded that family set up had influence on the challenges faced by the orphaned learners in public primary schools in Winam division, Kisumu County Kenya.

CONCLUSION

The study concluded that the reasons for orphaned learners' good academic performance were both external and internal forces. They set targets and work towards the attainments of the targets as most of them were enthusiastic towards education. They are also able to defy all the odds and challenges facing them although different family set up have varied challenges hence they could still excel in their academics because of being highly efficacious.

RECOMMENDATIONS

Based on the findings and conclusions, the study made the following recommendations:

- i. Grandparents who are not assisted by the government and are left with orphans under their care should be supported financially by the government to enable them meet some of basic needs of the orphaned learners in public primary schools in Winam division, Kisumu County.
- ii. Ministry of Education, Non Governmental Organizations (NGOs) and other stake holders who are responsible for educational planning should allocate funds under Free Primary Education (FPE) to address the plight of orphaned learners who are in dire need all over the country. This can be addressed by introducing a vote head to assist orphaned learners in public primary schools.
- iii. The orphaned learner at best should be encouraged to live with the closest relative like the grandparent and the older siblings to benefit from good loving and caring environment that support their academic performance in KCPE.

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A Review of E-government Services

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Abstract

The recent developments of Information and Communication Technologies mainly the internet has made citizens accustomed to the convenience of online services such as e-banking and shopping online. Governments are aware of the benefits and needs of citizens thus leading to the development of e-government. The aim of this paper is to review the current state of e-government in Australia with the use of empirical studies. The review of e-government shows that the general use of e-government services has been increasing over the years and the internet has become the preferred method of contacting the government.

Keywords: internet, government, Technology

INTRODUCTION

Prior to the introduction of the internet, any forms of contacting the government require citizens to leave home to travel to the government agency, get behind a long waiting line and go through cumbersome procedures. This led to reluctance of citizens' interaction with the government as it is seen as a chore. Therefore, with the advancement of Information and communication technologies (ICT), governments all over the world are looking to take advantage of it to change citizens' mindset and create better interaction.

In the 21st century, 98 per cent of all countries have an existing e-government. However, according to the United Nations E-Government Survey 2010, 9 out of 192 member states are tied at 184th placing as they do not possess sufficient data to be ranked. Moreover, the world average for E-government development index is 0.4406, a decrease when compared to that of 2008 at 0.4514. This not only shows a decrease in development over the years, but an average less than 0.5 meant that most of the world do not have a well-developed e-government [1].

The objective of this paper is to carry out a review on Australia's use of e-government and its effectiveness. Through literature review, the benefits of e-government and the challenges in the way of an effective e-government will be looked at. Through the five case studies, the use of e-government services, ICT system, privacy policies, security measures and accessibility guidelines are studied and discussed. This paper will be presented as a discussion paper which could be used to improve the future of e-government.

The term e-government came about in the late 1990s when governments decided to use advanced information and communication technology for government activities [2]. The 'e' in e-government refers to electronic which means the use of ICT tools particularly the internet to deliver information by local, state and federal government agencies to citizens, businesses and

other government agencies. It also involves the government's use of ICT as a tool to support government operations and to provide government services [3]. There are many benefits when e-government is used effectively. However, achieving an effective and efficient e-government is not an easy feat with the number of challenges in the way.

Information and Communication Technology (ICT) refers to technologies which provide access to information through communication technologies such as the internet, wireless networks and mobile phones. The use of ICT especially the internet has changed the way how business is carried out all across the world. Leading governments have noticed the benefits of ICT and have followed suit in the adoption and use of the internet to develop e-government.

There are 3 main delivery models which the government uses to deliver and receive information and provide services :

1. Government-to-citizen (G2C) and Citizen-to-Government (C2G)
2. Government-to-business (G2B) and Business-to-Government (B2G)
3. Government-to-Government (G2G)

The G2C delivery model allows government to provide citizens with online, one-stop access to services and information. The C2G delivery model allows citizens to better interact with the government by providing feedback on services which can be used to improve on overall customer satisfaction. Citizens can be treated like customers as they are the main body the government will be dealing with.

G2B delivery model provides the government and businesses an online platform to exchange information and do business more efficiently. The G2B system may also allow e-procurement services and make the bidding process more transparent for big government projects. B2G is the [provision of information from businesses to government such as filing of business registration information, regulatory framework and taxes.

Government agencies make use of the G2G delivery model to conduct intra and intergovernmental exchange of data, standards, expertise and policies. More government agencies are collaborating to streamline the delivery of e-government services thus having a G2G delivery model improves the efficiency and effectiveness of e-government services by allowing better communication and smoother information flow.

In Australia, the government launched JobSearch, the largest free online jobs website. The Australian

government funded and operated website attracts around one million visits each month. This initiative helps to reduce the unemployment rate while providing a one-stop portal for matching job seekers to potential employers [4].

In the US, the U.S. Department of Education released which stores state-level education data. The website allows parents to access their kid's results and check how the results fare compared across the state [5].

In Austria, there is a website that provides information about government policies for women and equality. The website has initiatives such as 'Equal pay and revenue transparency for women' which ensures women has equal work and pay rights as men. Another initiative is the

'Gender Now' which ensures women has equal work ad pay rights as men. Another initiative is the "Gender Now" which promotes the equality of girls and boys within schools [6].

Globally, e-government strategies are being developed. Strategies are essential to the development of e-government as they provide a framework and objectives for federal, state and local agencies to follow.

BENEFITS OF E-GOVERNMENT

The introduction of e-government has proved convenient for citizens and businesses when contacting the government for information and services. When government services are provided online, it eliminates the hassle to travel down to government agencies and in turn saves time and money. To most people, the time factor is a very important concern as most online services are self-serve. Since not much customer satisfaction would be expected from self-serve, citizens are concerned about 'how long' rather than 'how satisfied'. With the use of e-government, major advantages to the time factor is achieved as services are provided 24 hours a day, 7 days a week through agencies websites. Self-serve services allows faster and easier access to information at any place and any time, this allows people in rural areas to access important information as they are situated far away from the nearest government agency. E-government provides easy access to routine transactions and allows the citizens more control as well as a better understanding of government services. Moving from a heavily paper based system to providing services online, government agencies will be able to reduce the number of letters and brochures normally sent out to citizens. Prior to the introduction, any information and services available were those only within travelling distance, now the internet allows access to wide range of information and services from anywhere in the world. Most importantly, e-government allows the government to reach out and provide access to job opportunities, education and health systems.

METHODOLOGY

Literature review was carried out to identify the general benefits of e-government and the challenges faced by e-governments. An overall review of Australia's e-government was done to show the current usage of e-government services and the existence of digital divide.

The main method of study is the use of empirical study on five government agency. The selection is based on case studies which have been providing e-government services. The main emphasis of this study is to review if the use of ICT has increased the usage of e-government services. The secondary focus is to find out if users are able to utilize e-government more efficiently, more quickly and at a lower cost. Four federal government agencies and one state government agency were chosen as the case study of this paper. Local government agencies were not chosen as most studies focused on federal and state agencies due to the lack of accessibility of information.

OVERVIEW OF E-GOVERNMENT IN AUSTRALIA

Background of Australia

Australia, the 6th largest nation in the world with a land area of 7.7 million square kilometres has a population of approximately 22,328,847 as at 2010. Majority of the population live around major cities and near the coast. 90 per cent of the Australian population live in urban areas [7] and the uneven distribution of population is due to the 70 per cent of arid or semi-arid land which is unsuitable for settlement.

Australia is governed by a 'federation' system where the responsibility of governing Australia is split between the Central government and the six state governments. The state government further delegates power to local governing councils to take responsibility for each Local Area[8].

E-government administration levels

E-government is delivered at three administrative levels, federal, state and local. E-government on the federal level delivers its information and services to the whole of Australia whereas e-government on the state level delivers to the respective state and e-government on the local level delivers to the respective local government area.

CASE STUDY 1 – CENTRELINK [9]

Background

Centrelink is a federal Australian government benefit agency formally set up in 1997 by then Prime Minister of Australia, John Howard. It plays a huge role in delivering a range of Commonwealth services to the Australian community and serving Australians by assisting its people to become self-sufficient and supporting those in need. Centrelink delivers a huge range of government payments and services to cater to a broad range of customers such as retirees, parents, carers, people with disability, indigenous people and more.

Centrelink delivers services on behalf of nine major departments.

Centrelink online services

Centrelink provides a one-stop portal for customers to access a variety of online services, view and update data and use the available online calculators and estimators without the help of a customer service officer.

The implementation of online claims and services made Centrelink one of the finalists in Excellence in e-Government Awards 2006 [10].

Centrelink website

Centrelink continuously provides its customers with information about its payment method and services through a range of accessible channels such as media, print products and the internet. The Centrelink website is the most effective channel to provide information and services to the Australian community. According to Experian Hitwise, the Centrelink website is the second most visited Australian government website in 2009 [11], with more than 110 million pages viewed by 85 million visitors in 2009-10. The website is constantly improving to cater to different body of customers and to allow new and emerging technologies to be applied.

Family assistance online

Prior to the launch of the Family Assistance Online, customers wanting to submit a claim are required to call Centrelink and provide additional details to support the claim. These calls could last for an average duration of 30 mins. Therefore, the launch of Family Assistance Online service enhanced the online claiming process, improved customer satisfaction and shortened the processing time.

Since the launch of Family Assistance Online service in July 2009, more than 80% of first-time mothers have used the service and claimed online. Paper claims are available for customers without internet access, the claims are converted to digital images to ensure processing of claims takes the same time as online claims.

Online estimators- childcare estimator online

Centrelink provides online estimators which allow customers to estimate payments they are able to receive with current circumstances. One example would be the Child Care Estimator Online which was launched in January 2010 and is available both on Centrelink and Family Assistance Office websites. The online tool helped families find out the most accurate Child Care Benefit and Child Care Rebate entitlements based on income, child care fees and hours of child care they require. Upon launch of the Child Care Estimator, 270,000 people out of 370,000 (73%) who looked at it have calculated their child care entitlements.

Centrepay

Centrepay is a free payment service offered by Centrelink to help financially unstable customers pay bills directly from their Centrelink payments. Large monthly or quarterly bills may be too hefty for customers to pay up-front, thus the large bills are broken down into smaller, manageable amounts and are paid by a regular amount from the customer's Centrelink payments. Centrepay allows the customer to specify the monthly amount which helps them manage their budget better.

Confirmation eServices

Centrelink Confirmation eServices (CCeS) are confirmation services done via the internet to help contracted organisations confirm entitlement status of Centrelink customers. Prior to having CCeS, customers have to request information from Centrelink and send it to the organisation personally. Now with CCeS, organisations approach Centrelink to obtain evidence of a customer seeking concession or service.

ICT in Centrelink

ICT infrastructure

The Department of Human Services has implemented an ICT infrastructure integration across the department which will integrate services and allow information to be shared between Centrelink and Medicare.

Centrelink upgraded its core ICT infrastructure to improve on the efficiency of the ICT department. In 2009, Microsoft Office 2007 was installed into all Centrelink staff desktops to keep align with government standards and to support the integration of the Department of Human Services program.

ICT workforce capability

To maintain the huge online services and continuously develop new online services, Centrelink requires highly capable and motivated ICT workforce. In 2009-10, Centrelink improved on its ICT workforce which is part of a three-year Strategic IT Human Capital Plan by assigning IT personnel to specific IT roles which best suits the employee.

Centrelink introduced skill tagging for staffs which assists in assisting with workload, skills development and providing transparency in project costing. Aiming to improve staff retention and development, Centrelink has also provided employees access to Career Navigator tool which helps employees with career development.

Data centre consolidation

Centrelink is migrating its main systems from six data centres into highly efficient environmentally sustainable data centres over the next three to four years. Centrelink established the Hume Data Centre in Canberra in 2009-10 as the first step of migrating

systems. Centrelink Data Centres are at the core of the Australian Government service delivery program and enable payments of \$84.2 billion to 7.02 million customers each year.

Digitization program

Centrelink introduced the digitisation program which allows scanned documents to be sent as digital images to employees anywhere in Australia, the digital images can be used to process a particular claim via a national queue without the need for customers to travel down to Centrelink Offices to hand in the hard copy document. The ability to digitize documents has greatly reduced the amount of papers used by Centrelink.

CENTRELINK MEASURES TO BRIDGE THE DIGITAL DIVIDE

Workplace diversity

Centrelink is focused on having workplace diversity to ensure effective customer service is provided to its wide range of customers such as indigenous Australians, refugees, Australians with disability and their caretakers.

In 2009-10, Centrelink's employment of indigenous Australians was 3.8 percent of its total employment which was higher than the Australian Public Service average of 2.1 percent.

Providing multilingual services

Centrelink is continually looking to deliver services to its multicultural and diverse customers to help them participate and settle fully in Australia's community life. According to the Centrelink 2010 Annual Report, around 20 percent of Centrelink's customers come from diverse cultural background and ten percent of all customers require interpreter assistance when they first access Centrelink services. Main countries of customers born outside Australia are United Kingdom, Italy, China, Vietnam, Greece, India, Germany, Lebanon and New Zealand. The main preferred spoken language other than English is Vietnamese, Greek, Italian, Cantonese, Mandarin, Spanish, Turkish, Arabic and Serbian.

Support for migrants and refugees

Centrelink together with Refugee servicing units, Multicultural service officers and external providers helps ensure newly-arrived refugees are able to receive timely payments, support and important information during the initial settlement period. Centrelink released translated factsheets which are available from Centrelink website and audio CD format for customers who have poor English proficiency.

Centrelink provides translated factsheets on its website for 75 different languages. After accessing several languages, it was found that the main preferred spoken languages have a large number of translated factsheets whereas those language not commonly used have lesser translated factsheets.

Language services

Centrelink provides free translation and interpreting services to assist customers with any services they require from Centrelink. These translation and interpreting services are offered in 226 languages by 2933 contracted interpreters who are proficient and have professional accreditation from the National Accreditation Authority for Translators and Interpreters Ltd (NAATI).

Remote servicing model for remote indigenous communities

Centrelink has developed a hub-based model which is able to deliver Centrelink services to remote indigenous communities through engagement with the local community. The model consists of CSCs, Remote Area Service Centres (RASC), self-service facilities, Mobile Remote Serving Teams, local agents, remote area pilots and is supported by Indigenous Call centres. These specialised teams provide Centrelink services to the local community and transfer information through remote servers which are connected to the local Centrelink server.

Providing mobility to the rural community

Centrelink is committed to providing services to the community in rural Australia as many rural residents may need to travel great distances to reach vital services. Therefore, together with the Department of Human Services, Centrelink introduced 2 Australian Government Mobile Offices which were former Centrelink Drought buses. The Mobile Office consists of rural service officers, customer service advisers, rural psychologists and Medicare employees providing assistance to the rural community. Customers are also able to access the self-service facilities on board the Mobile Offices.

The Mobile Offices travel around rural Australia on a schedule to provide services and information to farmers, their families and the rural communities. Customers are able to check the schedule of the Mobile office via Centrelink's website.

Usability and accessibility of Centrelink website

Centrelink is committed to providing a website for Australians regardless of their disabilities or limitations therefore many methods were implemented to improve the usability and accessibility of its website. Pages with the Centrelink website are designed to work well across all popular browsers such as Internet Explorer, Mozilla Firefox and Google Chrome. The website has many features which improve the overall usage of Australians accessing the website.

Features such as ReadSpeaker (Text-to-Speech) allow customers with visual deficiency to click on the icon and listen to the text, however the ReadSpeaker feature has not been introduced to all webpages within Centrelink.

Centrelink's website accessibility webpage provides different features which will aid people with different disability with formats which suit their particular need, features such as font colour, font size and font style. Publications are also available in alternative formats for customers with special needs, upon request Centrelink can provide formats like audio cassette/CD, large prints, braille and e-text.

Measures to maintain security and privacy

Fraud prevention

Centrelink's collaboration with the Australian Crime Commission has allowed Centrelink to receive first-hand intelligence reports of identified people or groups suspected of payment frauds. To further improve on fraud prevention, Centrelink held data-matching activities with several other agencies using its advanced data-matching systems. Centrelink matches millions of customer records each year to find out if any customer has been using false identity to carry out welfare frauds. Data matching is also able to find out if any customers have been underpaid for any benefits which they rightfully deserve.

Privacy protection for customers

Centrelink being a government agency which delivers benefits and payments on behalf of several other government agencies collect huge amount of personal information from its customers and the relevant agencies. To protect this information and instill confidence to its customers, Centrelink ensures it maintains a very strong privacy culture. The base of its culture derives from the legal obligation to comply with the Privacy Act 1988 which protects the privacy of individuals for related purposes [13]. To further reinforce on this culture, Centrelink provides privacy education and awareness programs to its employees.

CASE STUDY 2 - AUSTRALIAN TAXATION OFFICE [12]**Background**

The Australian Taxation Office (ATO) is an Australian federal revenue collection agency responsible for the general administration of a wide range of taxation and superannuation legislation, its main role is to manage and shape tax, excise and superannuation systems that fund services to Australians (Australian Taxation Office). Up till the late 1970s, tax returns have to be manually keyed and processed by a large number of income tax assessors and typists. ATO was one of the first Australian organisations to experience the benefits of modern technology by launching the Central Taxpayer System on 1 July 1975 in South Australia. The implementation reduced processing costs and number of employees required. In 1999, ATO introduced an electronic tax preparation and lodgement software package named 'e-tax'.

ICT operations

ATO has one of the largest ICT operations in the Australian Public Service, with a workforce of 1893 and an annual ICT operating budget of approximately \$628 million. ATO partners with external service providers to deliver and support 752 systems, most of which are available 24 hours a day, 7 days a week, across 61 sites nationwide.

Modern tax and superannuation administration is fundamentally dependent on technology, with much of our work done electronically. The scale and complexity of our operations are significant.

Online portals***ATO website***

In 2009-10, the ATO website was upgraded after a two-year design program which included taxpayers' involvement in design, testing and development. 471 tax-time products were part of the 13 600 changes made to the website content which reduces the focus on paper products. To enhance taxpayers' online experience, new online tools and calculator such as education tax refund calculator, GST food classification decision tool and superannuation guarantee employee calculator were introduced to the current wide range of tools and calculators. ATO website received 37.6 million visits for a span of a year.

Tax agent portal

The Tax Agent Portal is an online portal for tax agents to conduct secured transactions with ATO. In 2009-10, total number of tax agent who used the Tax Agent Portal increased from 29 988 554 in 2008-09 to 31 484 766 (five per cent). The total number of transactions on the Tax Agent Portal experienced an increase of 17.2 per cent from 12,407,741 to 14,544,288.

Business portal

The Business Portal is an online portal for businesses to conduct secured transactions with ATO. Users are required to obtain an ATO digital certificate or AUSkey to access the Business

Portal. In 2009-10, the total number of users increased from 195 375 to 300 320 (53 per cent), however the total number of users still remains low when compared, potential number of 6.1 million business users. The total number of business logins experienced an increase of 17.2 percent from 2,560,165 in 2008-09 to 3,001,473 in 2009-10.

Tax entry issues system

ATO collaborated with Treasury to provide online access to Tax Issues Entry system at www.ties.gov.au which allows the community to bring up Australia's tax and superannuation systems issues. It allows issues to be submitted and since November 2008, 93 issues have been submitted and 18 have been accepted. 8 issues have already been resolved by parliament passing legislative amendments and additional 12 issues are being considered currently while one issue has been resolved administratively. In 2009-10, 25 issues were submitted.

Online services

Electronic payments

In 2009-10 electronic payments totalled 89% of all payments made by taxpayers, up from 87% in 2008-09. While the overall number of payments decreased by 204,901 in 2009-10, the number of electronic payments increased by 154,826. Payments made through BPAY and direct credit, including credit cards, increased by 10% and 8% respectively.

e-tax

E-tax is a free and secured software provided by ATO which allows individuals to prepare and lodge tax return online. Each year, ATO releases an edition which only allows preparation and lodging of tax return for that year, any tax return for previous years must be done with the appropriate year's e-tax edition. E-tax requires users' computers to meet the minimum requirement before being able to use it. It takes approximately 25 mins to download e-tax using dial-up and 4mins for broadband users (Australian Taxation Office). According to the ATO website, vision impaired users are still able to install and use e-tax 2010 as it is made compatible with readily available screen-reader software.

Ways to bridge the digital divide

Providing language support

In August 2009, ATO released a new audiovisual product, Tax in Australia which is a DVD which presents tax information in series of real-life scenarios. The DVD is mainly targeted at taxpayers who are new to the Australian tax system and non-fluent in English. Initially the release only included ten languages but after positive feedbacks and demands from other communities, ATO added six languages including Auslan which is the language of the deaf community in Australia.

Providing equal accessibility

ATO ensured the website and portal complied with the World Wide Web Consortium's (W3C) accessibility standard so as to ensure accessible information to taxpayers regardless of their disabilities. ATO produced a range of information format to ensure publicly available information is accessible by anyone regardless of their disabilities. The products released include TaxPack in DAISY which is a worldwide standard designed for use by people with print disabilities, audio CD and e-text formats. Online guides and fact sheets are presented in large-print and screen-reader friendly.

Privacy and security measures

Privacy on personal information

ATO being a federal government agency has to comply with the Privacy Act 1988[13], this is part of its PC07 policy: Limit placed on the use of personal information which is required for ATO accreditation process to become fully Gatekeeper accredited. Having a privacy policy is important for ATO as it is a revenue collection government agency which receives personal information from taxpayers, agents and business.

Online security

Online security is essential to prevent identity fraud and this is done by the use of security credentials. Taxpayers and tax agents conducting an online transaction with ATO will require an ATO digital certificate or AUSKey. In May 2010, ATO stopped issuing digital certificates and adopted a new security credential AUSKey. Previous owners of digital certificates can still conduct transaction with ATO but have the option to apply for an AUSKey. The number of downloaded ATO digital certificates grew to over 430 000 in 2010, a five per cent increase as compare to 2008-09 while the active users of AUSKey have grown to more than 52 700 in 2010.

CASE STUDY 3 – MEDICARE AUSTRALIA [14]

Background

Medicare Australia is an Australian federal government agency previously known as the Health Insurance Commission in 1974. It was renamed Medicare Australia after ministry changes were announced in 2005 which made Medicare Australia one of five human services agencies under the Department of Human Services.

Medicare Australia utilizes ICT to provide low-cost medical, optometric and health care to all Australian residents. It also provides information regarding all of its services and key programs. It is a one-stop portal that connects almost all Australian residents, doctors, pharmacists, aged care providers and members of the health sector. It provides citizens access to free or low-cost medical, optometric and health care. It is also a one-stop portal for businesses to register as one of Medicare Australia's recognised practice. Medicare Australia's role is to deliver a wide range of payments and information for health-related programs. Medicare Australia administers Medicare enrolments and benefit payments through its network of Medicare offices and electronic claiming services.

Medicare Australia currently provides services and payment claims through its 242 Medicare offices and its electronic claiming channels. Even though 191 offices have extended their opening hours, using the electronic claiming channels save time and can be done 24/7 at any location. Therefore, Medicare Australia has been finding ways to promote its electronic medical claiming.

ICT Capability

Medicare Australia's ICT capability is made possible by its highly available system and infrastructure to provide 24 hours a day, 7 days a week processing for several government agencies. The systems allows Australian citizens, health professionals and Medicare Australia service officers to access information online and conduct secured transactions using Public Key Infrastructure (PKI).

ICT infrastructure integration

The Department of Human Services has implemented an ICT infrastructure integration program which will merge the department's ICT infrastructure. This will allow the delivery of

customer service integration across the department especially between Centrelink and Medicare Australia. The integration will boost the Australian health sector's ability to provide information and payment services to the general public.

New intranet

In 2009-10, Medicare Australia launched a new intranet which allows intuitive resource of tools and information. Throughout the design, staff and stakeholders were consulted and the feedback was used to improve on the design and content. The launch of the intranet has reduced the costs for Medicare Australia by having less maintenance for its content while providing better user experience and improved information quality.

Medicare Australia key programs

The key programs that Medicare Australia delivers include:

1. Medicare program
2. Australian organ donor register
3. Pharmaceutical Benefits Scheme
4. Proceedinga od claims on behalf of the Department of Health and Aging and Department of Veteran Affairs
5. Australian Childhood Immunisation Register

Electronic claiming

Medicare Australia has introduced three electronic claiming channels to allow a fast and secured method for the public to claim without the need to travel to a Medicare office. Having 3 different claiming channels allows practices to choose a channel they deem best for their patients to lodge Medicare claims at their practice.

Medicare offers 3 electronic claiming channels:

1. Medicare online
2. Medicare easyclaim
3. ECLIPSE

The key benefits of using the electronic claiming channels are:

1. Less paperwork
2. Lesser administrative charge

Online services and websites

Medicare online services provide a one-stop portal for the Medicare customers to view, update and request information held by Medicare Australia. Currently, there are more than 1.5 million Australians registered with Medicare Australia online services with an average of 1000 new registrations each day.

Medicare website

The Medicare website is a one-stop portal for information and services for customers, and health professionals. In 2009-10, the website experienced more than 7.7 million visits, with a daily average of 3971 and 9749 made to the online services index page and Medicare Australia homepage respectively.

Healthcare Profesional Online Services

Health Professional Online Services (HPOS) is a one-stop portal for health professionals to access Medicare Australia's online services. Since its launch in March 2009, the HPOS portal has had more than 600 000 logons and 870 000 logons to its services. 67 percent of the logons were contributed by the patient verification which is the most popular service.

Aged care online claiming

Medicare Australia offers full online claiming for the aged care sector on behalf of the Department of Health and Aging. The ability to lodge, view and finalise claims online make providing business practices to aged care sector more efficient and produce better outcomes. Medicare Australia understands the diversity of the aged care sector with its different business models, IT capability and needs. Therefore, further strategies were introduced to encourage uptake of online claiming.

Ways to bridge the digital divide

Translation services

Medicare Australia provides an information kit for customers who are less fluent in English, the kit consists of translated information in 19 different languages for main health programs and the Pharmaceutical Benefits Scheme (PBS). Free Translating and Interpreting services (TIS) are also provided when contacting the agency for direct information.

Accessibility

Medicare Australia complies with the Web Content Accessibility Guidelines version 2.0 by the World Wide Web Consortium (W3C). By following the Web Content Accessibility Guidelines version 2.0, contents were made more accessible and usable to people regardless with disabilities [15]. The Medicare Australia website was designed to be used in several browsers and operating system.

Privacy and Security

Medicare Australia ensures the privacy of personal information by complying to the federal government Privacy Act 1988 [13]. Medicare staffs are bound by secrecy provision in accordance to the Health Insurance Act 1973 and National Health Act 1953 which protects the personal health information of customers. Disclosure of personal information obtained by Medicare Australia without proper procedure is an offence.

All Medicare Australia staffs are sent to training and various privacy forums to raise awareness of privacy issues. Random audits were also carried out to identify any unauthorized access by Medicare Australia staffs. Any identification of privacy issues raised by customers and staffs are immediately investigated to address any ongoing risks. All online health transactions are done through a secured connection using the Public Key Infrastructure (PKI) which is an information technology infrastructure that ensures privacy protection while exchanging data.

CASE STUDY 4 - DEPARTMENT OF IMMIGRATION AND CITIZENSHIP [16]

Background

The Department of Immigration and Citizenship (DIAC) is a federal government agency which delivers policies, programs and services for immigration arrangements, border control and citizenship. The key objectives of DIAC are to manage the lawful entry and stay of people in Australia while ensuring effective border security. DIAC is responsible for issuing Visa for prospective travellers, students, workers and migrants.

ICT initiatives

The ICT department developed a green ICT strategy reduce its overall energy consumption after analyzing its energy usage. For a start, the department reviewed its desktop hardware and realized there were more than 2000 excessive hardwares (monitors, PCs and stand-alone printers) which had to be removed. To reduce energy consumption, a new policy has been implemented to shut down PCs after hours to save cost.

Online services and portals

Student eVisa program

The student eVisa program allows genuine international students who wish to pursue an education in Australia, applications can be lodged online or by engaging the help of an educator or migration agent with access to the eVisa program. The student eVisa program consists of five Assessment levels determined by risks and past rate of fraud and non-Assessment level one countries are countries with the lowest immigration risk while Assessment level five countries pose the highest risk. Students from level one countries would require fewer documents as compared to a level five student.

eHealth

eHealth is DIAC's online health system which records, processes and stores health examination results for customers applying for an Australian visa. Clinics are able to submit digital x-rays, specialist reports, biometric photograph and examination results online which are received instantly by the department. This removes the need for processing paper based reports and reduces delay of sending results to Australia while reducing the overall processing costs. eHealth is available in 21 countries with recent availability in Brazil, Canada, Bangladesh, Nepal and Saudi Arabia.

Visa and citizenship wizard [8]

Both the Visa and Citizenship Wizard are designed by the DIAC to provide future travellers and migrants access to information regarding their visa and citizenship application. Clients and staffs are able to access both services from anywhere in the world 24 hours a day, seven days a week through the DIAC website. The development of the Visa and Citizenship Wizard won the Excellence in e-Government Award 2009 [8].

eVisitor [8]

The eVisitor was an initiative developed by DIAC through the Systems for People program specifically for prospective European Union (EU) nationals travelling to Australia. eVisitor is a free-to-use service accessible 24 hours a day, seven days a week for EU nationals to lodge their applications via the internet from anywhere in the world. The eVisitor is an electronically stored authority to travel into Australia without visiting a departmental office with just an email of confirmation sent for records. The launch of eVisitor was listed as one of the finalist in the Excellence in e-Government Award 2009.

Overall satisfaction

A survey done to enquire about customers' overall satisfaction with DIAC service delivery channel showed that clients were generally satisfied with the delivery channels. 84 per cent of clients were satisfied with the most recently used service delivery channel while 89 per cent were satisfied with the department's online application system. Figure 25 below the preferred choice of lodging a visa application and 95 per cent of customers reflected that they would use the department's online application system for future applications.

Accessibility and usability

DIAC ensures that the website and web applications comply with the Web Content Accessibility Guidelines 2.0 which ensures information provided is accessible to all regardless of the disability (World Wide Web Consortium, 2009). DIAC ensures different assistive technologies such as text magnification, read aloud, screen reading and speech recognition software can be used to access website information

Security measures using ICT

DIAC understands the need of fraud detection to improve the integrity of visa applicants, therefore using information technology to create risk mitigation solutions such as biometrics and risk tiering.

CASE STUDY 5: ROAD AND TRAFFIC AUTHORITY [17]

Background

The Road and Traffic Authority (RTA) is a government agency of New South Wales (NSW) which was established in 1989 under the Transport Administration Act 1988 through the merger of the former Department of Main Roads, Department of Motor Transport and the Traffic Authority. The RTA's main responsibilities are to manage the road network to ensure smooth and safe travel for all users, provide road capacity and dispatch licenses to drivers and registrations for cars.

The RTA provides services through its network of 128 motor registries, Contact Centre, six Government Access Centres, 34 agencies and 37 itinerant sites for its regional and rural customers.

Use of information and communication technology in RTA

Information and communication technology strategy

In 2010, the RTA implemented a revised ICT strategy to improve the overall performance of the department's ICT to meet the goals and improve the e-government performance for customers and staffs. In 2009-10, the RTA introduced over 100 major projects with costs from \$100 000 to \$4 million. These projects included upgrade to core infrastructure to support RTA's road safety program, telecommunications capabilities to support 3G connectivity across all motor registries in NSW and releases for the

ICT projects

In November 2009, the RTA implemented the Readsoft Webcycle project which provides cost savings and efficiencies for end-to-end accounts. The software improved the flow of account processes through automatic matching for its certification and approval process. The software allows future improvement and will lead to further cost savings and efficiency.

Improving ICT workforce capability

In August 2009, RTA established Learning@RTA which is an online learning centre for its staffs to access learning and development opportunities at a one-stop location. The system replaced the paper-based process of providing training programs for electronic application and approval. Since the launch of Learning@RTA, 70 per cent of all training requests were received via the learning centre while the remaining 30 per cent were staffs without access to a computer. The online learning centre enables RTA to identify and build the right skills to improve its ICT workforce to support its growing e-government services.

Improving customer service

In October 2009, the RTA established the Customer Insights Panel to obtain feedback and opinions from customers on its range of RTA products, services and policies. Throughout the year, RTA randomly recruited a sample size of 1500 RTA customers through its website and motor registries to complete monthly surveys. The results were used to refine RTA's customer satisfaction and interaction approach.

Online services and websites

With the implementation of RTA's ICT strategy and projects, it has caused the RTA's range of online services to grow and improve in 2009-2010. The range of RTA's services and

RTA website

The RTA website recorded more than 27.5 million visits in 2009–10, a 31 percent increase as compared to 2008–09. The site continued to maintain its unrivalled position as the most visited NSW Government website and the number one State Government website in 2009–10 [11].

Myrego

The myRego system is a system within myRTA.com which allows customers to renew their registration online via the internet or telephone upon receiving their Certificate of Registration. Prior to renewing their rego, customers have to acquire a green slip quotation online using the green slip calculator and get an e-safety check from an authorized check station.

Vehicle history check

The RTA provides a Vehicle History online Check service for customers to find out about a second hand vehicle currently registered in NSW before buying. Through the online check service, customers are able to check the condition of the car, number of previous owners, vehicle registration and whether the vehicle has been stolen or written off.

RTA commitment to privacy

RTA privacy management plan

The RTA realizes that trust is an important aspect of relationship with the public as private information is stored when they apply for a license or register a car. Therefore to instill confidence to the public, RTA published an updated Privacy Management Plan in 2007 which was first published in 2000. The Privacy Management Plan was published to describe how the RTA intends to comply with the Privacy and Personal Information Protection Act 1998 (PPIPA or Privacy Act) and the Health Privacy Principles (Health Privacy Act). All NSW public sector agencies have to comply with the Privacy Act which deals with how NSW agencies handle personal information after obtaining from customers. The Health Privacy Act governs the handling of customers' health information in both public and private sectors in NSW [13].

Website security - secure socket layer encryption

RTA uses an industry standard Secure Sockets Layer (SSL) to protect the transmission of data. The secure transaction facilities encrypt the information as it travels between the computer and RTA's servers.

Facial recognition technology

In December 2009, the RTA introduced the Facial Recognition System (FRS) to improve identification of licence and photo card holders in NSW using biometric technology. The main aim of the FRS is to combat identity fraud which costs Australia at least \$3.5 billion annually. When a customer takes a digital photograph for application of a license or photo card, the FRS compares the digital photograph to existing images stored in the RTA's database and check if the person already exists in the system [17]

National exchange of vehicle and driver information system

The National Exchange of Vehicle and Driver Information System (NEVDIS) is a system which provides national registration and licensing information to all Australian road agencies. The introduction of NEVDIS solves driver-vehicle management issues faced by vehicle manufacturers, importers and the police when dealing with registration and licensing jurisdictions. Most importantly, NEVDIS reduces licence fraud and vehicle fraud.

IT security accreditation

The RTA enhanced security of customer information by implementing audit of two key IT areas The Transport Management Centre and Information Management and Information Technology Branch by a third party certification body. The two Key IT areas managed to retain their accreditation to ISO 27001 which was the international standard for "Information Security Management System to protect information assets.

CASE STUDIES DISCUSSION**Online services**

The four federal government agencies and one state government agency have existing e-government services and the review showed that more e-government services and portals were implemented during 2009-10. The case studies show the considerable progress made towards effective e-government. The case studies all showed a general increase in the use of its website, services and portals.

ICT system

In 2009-10, all agencies have implemented ICT strategies and policies to improve the overall capability and delivery of its e-government services. Centrelink, ATO and RTA have implemented strategies to maintain a highly capable ICT workforce to support its daily ICT system.

Digital divide

All agencies except RTA provides language and translation service for customers who are non-fluent in English. Centrelink was the only agency which provides measures of reaching out to possible digitally excluded customers. The introduction of its Mobile Offices, RASCs and Centrelink Access Points ensure rural communities have adequate ICT facilities to access Centrelink online services.

Privacy

The increase of e-government services means that citizens have to provide more personal information online. This might lead to citizens feeling insecure and refrain from using e-government services. The Australian government is aware of this possible issue which is why all five government agencies have to comply with a privacy policy depending on the administrative level.

All five government agencies have a privacy policy to protect personal information of customers. All of the federal agencies complied with the Privacy Act 1988, only RTA which is an NSW state agency complies with the Privacy Act of NSW. Both acts protect the unauthorized release customers' personal information. Medicare withholds health information and thus has to comply with Health insurance Act 1973 and National Health Act 1953. The existence of privacy policies instills confidence in customers to continue accessing e-government services.

Security

All five case studies have security measures for its e-government services. However, due to the different nature of each agency, the security measures used were different. The security measures implemented were rather effective in maintaining the security of the website, transactions and border control.

Cost/benefit analysis

Throughout the review, no recent information regarding cost/benefit analysis of any agencies could be found. This makes it tough for government agencies to calculate the overall savings due to the implementations of new services.

CONCLUSIONS

The review of Australia e-government shows that the general use of e-government services has been increasing over the years and the internet has become the preferred method of contacting the government. However, e-government in Australia is mainly available to citizens who have the ability to be digitally connected. The benefits which these citizens receive through the use of e-government might further widen the existing digital divide. Australia may not be affected by global digital divide as a developed country but there is existence of social digital divide. There is an existence of social digital divides faced by social groups such as elderly people, rural communities, low income families, unemployed and less educated citizens. These social groups who require the most assistance from the government are the ones who contact the government the least.

The review of the five case studies have shown that Australian government agencies have well established ICT systems and e-government services in place. The five agencies have been constantly providing new e-government services and portals and results show that they are all well-received by citizens. Existing e-government services in all five agencies experienced increase in usage. Several initiatives highlighted such as Pre-filling data for E-Tax, the Citizenship and Visa Wizard showed the effectiveness of the e-government services. The five government agencies are required to comply with privacy policies which protect the personal information of citizens. The existing e-government services employ ICT security measures to maintain the security of websites, transaction and border security.

Regarding the bridging of digital divide, RTA is the only government agency which does not provide translation services for its citizens. The broadband services provided in rural areas are more costly, slower and unreliable when compared to metropolitan areas. Centrelink is aware of this issue thus providing self-service facilities and mobile offices to rural communities to reduce the number of digitally excluded citizens.

Overall, the e-government in Australia is well established. The main focus of the Australian government should be bridging the digital divide and getting unconnected citizens digitally connected. This will definitely ensure a surge in the use of e-government services.

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The Lifestyle of Hip Life Musicians and Its Influence on the Ghanaian Youth

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Abstract

This study sort to find out some of the negative effect the lifestyle of hip life musicians have on Ghanaian youth in two senior high schools in the Ashanti and Central regions of Ghana. Through quota sampling procedure twenty students were selected from the two schools. The research instrument used was open- ended questionnaire. Data collected was analyzed thematically. The findings revealed that most youth are into hip life because they believe it is modern fashioned. Also, the lyrics and rhythms are consistent with the jargons they use as well as the dances they do. A few mentioned that the lifestyle of the musicians have brought nothing but indiscipline and irresponsible behaviour among the youth and this can be seen in the way they dress, talk and even think. Similarly, the lifestyle of these musicians have greatly influenced Ghanaian culture in that most of the youth due to the lifestyle of these musicians have adopted foreign cultures which is making it difficult for the youth to adopt to Ghanaian culture. The researchers therefore recommend that the younger generation of musicians should be made aware of how their lifestyle is affecting the youth and Ghanaian culture negatively. Also there should be strict rules and regulations to govern the general lifestyle of all musicians as well as their lyrics and video clips. Hip life musicians should be educated to serve as positive role models for the youth since majority of them are in the age group of the youth.

INTRODUCTION

The world of music is growing at a faster pace and Ghana as a nation is not left out. Though the authorities in charge of Ghana music industry are doing their best to raise Ghana music and Musicians to a higher level and also to educate the youth who are the nation's future leaders through music, the lifestyle of some of the hip life musicians is nothing good to write home about. Music has a great impact on human life as well as some animals. As human beings dance to the tune of music, animals like snakes when they hear the rhythm of music try to find out where it is coming from so as to get closer and enjoy it better. Most people spend much time listening to music or watch musicians perform. This shows how music serves as a source of tool for entertainment. Some have argued that music is a creative art and so the fellow who creates it must be allowed to express their talent in any manner they deem fit; but since the work of the musician does not stay with him or her and ultimately finds its way to the public, it is proper that decorum is applied when that work is being created [1].

TYPES OF MUSIC IN GHANA

According to [7], there are four main types of music heard in Ghana today: Traditional music, Contemporary music, Gospel music and imported music.

Traditional music

Traditional music and dance are ritualized events occurring at funerals, ceremonies, festivals, weddings and other public and private gatherings. In the southern part of Ghana drums are mostly used in the performance of traditional music and dance, while string instruments and the calabash are more used in the north [7]. According to [7] during festivals and other ceremonies, the traditional music played and performed are those that are associated with rituals that tell a story or re-enacts an event of historical significance to the tribe.

Contemporary music

Contemporary music from Ghana is mostly comprised of 'Highlife' and 'Hip-life' musical styles. Highlife music was first recorded in the 1930's and got to its peak in 1950's through 1970's. They mostly use our traditional percussive beat and combines either the European, American or Carribean rhythms. [7] noted that Hip-life is a newer style of music that fuses the Highlife beat with that from American Hip-Hop and Rap. It is presently the most popular style of music among the younger people and can be heard anywhere in Ghana.

Gospel music

The creation, performance, significance, and even the definition of gospel music vary according to culture and social context. Gospel music is composed and performed for many purposes, including aesthetic pleasure, religious or ceremonial purposes, and as an entertainment product. Ghana being a religious country has a lot of Gospel music to her credit [7]. Gospel music is mostly played during church services and other Christian ceremonies like Christmas, Easter and others. The types include contemporary gospel, urban contemporary gospel, Southern gospel, and modern gospel music commonly known as praise and worship. These forms are sung by choristers, individual artists, etc.

Imported styles

American Hip-Hop, R&B, and Country music are some of the most encountered foreign music imports heard in Ghana in the larger towns and cities especially. Another very popular music is the Reggae music. It is non-American music and can be heard anywhere in the country [7].

Some importance of music as researched by [4]

1. It is the Key to Creativity. Music in general fuels the mind and thus fuels our creativity. A Creative mind has the ability to make discoveries and create innovations. The greatest minds and thinkers like Albert Einstein, Mozart, and Frank Lloyd Wright all had something in common in that they were constantly exploring their imagination and creativity. Listening to instrumental music challenges one to listen and tell a story about what one hears. In the same sense, playing a musical instrument gives one the ability to tell the story without words. Both require maximum right brain usage which not only exercises ones creativity but also ones intellect.
2. It makes Education more enjoyable. It can be used in the classroom for memorization, for self-discipline, keep children focused and responsible.
3. Music has Spiritual Powers. No one really knows where Music came from but there are many theories that suggest music predates the existence of Mankind. One of the most commonly known uses for music was religious and sacred tribal events. In Mayan civilization music was used in celebration of a victory at war and even at the burial of influential figures.
Even today, many people claim that music is the key to God and to a holy, more fulfilling life through the Church.
4. Music can create a Mood and make you feel Emotional.

There are moments where a song has made people particularly sad or very excited and happy. No one really knows why or where it comes from but there are many studies that have been done to show that there is an agreement of which emotions pertain to certain scales, chords, and harmonies. Music Can Connect People. It enables people become more united and stable. Finally, [3] mentioned that music can also be used as a therapy. Help clients with serious problems improve or maintain their health.

How the lifestyle of hip-life musicians have influenced Ghanaian culture and youth

Hip-life is a newer and now the most popular style of music that combines the Highlife beat with influences from American Hip-Hop and Rap. It is by far the most popular style of music among the younger people and can be heard almost everywhere in Ghana. The popular artists of Hip-life are young and this makes the youth become more glued to their style of play and music.

With regards to how the lifestyle of hip life musicians and their music have influenced Ghanaian culture, the researchers found out that it has imparted both negatively and positively. Negatively, [2] in an interview with Jesse Weaver Shipley, an Assistant Professor of Anthropology and Director of Africana Studies at Bard College revealed that hip-life is not something that everyone has taken to. The author noted that there has been a strong reaction against it. Some saw hip-life as foreign, as influencing society negatively in terms of morality, as fostering open sexuality, as being about smoking pot and as being a negative moral influence on the youth. These are bad influences which some Ghanaians will say are not local traditions.

Similarly, [4] also mentioned that music has the power to influence the way we dress, think, speak, and live our lives. Profane and violent lyrics can have a negative influence on children. According to [5] various studies have shown a correlation between undesirable behaviours and lyrics describing or espousing violent, sexiest or illegal activities. The American Academy of Pediatrics cites several studies as parts of its 2009 "Impact of Music, Music lyrics and Music videos on children and youth" a report that shows that there is a connection between violent lyrical, visual content and aggression, sexual content and sexual activity, sexiest content and sexiest attitudes. Some studies also show that an increase in risk taking behaviour and drug use can be associated with listening to certain music.

Some songs are seen as being very sexually promiscuous, as presenting female sexuality in a way that was not publicly appropriate in Ghanaian society [2]. In an exclusive interview with one musician in Ghana, He noted that the culture associated with hip-life comes with the 50cents culture, such as dress code; thus wearing of big chains, and wearing of trousers to the hips. He said there was also the language and attitudes which are contrary to the Ghanaian culture "I don't like hip-life because I don't like the way they dress". Adding that "we should be able to promote and protect our own culture and this is not about being patriotic but it is about economics". He said "we should be able to create our own music with our own clothing, and fabrics, that way we would be creating more jobs". He expressed concern that the youth of Ghana who are the future of the country and music are buying into hip-life instead of mainstream high life.

In view of these, the study therefore seek to ascertain the importance of music in the lives of humans, factors that influence the youth to develop so much interest in Hip-life music, the effect the music has on the youth and how it has affected the Ghanaian culture.

METHODS

A cross-sectional design involving qualitative approach was adopted whereby the descriptive survey design was used by the researcher to investigate the influence the lifestyle of Ghanaian hip life musicians have on the youth. The target population were all students of Winneba Senior High School and Agona Seventh Day Adventist Senior High School in the central and Ashanti Regions of Ghana. The researcher targeted all students of the selected schools out of which 10 second year students were selected from each school. In all, 20 second year students were selected for the study. Quota sampling was used as the sampling technique to select 10 second year students from each school which consisted of 6 boys and 4 girls. With this, traits like gender, class and age were considered. Second year male and female students between the ages of 16-19 were chosen. The class register which contain students name, date of birth and gender was used to select the first 6 males who fall within the ages of 16-19 and also the first 4 females who are within the ages of 16-19. Open-ended questionnaire was used as the research instrument to elicit response. This is because they provide the respondents the opportunity to give a more complete and detailed answer [6]. Permission was then sought from the Head teachers of both schools to administer the questionnaire. Also, consent forms were signed by the students to show their approval to help in the study. Two days was used in each school to administer the questionnaire. In analyzing the data, the researchers used frequency counts for the bio data whiles the responses for the questionnaires were analyzed thematically.

RESULTS

Eight students of the total respondents were females while twelve (12) of them were males. The researchers used more male students because though adolescent boys and girls show much interest in hip-life music, the boys can be said to be into it more than the girls and even in Ghana the male hip-life artists are more than the females. Nine of the students were between 16-17 years of age, while 11 were between the ages of 18-19. This confirms that student respondents were in their teens.

The Importance of Music in the Lives of People

On the issue of the importance people derive from music, most respondents gave out their response that music serves as a source of tool for entertainment and that humans cannot do without music in this world of ours. In Agona SDA Senior High School a male respondent wrote "Music serves as a source of entertainment to humans; humans can't do without music". Another boy from Winneba Senior High School also wrote: "Music prevents boredomness and consoles mankind when he/she is sad, thus it serves as a source of happiness and entertainment".

Others also gave response that music reduces stress and also helps to relax the mind thus when one is stressed up or too tired of doing something, the person after sitting back and enjoying some music realizes he or she is relieved from his or her stress. Also some people even in their state of anger or anxiety calm down after hearing the rhythms of some music and relax just to enjoy that music.

This is how a female student from Winneba Senior High School stated it "Music reduces stress". Another student from Agona Seventh Day Adventist Senior High School stated this, "Humans sometimes gain advice and lessons from music". Some also talked about the fact that music serves as a source of motivation and inspiration to humans.

In response to how the world will be without music, more than half of the respondents gave a response that the world would be very dull and boring, since music serves as one of the

powerful tool for entertaining people and also the world would be in a serious dilemma without music. A female student from Winneba Senior High School wrote this "Without music the world would be very boring". Another says, the world without music, what a dull world that would be". This was from a male student from Agona Seventh Day Adventist Senior High School.

Other students also noted that the world without music will be lifeless because music is life. Human beings without music are like living creatures without food and water, which means they will surely not survive. A female respondent from Winneba Senior High School wrote "The world without music will be like humans without food and water". This confirms the assertion that music is very important in the lives of humans and humans cannot live without music.

Factors that Influence the Youth to develop much Interest in Hip-life Music

Another theme that emerged was the factors that influence youth to develop much interest in Hip-life music. Most respondents gave the reasons to be that hip-life music is more interesting to listen to because they have good rhythms and excellent lyrics. "Hip-life music is music with good tunes, good rhythms and excellent lyrics" a male student of Agona Seventh Day Adventist Senior High School wrote. Another student from Winneba Senior High School who happens to be a female also stated that "The music is more alive and keeps you going".

Some also noted that hip-life music is the only modern music that goes with the current dances and that the current dances can only be danced with hip-life songs. A male student said: "Hip-life songs go with the current dances like Azonto and Alqaeda (present day modern dances)". Another student responded: "It is the type of music that is played more all over the country". Other respondents also raised the concern that hip-life music is listened to more because they are mostly played in every part of the country thus on the streets, night clubs, hotels and bars and also is heard more on occasions like parties, funerals, Christmas and others. Most of the youth believe that every generation has its pattern of the kind of food they enjoy most, the kind of dressing they do, the slogan that is present at that time, the kind of dance they do and above all the kind of music they listened to. So high-life is for the older generation and not the modern youth of today. A female student from Winneba Senior High School stated "High-life music is for the oldies", a male student from Agona Seventh Day Adventist Senior High School also wrote: "It is outmoded" and "It is old fashioned". This was stated by a male student of Winneba Senior High School.

Others also think that high-life does not come with hot rhythms and lyrics like that of hip-life and so makes it listening boring. Aside this, it is difficult to perform the current dances with high-life music. It can be concluded that a lot of factors influence the youth to develop much interest in hip-life music as one of them is that hip-life is played more than the other types of music and so has become part of the youth.

Effect the lifestyle of hip-life Musicians have on the Youth

More than half of the respondents wrote that the youth in Ghana have copied a habit of indecent dressing by both boys and girls. Others have also imitated the habit of smoking and drinking from these hip-life musicians. A female respondent from Winneba Senior High School noted: "The habits of smoking and drinking have been copied by the youth". Another male student from Agona Seventh Day Adventist Senior High School also stated that. "The use of abusive words by hip-life musicians is influencing the youth negatively". Other students also said the youth have copied the habit of insults and the use of abusive words from hip-life musicians. Some also think the increase in rape cases and teenage pregnancy in Ghana is as a

result of the youth watching the video clips of these musicians which are full of pornographic pictures as well as listening to their songs which are also full of profane words. These were excerpts:

“Most hip-life videos made by hip-life musicians are full of pornographic pictures”.

A male student from Winneba Senior High School also stated: “Some profane words used in their songs have become normal for the youth to use in their conversations with their friends”. Another female respondent from the same school also wrote that: “The youth nowadays have copied the habit of insults and the use of profane words that comes out of their songs and sometimes the bad things done in most of their videos”. These were from two females and a male respectively from Agona SDA High School and Winneba Senior High School.

On the other hand, few students also think the lifestyle of hip-life musicians have no negative effect on the youth in that it has not brought any bad influence on the lives of the youth. On the issue of how the life style of hip life musicians have affected the youth and Ghana in general, most of the respondents view was that the life-styles of these musicians have brought nothing but indiscipline and irresponsible acts among the youth. This has brought about non-law abiding individuals in the country in the sense that it is becoming difficult for people to obey and abide by rules and regulations without strict supervision especially among the youth. In the school setting for instance, it is very difficult nowadays getting students to perform their duties without supervision. A male respondent from Agona Seventh Day Adventist Senior High School stated that “It has brought about indiscipline among the youth”. A female student from the same school also wrote “It has made the youth irresponsible”.

Others also wrote that the youth due to this have become very disrespectful and show unnecessary pride. This act is making it difficult for them to humble themselves to learn things they do not know from older people and their disrespectful nature is also making the older ones feel reluctant to teach them things they ought to know. While few of them spend very little time with their books, most do not attend to their books at all. In view of that, poor academic performance has increased in our schools due to some of these problems. Others also talked about how the life style of these musicians have brought about social vices like fighting, the use of abusive words and other aggressive behaviour among others. A male student from Winneba Senior High School stated that it has brought about increase in social vices. On the contrary, a male respondent from Winneba Senior High School noted that he has not noticed any negative effect the life style of hip-life musicians have on the youth.

The report from most of the students clearly shows that the youth who are said to be the nation’s future leaders are not patronizing in things that will make them good and competent leaders and this puts the nation at risk if nothing is done about it.

With regard to Ghanaian culture, most respondents said there has been a lot of culturally unacceptable behaviour put up by the youth due to the life style of hip-life musicians. Some of these are smoking, drinking of alcohol, drug usage, indecent dressing like the wearing of very tight dresses by the girls and also wearing of earrings by the boys, as well as indecent haircuts which are culturally unaccepted in Ghana. This is how a female student from Agona Seventh Day Adventist Senior High School put it, “Exposing parts of their bodies and the way they dance in their videos”. A male student from Winneba Senior High School also put it this way; “Smoking of Indian herbs and cigarette and use of abusive words in their lyrics”.

DISCUSSION AND CONCLUSION

Apart from music serving its major purpose of entertaining humans, it also serves as a way to relieve stress, tension and boredom. Some music also helps humans to gain advice and moral lessons which goes a long way to help the individuals and his or her nation at large. Also music plays the role of motivating and inspiring humans in that, most people after listening to some music get the zeal to continue any good thing they are doing. Some music lyrics also motivate and inspire people from giving up in life. Music aside all these also serve as a medium for communication throughout the world. This is because music is played and heard everywhere you go. In our recent world, there has been so many means like the radio, television, internet and others by which humans can play and listen to music. This can be said to be one of the factors contributing to the world becoming a global village.

All these points were raised by respondents and can be said to be in line with the points raised by [4] on the importance of music.

It was realized that the youth are into hip-life music more because they think it is a kind of music that has risen up with them. Thus a kind of music that has come in their time, in their generation. Some youth believe that because hip-life is for them, they carry some sort of lyrics and rhythms that are in line with the jargons they use, the dances they do and others. Most of them also think that hip-life musicians are very creative in the sense that they are able to dress, act and come out with music and video clips that are in connection with what most of the adolescents want. Most youth believe that hip-life has features that cannot be ignored because of the vehemence with which they attract attention to themselves that is, the extremity of the body language by the musicians and also the dress code cannot be derived from high-life music. This is consistent with [7] on the issue of how the hip-life is a fusion of the local high life and European or American rhythms; so more of the youth identify with it because of the foreign blend i.e. lyrics, dressing and dancing.

The lifestyles of hip-life musicians have numerous effects on the youth. How these musicians lead their lives have influenced the way most of the youth dress, talk, think and lead their lives as well. It was reported by respondents that the life style of hip-life musicians and their music have brought nothing but indiscipline and irresponsible behaviour in the lives of the youth. This is seen in the way the youth these days dress, talk and even think. It was also said that the youth aside this show disrespectful attitudes towards older people which is affecting their ability to learn new things from them. The listening and watching of the video clips of these musicians which are full of pornographic pictures has raised the case of sexual misconduct among the youth. This in turn has brought about increase in teenage pregnancy and most of the youth dropping out of school. The fact that the youth spend most of their time to watch and listen to these musicians can be said to be one of the reasons for their poor academic performance in school. Similar points were raised by [4, 2, 5] which shows that the views of the respondents are not different from what was reviewed in the literature.

The life style of hip-life musicians have greatly influenced Ghanaian culture in the extent that the wearing of earrings and big chains by adolescent boys cannot be said to be a cultural practice of any of the tribes in Ghana. The use of left hand by these musicians when they are performing is an act which is highly frowned upon in Ghana but has been copied by the youth. Women exposing themselves in video clips of these musicians as well as drug usage by them to be able to perform tirelessly are all in contradiction with Ghanaian culture. The profane and abusive words they use in their music which most of them have become a slogan for the youth to use at anytime and anywhere are not culturally accepted in Ghana [1].

In view of the findings and Discussions made it would be suggested that the young generation of musicians in the country must be guided by the older ones to follow the footsteps of their seniors who are doing well to preserve and propagate the progressive Ghanaian cultural values in their creative efforts.

Also, the younger generation of musicians must be made to know that their tendency to project the hip-life music which is a fraught with much negative cultural values is a danger and constitute an impediment to the healthy advancement of the nation.

Another is that, the Musicians Union of Ghana (MUSIGA) must come out with strict rules and regulations to govern the general life style of all musicians as well as their music lyrics and video clips including those who are not members of MUSIGA as far as their music compositions are concerned.

Also, there should be an imposition of sanctions such as fines, suspensions, expulsion and others on members who are found guilty in various ways in the course of their functions.

Another point is that parents and guardians are encouraged to take an active role in monitoring the type of music to which their children are exposed to and to be aware of the music they purchase.

Hip-life musicians should be educated to serve as positive role models for the youth since majority of them are in the age group of these youth.

Also, since the youth have developed much interest in hip-life music and musicians, they can use their platforms to produce music and videos with more positive things about relationships, racial harmony, drug avoidance, non-violent conflict resolution, sexual abstinence, pregnancy prevention and avoidance of promiscuity.

Additionally, teachers should be a check on students by being involved in the social life of students under their care. For example, during entertainment nights, teachers should be present to monitor and supervise the kind of activities that go on there.

Also, counsellors should organize guidance programmes to educate the youth on the negative influence the music and life-style of most hip-life musicians are having on them and the nation at large.

Last but not least, the authorities in charge of Ghana Music Awards should consider including the general attitude of musicians in their criteria for awarding them instead of basing it on the sell out and popularity of their music alone.

This study limits its area of coverage to the Form 2 students of Agona Seventh Day Adventist and Winneba Senior High Schools in the Ashanti and Central Regions of Ghana respectively. Similar investigations could therefore be carried out in other schools in different regions. Such an exercise will throw more light on the findings of this study.

Further research on the effect of popular music lyrics and music videos on children and adolescents could be carried out using different variables of test methods.

Investigations on how the Ghanaian High life music will be sustained to enable Ghana make a significant impart and also gain immensely from the international music industry could also be carried out.

Communicating Climate Change in Kenya: Status, Challenges and Prospects

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Abstract

Climate change remains a gigantic developmental issue the world over thus calling for sustainable intervention measures. Research shows that despite the potential dangers posed by climate change, public concern is low, a situation that tends to be linked to unfamiliarity with the nature of the climate uncertainties. One of the possible ways to address this scenario, it has been argued, is to apply research from communication and related fields to tailor messages to the existing perceptions, values and attitudes of different audiences in a bid to make the debate understandable, relevant and personally important. And, this is where journalists are called upon to not only present the complicated story, but make it comprehensible and appealing to a lay readership as well. But what challenges are they likely to face in communicating issues on climate change? To attain the goals envisioned in the Kenya Vision 2030 in particular, and socio-economic development in general, understanding climate change, its attendant consequences and the most appropriate means to tackle them is paramount. Specifically, this paper discusses the challenges facing journalists in covering climate change issues in Kenya. Prospects with respect to communicating climate change issues in the country are also explored. In an attempt to better understand this paper, a relevant theory is elucidated while the background information is presented including an overview of climate change, the status of the mitigation measures being employed as well as the role of the media in communicating this grave phenomenon.

Key words: Climate change, Challenges, Communication, Prospects, Mitigation and Kenya Vision 2030

INTRODUCTION

Evidently, climate change is a great global development challenge today that warrants sustainable intervention measures. According to the United Nations Environment Programme (UNEP, 2009), climate change refers to alteration in the state of the climate over time due to natural variability or as a result of human activity. Such variability leads to accelerated reduction of mountain glaciers, increased temperature, acidification in oceans, shifting climate zones and change in the earth's ecosystem as well as precipitation. Climate change arising from the emission of anthropogenic greenhouse gases like carbon dioxide released by burning of fossil fuels, forest depletion and emission of nitrogen oxides into the ozone layer, have all contributed to increases in atmospheric temperatures leading to global warming (UNEP, 2009). However, global greenhouse gas emission is continuing unabated with indications that climate change consequences are likely to worsen. Clearly, this trend needs to be reversed at

all costs for the sake of maintaining the ecological balance required by the wide variety of flora and fauna, including humankind, in their various environments.

Like in any other part of the globe, Kenya has not been spared the effects of climate change and variability as at least 70 percent of its land mass is arid and semi-arid (ROK, 2010). Thus, if Kenya takes no action to minimize the current as well as expected impacts of climate change, the costs of potential damage to the economy will be enormous. Among others, the country will not be in a position to realize the goals as stipulated in the Kenya Vision 2030 including a safe and clean hence sustainable environment. Indeed, Kenya should take climate change seriously as it affects such critical issues as food security, health, natural resources, physical infrastructure, economic and social development and to some extent eradication of conflict especially among the nomadic pastoralists.

Unfortunately, many Kenyans neither understand what climate change means nor have ideas on the mitigation measures to apply. This is because they lack information and resources that would enable them to cope more effectively (BBC World Service Trust, 2009). Given this scenario, the media would be expected to play a pivotal role in the dissemination of information related to climate change. It is worth noting that the media informs and provides the public with a platform for articulating their views on various issues. Along with bringing in the hub of debates and discussions, the media attempts to suggest alternatives to the people and policymakers (Itai, 2005). However, although the impacts of climate change have been fairly documented, little has been done on the challenges facing journalists in covering issues on climate change.

Eskjaer (2009) argues that so far, climate change issues are documented using mainly quantitative techniques. Thus, little research involving the qualitative techniques, particularly with respect to how the media approach and frame climate change has been conducted. Accordingly, numerical analysis only presents a section of the story while qualitative approaches like editorial priorities as well as journalistic practices either increase or decrease the value of quantitative data. In an attempt to fill this knowledge gap therefore, this paper employ the qualitative approach to explore the challenges that hinder journalists from adequately reporting climate change issues. Further, the prospects with regard to communicating the phenomenon of climate change in Kenya is another focus of this paper.

THEORETICAL FRAMEWORK

This paper is informed by the Agenda Setting Theory as advanced by McCombs and Shaw (1972). It holds that the media has the power to present images to the public. It is based on the assumption that the media influences what people think about (Dearing and Rogers, 1996). Thus, what the public knows and cares about at any given time is mostly a product of media gatekeeping and agenda. Accordingly, gatekeepers selectively determine the agenda for what is news. Research shows that the media help shape people's minds, especially those that do not have a direct connection to reality. This means that topics that are not discussed in the media become less important or relevant to the public.

Although agenda setting focuses on the gate keeping ability of the media, other people besides journalists, editors and broadcasters can influence the media (Dainton & Zelle, 2005). By selecting, excluding, emphasizing and elaborating certain aspects of news, public opinions are inevitably shaped and influenced. Thus the news media influences their audiences to think about selected issues in a certain perspective (McQuail, 2005).

With regard to this paper therefore, there is need for the media to constantly publish and guide salient cues on issues of climate change and the environment as a whole. Among others, it should consistently set the agenda including putting pressure on the government and public to mitigate climate change because its effects are largely disastrous.

OVERVIEW OF CLIMATE CHANGE AND KENYA VISION 2030

It is a reality that one of the most serious challenges facing humankind at this historical juncture is that of climate change. For instance, climate change is known to induce the spread of diseases, drought, floods, conflict and insecurity in resource use, overgrazing and deforestation. Other consequences of climate change include, soil erosion and fertility decline, water scarcity, food insecurity as well as wood fuel crisis (Republic of Kenya-ROK, 2009). The challenges arising from climate change have apparently, taken centre stage in the global development agenda. Indeed, one of the eight Millennium Development Goals (MDGs) focuses on environmental sustainability.

The global average temperatures have risen both on land and in the oceans with observable impacts already occurring (ROK, 2009). In Kenya, there have been widespread changes in extreme temperature. Accordingly, data from the meteorological department shows that cold days and nights have become less frequent. Conversely, hot days and nights have become a common phenomenon (ROK, 2008).

The effects that the forecast rise in global temperatures will have on life on the planet are hard to overestimate (ENAJ, 2012). Kenya is already witnessing disappearance of the glaciers on Mount Kenya yet the country's hydropower potential is on the water system fed by the glacial melts from the mountain (ROK, 2009). Scientists project that the ice cap on the mountain should disappear by 2020 with negative environmental implications. Today, there are only seven glaciers on the mountain compared to 18 of them in 1900! Further, Lakes Victoria, Nakuru, Turkana, Baringo, Naivasha and Elementaita have experienced serious declines in water levels. Similar drastic changes have been observed in the volumes of Rivers Athi and Tana thereby interrupting the generation of electricity in the country.

The risks that are associated with climatic change are particularly high to those communities that directly depend on natural resources for their livelihood. Kenya falls under this category. According to ROK (2008), about 42 percent of Kenya's GDP is derived from natural resource – based sectors of agriculture, forestry, tourism, mining, energy, livestock and fisheries which are all climate- sensitive.

Kenya has been plagued by natural, weather – related disasters that cause, among others, diseases, deaths, destruction of property, infrastructure and general suffering throughout the nation. According to ROK (2007), over 70 percent of the natural disasters affecting the country are weather related and that in the recent past, there has been an increase in the frequency, magnitude and severity of the disasters. The most prevalent hazards are drought and flooding. Although these events are natural in origin, the impacts of human induced climate change are predicted to exacerbate them (Environment and Vision 2030, 2012). Meanwhile, it is evident that the frequency and occurrence of floods in many parts of the country have significantly increased since the 1990s.

On the other hand, environmental changes brought by human activity, such as deforestation, desertification, coastal modification, including the removal of mangrove and agricultural

practices in fragile ecosystems contribute to an increase in the disastrous consequences of what were once purely natural weather hazards (Environment and Vision 2030, 2012).

As per Vision 2030 development plan (ROK, 2007), Kenya aims to be a nation that has a clean, secure and sustainable environment which is one of the key components of the global development agenda. Accordingly, the vision's social, economic and political pillars are interrelated and the fibre that binds them together is the natural environment, with its inherent supply of both renewable and non-renewable goods and services. Realization of Vision 2030 to a large extent depends on maintaining the natural systems that support agriculture, energy supplies, livelihood strategies and tourism, among others. To achieve this, it endeavors to employ such strategies as enhancing disaster preparedness in all the disaster-prone areas as well as improving the capacity for adaptation to global climate change.

Clearly, climate change poses a major challenge to Kenya's social as well as economic wellbeing including human life and the environment itself. Coupled with the country's low adaptive capacity to climate change, there is a high level of vulnerability (ROK, 2008). Interestingly, although Kenya has contributed little to the causes of global warming, it is one of the countries most hit by the disasters of climate change (ROK, 2007). These effects are, however, likely to be more severe in the future, unless the international community demonstrates greater resolve. The situation is further complicated by the fact that the current approaches to disaster management in Kenya are geared towards disaster response as opposed to disaster risk reduction (ROK, 2007). Accordingly, this could slow down the country's projected economic growth as the economy is heavily dependent on such climate - sensitive sectors as agriculture, tourism and the coastal zones.

STATUS OF CLIMATE CHANGE MITIGATION IN KENYA

In order to achieve its development goals, including the targets under the MDGs and those related to Vision 2030, Kenya needs to effectively plan and manage its environmental, economic and human resources to avoid disasters, including those induced by climate change. Protecting and restoring environmental assets will help make Vision 2030's economic and social goals a reality (Environment and Vision 2030, 2012)

According to ROK (2008), proactive management of the environment pre-empts serious calamities and occurrences such as drought, floods and global warming that would otherwise take up a lot of resources to deal with their eventualities. Countering the root cause of climate change will help rehabilitate degraded areas and conserve ecosystems that are under threat. In particular, keeping the beneficial relationship between the environment and economy forefront in national development planning and policy formulation is key to ensuring that all development intervention remains within the carrying capacities of the natural resource base (ROK, 2009).

In the Kenya National Environment Action Plan of 2009 – 2013, it is held that mitigation of climate change should involve undertaking research on its impact on the environmental, social and economic sectors; enhancing analysis and exchange of relevant information, experiences and adaptation among the stakeholders and policy makers as well as improving inter-sectoral coordination (ROK, 2009). And this is where the media are pivotal in gathering and disseminating information regarding the environment, including climate change.

In a bid to provide its citizens with a clean, secure and sustainable environment by 2030, Kenya has set such goals as increasing forest cover from less than three percent of its land

base at present to four percent and to lessen by half all environment related diseases by 2012 (Environment and Vision 2030, 2012). In particular, the government endeavours to promote environmental conservation to achieve the MDGs, improving pollution and water management through the design and application of economic incentives and commissioning public-private partnerships for improved efficiency in both water and sanitation delivery.

Further, the country aspires to enhance its disaster preparedness capacity in all disaster – prone areas and improve the capacity for adaptation to the impacts of global climate change. Similarly, harmonising environment related laws for better planning and governance remains a top priority.

As stipulated in the Kenya Vision 2030's First Medium Term Plan (2008 - 2012), the government is to strengthen linkages with institutions of higher learning, including universities and other research institutions through joint capacity building in environment related disciplines. This will be done through short term training, establishment of university – based science parks as centres of technological innovation, development of environmental and hydrological monitoring of programmes in major water catchments as well as effective and environmentally friendly solid waste recycling technology usable at the community level in major urban areas (ROK, 2008).

In collaboration with the universities, the government further endeavours to develop priorities concerning the environment, water and sanitation to guide both the public and private sector research and management interventions. These pieces of work greatly informed this paper.

ROLE OF MEDIA IN CLIMATE CHANGE COVERAGE

The role of the media in raising public awareness as well as mobilizing global citizens to act to avert impending disasters due to climate change is extremely important. This is so, especially in the continent of Africa which is considered to be least responsible for and least informed about climate change, yet the most affected by the disastrous phenomenon (ENAJIS, 2012).

According to ROK (2009), information is a fundamental resource upon which organizations, countries and individuals depend on managing their affairs. These pieces of information include those involving climate changes. For example, in the decision making process, information is required to formulate objectives, set targets as well as guides in the implementation of the relevant programmes. It is worth noting that in order to make an informed decision about policies and priorities, there is need to establish a strong, authoritative data gathering mechanism. Additionally, reliable and comparable information will allow the organization to develop indicators and link them to other critical issues like agriculture, health and poverty (ROK, 2009).

The implementation and dissemination of environmental information is fundamental to enhancing public involvement and participation in environmental management that leads to change in behaviour resulting to responsible living and interaction with the environment. Unfortunately, environmental information dissemination and networking technology have not received high attention and priority for quite long compared to other sectors. Accordingly, lack of capacity, poor coordination and linkages, documentation, utilization and preservation of indigenous knowledge are some of the key issues affecting environmental information and networking at the community, civil society, private sector, learning and government institutions and international levels (ROK, 2009). Thus there is need to develop a framework to support country- level integrated environmental assessments and reporting at all levels.

Among others, the civil societies including the media need to strengthen links between researchers, communities and policy makers for the smooth flow of information and advocacy. Essentially, the communities need to be empowered and encouraged to actively participate in environmental issues including those to do with climate change. As stipulated in ROK (2009), Kenya considers climate change as a priority issue under the environmental disasters and hazards implementation strategy. In particular, the objectives, output and the anticipated activities to have been undertaken by 2013 are all clearly outlined (ROK, 2009).

Kiai and Karembu (1999) assert that environmental concerns have not been given the critical attention they deserve in many developing countries. Accordingly, environmental issues remain more visible in policy documents but wanting in implementation. Such lack of concern is evident in both the media as well as general public. A study carried out by Gichana and Owaka (2002) on environmental articles published in specialized columns found that the print media in Kenya had only a few articles which did not give sufficient information on environmental issues.

Further, Kiai and Karembu (1999) argue that journalists regard environmental stories as 'dry' and less lively compared to political, business and entertainment ones. In addition, they argue that many journalists feel that environmental issues are too technical thereby leaving them to such international players as UNEP, environmental experts, professionals, academics and lobbyists. They conclude that both the media and the public have failed to set the environmental agenda consistently, despite its contribution to sustainability of the future of the earth as well as humanity. However, these studies do not address the challenges faced by journalists while covering climate change, a gap that this paper makes an effort to fill.

CRITICAL CHALLENGES IN CLIMATE CHANGE REPORTING

According to the Kenya Vision 2030 (ROK, 2007), the government aspires to upgrade the capacity of the relevant institutions for enhanced environmental data and information coverage as well as application. In the vision's implementation matrix, the government commits itself to promoting and safeguarding the state of environment for economic growth. It particularly singles out raising environmental education and awareness among citizens as a top priority (ROK, 2009).

From the foregoing literature, the role of the media in contributing to the public understanding of climate change becomes crucial. Clearly, the media have a key role to play in putting and keeping sustainable development and climate change on the news agenda. However, research shows that the media do not pay sufficient attention to climate change thereby failing to keep climate change on the news agenda long enough to inform opinion. Issues of sustainability and environmental justice are often marginalized in reporting compared to, say, coverage of such events as the Commonwealth Games held in New Delhi, India and Soccer World Cup in South Africa in 2010 (ENAJ, 2012). This is reinforced in the Science Daily (February 25, 2009), where it is documented that the media continues to focus its attention on health, the economy or crime thereby drawing public attention away from the issue of climate change. This scenario is not likely to stimulate the sort of public attention that prompts concerted political action.

Further, journalists do not fully understand the science behind climate change. They are therefore, unable to communicate issues on climate change effectively (ENAJ, 2012). But journalists can succeed in the difficult task of presenting a complicated story yet make it both comprehensible and appealing to a lay audience (Edwards, n.d). Accordingly, one of the key

ways to do this is to have a strong storyline as the art of story telling applies to science as well as any other field.

Similarly, the gathering of information alone by journalists is threatening for many companies, organized crime groups, governments and the various kinds of intermediaries that profit from misuse of the environment (World Federation of Science Journalists – WFSJ, 2009). For example, in Cambodia, the Philippines and Indonesia, where logging companies often have close ties to government officials, reports on deforestation have led to deaths as well as arrest of journalists. Since the Rio Summit in 1992, there has been an increase in violent attacks against journalists covering environmental issues (Pallab, 2009).

In addition, journalists face problems, especially if criticizing government decisions. They risk such penalties as imprisonment or worse for publishing their stories. Such cases have been reported in China amongst other countries (WFSJ, 2009). ####

Indeed, journalists in Kenya have had their share of the wrath in matters involving reporting destruction of the environment, particularly where influential individuals within government ranks are concerned. There is also the critical question that stares in the face of journalists all over the world. This is to do with whether to always pursue the sensations even when risking conveying an unbalanced picture. Indeed, a number of reports on climate change are slightly lumpy and not balanced. Thus, they face the challenge on how to ensure accuracy, fairly represent climate change issues and at the same time communicate a story that grips and motivates the audience (Edwards, n.d).

At times, coverage on climate change is overly alarmist. Among others, this kind of reporting makes people feel hopeless about the issue and so feel that there is no point in trying to tackle it (Pallab, 2009). Journalists also encounter challenges while reporting on environmental issues, including climate change, to a reader suffering from poverty, hunger, disease, drought or even a decision maker who is acting to solve actual urge problems (Dalia, 2010). Evidently, with such actual challenges in Africa, including Kenya, environmental journalists are working in bad conditions.

In a nutshell, journalists are facing a long list of other challenges when reporting climate change in the developing world including shortage of accurate national or even regional information, inadequate scientific research, low level of cooperation and coordination among the different stakeholders and lack of interest among editors in chief as well as readers (Dalia, 2010). The following are considered to be crucial prospects that journalists as well as the relevant policymakers could explore further in an effort to help address these pertinent challenges.

PROSPECTS OF CLIMATE CHANGE REPORTING IN KENYA

According to Nisbet (2009), time has finally arrived in the developing countries for major policy action on climate change to be taken. Given the numerous challenges facing journalists in covering climate change, it is imperative that sustainable intervention measures be formulated and implemented accordingly. This is particularly important if Kenya is to achieve the goals stipulated in the Vision 2030 development plan, especially those meant to enhance food security, health and environmental sustainability. Indeed, the media should be encouraged to be as free as possible and widely report on climate change and related issues so as to raise public awareness and to even put pressure on the government, where necessary, to keep its promises including reducing carbon dioxide gas emissions. The Rio Declaration clearly

states the need to engage and involve the general public. This role is best played by the media (WFSJ, 2009). In addition, the Rio Summit emphasizes on the need to protect environment journalists.

Additionally, there is need to create a panel of top climate change reporters, specialists and scientists who are equipped with the knowledge, skills and attitudes so as to improve reporting as well as analyzing relevant issues on the environment, agriculture, science, economy and politics. In particular, reframing the relevance of climate change in ways that connect to a broader coalition of people as well as repeatedly communicating these new meanings through a variety of trusted media sources and opinion leaders is paramount (Nisbet, 2009). Among others, successfully reframing climate change means remaining true to the underlying science of the issue.

Commendably, to support environmental as well as science journalists in Kenya, the Kenya Environment and Science Journalists Association was founded in 2007 (www.kensja.org). It is worth noting that this body is admitted to the World Federation of Science Journalists. Among others, the association assists journalists to link up with news sources as well as secure relevant scholarships and fellowships. In addition, some collaborators do sponsor journalists to go out in the field and cover and report matters involving climate change.

On its part, the government should consider launching a mentoring scheme to produce journalists for better grassroot coverage of climate change in the local newspapers, radio and TV, especially at this juncture when Kenya is hard hit by consequences of climate change. It is important that such journalists, specialists and scientists with diverse skills in communicating science, economic, agricultural and environmental matters, including climate change, meet to explore related issues, provide training, solve problems, network and discuss effective ways to engage people. In particular, there is need for such journalists, specialists and scientists to take turns in sharing experiences of how to tackle the various challenges involving investigative reporting in the field of climate change and other environmental issues.

Similarly, it is paramount that journalists accurately, impartially and critically report on climate change issues so as to ensure that the viewers, listeners and readers trust what they say (Pallab, 2009). Journalists should also be keen on formulating strong storylines. The art of story telling, it has been postulated, is relevant to science just like it does in other fields.

And, apart from having a panel of climate change journalists, all other journalists, whether reporting on business, politics or entertainment should be climate change correspondents in order to make coverage on climate change as wide as possible. In addition, arrangements should be made for journalists to go to particular places to see for themselves the impact of climate change. Upon acquiring such first hand information on climate change issues, journalists could then report accurately, fairly and reach the widest and relevant audience possible.

CONCLUSION

Climate change is a new environmental challenge to be added to those of poverty, hunger, disease and conflicts in the developing world which are major stumbling blocks to social, economic and political development. As per the report compiled by the Center for Climate Change Communication (2012), limiting climate change and protecting people and ecosystems from the unavoidable changes in the climate will require smart, and in some cases hard decisions from members of the public and policy makers. Going by scientific research, climate

change will have a significant impact on such sectors as agriculture and tourism which are some of the major sources of livelihood in Africa, a situation that will in turn exacerbate the already fragile situation. It is vital therefore, that the public is made aware of the impacts of climate change and the need to play an active part in attempting to surmount them.

Among the strategies for delivering flagship programmes and projects outlined in the Kenya Vision 2030 is that of promoting the free flow of information so as to strengthen engagement between the government, civil society and private sector. It is imperative therefore, that climate change coverage remains at the top of the media hit parade in the 21st Century since it is an up to date issue. The media should take responsibility and create awareness among both the public and decision makers in order to take the required action early enough to avoid worst situations.

But more importantly, journalists in Kenya and Africa in general should cover climate change in both a professional and comprehensive manner. In order to effectively play this crucial role, they should have sound knowledge on matters involving climate change, related fields as well as pertinent economic and political issues. On their part, governments and environmental scientists should provide accurate data while the journalists should simplify and link it to the reader's daily life taking into account its social, economic and political implications. This is important, especially if Kenya is to achieve the goals outlined in Vision 2030 and convince the decision makers that serious action should be taken immediately.

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Disasters Impacting Negatively on Education: A Call for Renewed Intervention Strategies in Kenya

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Abstract

Natural and man-made disasters have wreaked havoc in society since time immemorial. Kenya has not been spared by the wide spread of such disasters. As demonstrated, disasters keep on reoccurring with higher intensity than before with an attitude and mode of operation of responding after the disasters have struck. This happens in a back drop of a more conscious society which is aware of its rights. Such a society may demand its rights for protection as a basic right enshrined in the Kenya Constitution 2010 and other international protocols. Out of this thinking, it may be necessary to rethink of novel ways to mitigate disasters especially among the most vulnerable, school going children. This paper discusses the different disasters and their impact in Kenya. Emphasis has been put on the impact of disasters on education. The paper suggests new ways to mitigate disasters affecting school children in line with the new thinking articulated in the literature in Education in Emergencies. A call for more conscious societies to take action to intervene on disasters affecting children is recommended.

Key terms: Disasters, Disaster Management, Education in Emergencies

INTRODUCTION

Education is critical for all children, but it is especially urgent for the tens of millions of children affected by emergencies, be they man made or natural disasters. Yet, for millions of children affected by disaster and crisis, the right to education remains an unfulfilled promise. All individuals have a right to education, and those affected by emergencies are no exception, even during conflict and natural disasters (INEE, 2010). The UN GA resolution on 'the right to education in emergency situations' emphasizes the obligation to secure education for all children regardless of context (UNICEF 2008).

The concept of Education in Emergency sprung up in early 1990s and was popularized at the turn of the century as a pillar of humanitarian aid in the face of multiple international human crises like ethnic-oriented conflicts, drought, earthquakes, volcanoes, Tsunamis, floods, among others. Education in Emergencies (EiE) is the provision of quality education opportunities that meet the physical protection, psychosocial development and cognitive needs of learners affected by emergencies which can be both life sustaining and lifesaving. Quality education and alternative learning opportunities, contributes directly to social, economic and political stabilities of societies. Education is an opportunity to build back, after a disaster, better for a peaceful, prosperous society.

DISASTER SCENARIOS

Not all disasters happen at the same speed. Consider the following two examples:

1. Typhoon Haiyan / Yolanda made landfall in the Philippines on the 8th of November. It had been identified as one of the most powerful Typhoons ever recorded only hours before. In a few hours it had killed 6,000 people and injured nearly 30,000. The typhoon displaced 4 million. By the 9th of November the storm had moved into Vietnamese and Chinese territory.
2. In July 2011 a severe drought hit the Horn of Africa. It lasted almost an entire year. By September 2012 nearly a million people had fled Somalia to camps in Kenya and Ethiopia. Early warning systems first forecast the looming disaster 11 months before it hit. The massive displacement was created partly by the fact the region had been made more vulnerable by previous droughts.

Rapid-onset disasters unfold almost instantly, slow-onset disasters can be predicted much further in advance and unfold over months or even years. Rapid-onset disasters tend to create their destruction through the immediate physical impacts. Slow-onset disasters also create crises through the economic and social impacts of the disaster.

Slow-onset	Rapid-onset
Drought	Cyclones, Typhoons, Hurricanes
Desertification	Storm surge
Sea level rise	Flash flooding
Erosion	Earth Quakes
Water salination	Volcanic eruptions

UK Climate Change & Migration Coalition

IMPACTS OF DISASTERS ON EDUCATION

It is clear as afore-mentioned that some disasters occur at a slow pace but the impact is nevertheless as tragic as rapid onset disasters. Some of the emergency situations in Education affect the victims and show their tragedy over a period of time. Whether the situations occur as rapid or slow, education is interrupted and a lot of school time lost in areas affected by disasters. These disasters put many children at risk, exposing them to dangerous and rapidly changing situations. The quality of Education is affected by disasters and emergencies have for long impacted the education sector. Disruption of school calendar due to disaster impacts, including common use of school buildings as temporary shelters and disruption of school calendar due to teachers returning to community of origin following the disaster (Ndiku, 2011).

Disasters make schools inaccessible due to disruptions in transportation systems, destroyed roads, bridges, damage school structures, learning materials and equipment; cause psycho-social trauma leading to attention-deficit problems and lack of focus in the classroom by learners; children miss schools, learn in sub-standard environments and increases the school dropouts. Community services and support mechanisms are disrupted as a result of these disasters, leaving children vulnerable to risks of sexual exploitation, child labour and rape (Ndiku, 2011).

Education provides a stable environment for children when these disasters occur, protecting them from risks and physical harm and restoring a sense of normalcy. Providing education in emergencies (EiE) also mitigates the negative impact of emergencies on development; protracted crises reverse progress towards achieving education development goals such as Education for All and Vision 2030. Emergencies also deny children the right to free and compulsory basic education as enshrined in the Kenya Constitution 2010. There still remain a number of vulnerable children who face challenges in accessing quality education due to

natural or man-made disasters especially in marginalized districts and nomadic areas of Arid and Semi-Arid Lands. In Kenya for instance, on average, drought events affect an estimated 250,000 school-age children and 8000 teachers annually due to varying severity levels. Education in Emergencies provision fulfils the basic right of children to education and is life-saving, life-sustaining and life-enhancing in a humanitarian context.

Kenya, like many other countries has experienced an increase in the frequency of disasters over the past two decades. Driven by climatic change occurrences, naturally occurring hazards such as droughts, floods, landslides and epidemic outbreaks, and coupled with man-made disasters such as fires, ethnic conflict, terrorism, road traffic accidents and technological accidents which disrupt people's livelihoods, destroy infrastructure, divert planned use of resources and interrupt education system and economic activities. These disasters are a key impediment to sustainable development in Kenya as the number of people affected and the amount of property damaged continues to increase, thus leading to rising economic losses (DFID, 2004a). Approximately 75% of the world's population lives in areas that have been affected by disasters at least once between 1990 and 2000 and average of 184 people die every day as a result of disasters (IFRC, 2003).

Summarized Table of Natural Disasters in Kenya from 1900 to 2015

DISASTER	AVER. PER EVENT	# of Events	Killed	Total Affected	Damage (000 US\$)
Drought	Drought	14	196	48800000	1500
	ave. per event		14	3485714.3	107.1
Earthquake	Ground movement	1	-	-	-
	ave. per event		-	-	-
	Tsunami	1	1	-	100000
	ave. per event		1	-	100000
Epidemic	Unspecified	4	1273	22538	-
	ave. per event		318.3	5634.5	-
	Bacterial disease	17	1402	48528	-
	ave. per event		82.5	2854.6	-
	Parasitic disease	5	1595	6807533	-
	ave. per event		319	1361506.6	-
	Viral disease	5	514	3396	-
	ave. per event		102.8	679.2	-
Flood	Unspecified	7	228	961200	21850
	ave. per event		32.6	137314.3	3121.4
	Flash flood	6	100	48000	500
	ave. per event		16.7	8000	83.3
	Riverine flood	33	996	1962423	136038
	ave. per event		30.2	59467.4	4122.4
Landslide	Landslide	4	56	26	-
	ave. per event		14	6.5	-
Storm	Convective storm	1	50	-	-
	ave. per event		50	-	-
Total					

Source: "EM-DAT: The OFDA/CRED International Disaster Database
www.em-dat.net - Université Catholique de Louvain - Brussels - Belgium"

In Africa, between 2000 - 2001, about 35 million people, which is equivalent to 13% of the total population in Africa, were affected by disasters. In terms of economic losses, disasters significantly derail development in affected countries. In addition to such large, discrete and high impact, hazards erode the development capacity and livelihoods of the majority of the poor and weaken their coping and survival capacities (UNDP, 2004).

In the recent past in Kenya, these hazards have increased in number, frequency and complexity. The level of destruction has become more severe with varying magnitudes, resulting in more deaths of people, animals, destruction of infrastructure, resulting in loss of livelihoods.

The frequency of these disasters is reported to have increased in the last decade. Weather triggered hazards, including drought, flood, windstorms, landslides, wildfires, conflicts over resources and politically instigated violence occur most frequently in space and time. They account for most of socio-economic effects of disasters, including the number of people affected.

PAST EMERGENCY PROFILES

Kenya has experienced both human induced and natural phenomenon with significant increase in natural disasters over the last two decades. The number of weather-related disasters continues to rise. The greatest number of immediate deaths in these disasters is attributed to droughts/famines and floods. Floods affect more people than any other disaster hazard, though medium and longer-term drought and famine impacts are thought to be significantly under-reported. Road accidents lead the list of human induced disasters, followed by conflict/insecurity and fires. 2014 long rains assessment established that about 1.5 million people are facing acute food insecurity conditions, after two successive poor or failed rain seasons coupled with adverse effects of high food prices and conflict incidences. These populations largely occur in the northwestern and northeastern pastoral livelihood zones of Kenya (KFSSG, AUGUST 2014).

DROUGHTS

Kenya is a drought, famine and hunger prone country, primarily because of its peculiar climatic conditions. Although dissected by the equator in its southern half, Kenya contains only a few pockets of high and regular rainfall. Arid and semi-arid lands cover 80% of the territory. In these areas, where annual rainfall varies from 200 to 500 mm, periodical droughts are part of the climate system. Drought is a recurrent phenomenon that affects large areas and numbers of people in the country. On average, drought events affect an estimated 250,000 school going children and 8,000 teachers annually with varying severity levels with an estimated 1.5 million people were food-insecure in 2014 (KFSSG AUGUST, 2014). The cumulative effects of these droughts include the depletion of assets, decreasing ability to cope with future droughts, deprivation of rural communities and declining capacity of government to respond. The effects of drought have become more pronounced in recent decades: In the 1990s, there were three major droughts.

For example, the effects of the 1991/92 drought in the arid districts led to livestock losses of up to 70% and unprecedented high rates of child malnutrition of up to 50%. During this drought 1.5 million people in seventeen arid and semi-arid districts of four provinces received relief food assistance. Rains failed again at the end of 1995 and in 1996, leading to another drought situation, which affected an estimated 1.41 million people. The worst drought emergency in recent years affected the Central, Eastern, Rift Valley, Coast and North Eastern

Provinces, with 4.4 million people requiring food assistance in the year 2000 (Kenya DRR Strategy 2006-16).

The Economic Review of Agriculture indicates that 51% of Kenyan population lacks access to adequate food. Food security, the review says, is closely linked to poverty which is currently estimated at 46% nationally. The effects of climate change are increasingly felt in the region, and it is particularly the children who bear the brunt. Valuable school going time is often replaced by house hold chores during drought events.

Many households are increasingly becoming vulnerable to food insecurity and are likely to withdraw children from school so as to engage in income generating activities to supplement household food access. There is an increase in mobility of pupils that are migrating with their families in search of pasture and browse for livestock (KFSSG, AUGUST 2014).

Drought disasters high priority spots in Kenya



FLOODS

Both major and flash floods events affect an estimated 200 school facilities, 100,000 school children and 500 teachers in worst case scenario with reported flooding disasters experienced in Western, Nyanza, Eastern, Rift Valley and Coast provinces of Kenya (MOEST 2014). Riverine flooding occurs in Siaya [R. Nzoia]; Tana River [R. Tana]; Kisumu [R. Nyando]; Homa Bay [R. Awach]

Every year, despite the beneficial environmental impacts they create, floods impose substantial economic, social and environmental costs. Even though one is somehow the converse of the other, flooding and drought combined are the most damaging natural hazards in terms of economic costs to the education sector in Kenya. Floods disrupt economic activities, they cause stress, anxiety, interfere with safety of lives to those affected by floods, lead to outbreak and spread and increased morbidity wit, lead to Loss and/or damage to property including school instructional materials and infrastructure.

Floods have often led to disasters in Kenya. Areas of Kano Plains in Nyanza Province, Budalang'i in Western Province and the lower parts of the Tana River are susceptible to floods, as do in most informal settlements with poor drainage systems such Nyalenda in Kisumu; Mathare, Mukuru, and Kibera slums in Nairobi. Arid and semi-arid areas of the country also experience flash floods especially in Isiolo, Moyale, Garissa, and Marsabit districts.

However, heavy rains have caused flooding in localized areas of the pastoral Districts of Turkana, West Pokot, Baringo, Isiolo, Kajiado and Narok; parts of the grain basket including Kericho and Nakuru Districts; localized areas of the southeastern and coastal marginal agricultural areas of Kitui, Makueni, Malindi, Tana River and Taita Taveta; and the Lake region Districts of Nyando, Kisumu, Siaya, and Rachuonyo, from late October 2009 to early January 2010 (EPRP/MOE 2010). In many of these regions livelihoods remain vulnerable to the impacts of shocks and hazards, in spite of emergency interventions. Asset building interventions are required to restore productive capacities, ahead of the long rains season.

Renewed flooding in early March 2010, reported in Isiolo, Samburu, Moyale, Marsabit, Mandera and Turkana Districts, displaced about 8,000 persons, while 11 lives were reportedly lost. In addition, significant losses including loss of crops, livestock and homes were incurred (NDMA AND KFSSG 2014). In such circumstances, some of the effects on the learners include; inaccessibility of schools, schools being used as rescue centres for the entire community, destruction of school infrastructure, facilities and learning materials, outbreak of epidemics and malnutrition, psycho-social trauma, school dropouts and congestion in schools in unaffected schools all which compromises the realization of quality, access and equity in education.

CONFLICTS

Ethnic conflicts are caused by several factors, for example, scramble for natural resources such as pasture, minerals, land, water and other resources; border disputes, cultural practices such as cattle rustling, negative ethnicity and advancement of political interests (Ndiku, 2011). Conflicts resulting from terrorism, ethnic and economic tensions, banditry and cattle rustling disrupt the lives of those displaced and the lives of host communities. In this way, the net effect on learning is that learning is disrupted following the insecurity, destruction of learning infrastructure, facilities and materials as well as loss of livelihoods, lives and trauma effect on the part of the learners. Schools are therefore used as temporary shelter for the displaced persons at the expense of learning (ibid).

Terrorist activities such as those experienced in Mombasa, Nairobi, Garissa, Mandera, Lamu counties and Moyale in Marsabit county also negatively on education by creating insecurity amongst education stakeholders/players. Political instability in our neighboring countries has resulted in cross border influx of refugees in Kenya. This has led to the overstretching of resources meant for education (source).

The continuing influx of young refugees into the country from neighbouring countries especially Somalia and South Sudan has often required that MOEST and Education Cluster members support programmes that ensure their access to education.

Following the post-election violence after the 2007 general election, mass displacements and forcible evictions of people not indigenous to particular regions resulted. About 350,000 Kenyans were displaced with 1,162 reported deaths (KHRC 2008). More than 1000 teachers were displaced and lost property with an estimated 160,000 learners displaced. There was disruption of normal life and learning/teaching adversely affected.

Violent conflicts involving pastoralists have become widespread and increasingly severe in the North Rift and North Eastern regions of Kenya. Approximately 2 million people are affected by conflict either directly or indirectly in Kenya a majority being pastoralists. Conflicts involving pastoralists associated with resource competition, cattle rustling and wide availability of small arms are widespread and of increasing concern. Conflicts involving pastoralists associated with resource competition, cattle rustling and wide availability of small arms are widespread and of increasing concern. Conflict leads to destruction of social amenities already put in place. For example, the education system is affected when teachers are forced to withdraw from conflict stricken areas and the communities re-locate their settlements for fear of being invaded. Education for children and the youth is affected and interrupted both in the short and long run. Conflict also acts as a disincentive to investment by the communities and development agencies, both in the long-term and short-term. At the local level, a lot of effort and funds go to contain conflicts and to mitigate against conflict-related effects rather than being channeled to development work.



Internally displaced women selling firewood at Lokichogio, Turkana (Conflict in Northern Kenya, ITDG-EA 2003)

FIRE

Fires in schools in Kenya are caused by electrical faults, dissatisfied students who communicate through burning their buildings, suspected arsonists both from within and outside the schools and accidents in laboratories and Kitchens. Kenya has experienced incidents of fire on a wide scale in the last few years in homes and boarding secondary schools. The Kyanguli, Bombolulu and Nyeri Boys High Schools' disasters have remained fresh in the minds of Kenyans. Nearly every week there are incidents of destructive fires in Kenyan secondary schools. Most of these are suspected arson cases and the usual suspects are the schools' current students. During the 2013 school year Kenyan media reported at least 34 separate cases of fires as suspected arson in secondary schools, as well as several more thwarted attempts at arson in schools. This is comparable to the 28 separate incidents of suspected arson in secondary schools in 2012 and the 14 cases reported in 2011.

About 48 cases of fire outbreaks in schools were reported in 2012 resulting in 22 deaths of students and teachers while in 2008 high student unrests were reported in learning institutions, with 13 reported cases resulting into deaths of students in that year alone. Reported fire incidents in 2013 and 2014 include one at Kihome secondary school in Othaya where a dormitory caught fire a few hours before KCSE examinations. No student was injured in the 9 pm incident. Homa bay high school had three incidents of fire in which a dormitory was burnt in July and two others in September the same year. In the 3 incidents property worth millions of shillings was destroyed after the more than 240 students who were staying in those dormitories failed to save their belongings from the fire.

Property worth millions of shillings was reduced to ashes in two secondary schools following separate fire incidents. A 9pm fire broke out at Nyayongi mixed secondary gutting down a dormitory that houses 80 students. The next day at 9pm, fire broke out at Nyabisawa Girls high school dormitory that houses 160 students was razed to the ground.

These fire incidents in schools disrupt learning as students are traumatized for having lost their property besides being left without instructional material. More so, when buildings are burned students have to be congested in smaller rooms before others can be put up. In cases where arsonists are found to be students themselves, parents are surcharged resulting into some of them transferring their children to other schools.

Finding on serviceability of fire extinguishers noted that only 43% of the schools surveyed had actually serviced the fire extinguishers. The rest (57%) had never renewed nor serviced the gadgets since installation. Again, this is a pointer towards the risky disposition the learning institutions in Kenya are exposed to. There is need to cushion them from the risk of fire outbreaks.

OTHER DISASTERS IMPACTING NEGATIVELY ON EDUCATION

Road Traffic accidents

The rate at which road accidents involving school buses and vans in Kenya is happening leading to deaths is quite alarming. Clear examples include those that happened in the year 2013 which include the instance in Nyahururu where police officers impounded three school buses for overloading with one of the buses carrying 26 extra students than its capacity allows while the other two had overloaded by 17 and 12 respectively all headed for Nakuru for an education tour. The other one is the accident in which 4 students of Nambale High school in Busia County were confirmed dead following a deadly road accident that involved their school bus and a lorry along Nakuru-Kabarnet road. There is also the case of students from two private schools; Compuera Academy and Richbrain Academy were injured in two separate accidents that occurred while they were being driven to school on Valley Road and Ngong Road respectively. The accident involving the pupils from Compuera Academy led to injured 9 pupils and some staff while in the one of Richbrain Academy, 7 pupils were injured. More recently, is the accident that occurred in Kisii County involving a school bus for Rioma Secondary School where 13 people, including nine students and four teachers lost their lives.

Such accidents on the roads involving school children directly affect the education of these children. Their continued occurrence gives clear indications that this phenomenon is fast acquiring the proportions of a disaster or an emergency that directly and adversely affects education of the children involved hence the need for MoEST and other educational stakeholders and partners to address it.

Teenage pregnancies

Teenage pregnancy has been on the rise in Kenya for many years and the situation is likely to get out of hand if nothing is done. According to studies, nearly 3 in every 10 teenage girls are having babies. The age bracket is normally between 15 to 19 years and in most cases these are normally school going children either in primary or secondary school, who as a result of the unwanted pregnancies are forced to drop out of school. In 2013 for instance, independent investigations in Mt Elgon by The Standard had established that at least 50 girls drop out of school each term in the region. This unfortunate phenomenon is further clearly illustrated by the example of Naivasha primary school which in February 2014, the standard newspaper reported to have had cases of school girl pregnancies reported as follows: one case in 2008, one case in 2009, eight cases in 2010, ten cases in 2011, three in 2012 and eight in 2013. The seeming increase in the frequency of such instances is indeed worrying and if no educational efforts are made to address it, it can escalate to disastrous proportions (MOEST, 1st EPRP draft 2015)

Landslides

Landslides in Kenya have been on the increase in the recent past. In Kenya landslides and mudslides occur mostly during the rainy season and are accelerated by flooding. Landslides are triggered by rapid saturation of the soil, which in turn reduces cohesion, surface tension and friction. Despite their occurrence having both social and economic impacts mainly loss of life, agricultural land and crops as well as destruction of infrastructure, landslides continue occur almost every year in the various parts of this country. For instance, in 1997, a landslide occurred along the Thika-Murang'a highway at Karugia, sweeping away a one-kilometer section of the highway downslope rendering about 356 km² of arable land useless in addition to cutting off road and other communications between Thika and Murang'a towns, which are major administrative and commercial centres with very rich agricultural hinterlands. Another landslide occurred at Gatara village located in Murangia, which swept away an estimated 50,000 tea bushes as well as killing 3 people who were buried while asleep in their house.

In 1998 a landslide occurred along the Embu-Meru highway washing away a 3-kilometer section of the highway including a moving bus carrying about 70 passengers into a deep ravine on the slopes of Mount Kenya as well as killing 36 passengers leaving the critically injured. In the same year, another landslide occurred, along the Thika-Garissa highway at Makutano and sweeping away a bridge, cutting off the eastern part of Kenya from the rest of the country in the same way it did in another landslide that occurred, near Kibwezi market on the main Nairobi-Mombasa highway that destroyed a major bridge. Later instances of landslides include the one that occurred in Kakamega in Kuvasali area in 2007, Elgeyo Marakwet in Kocholwo, Simit, Kapsokom, Kaptarkom and Toroplongon areas of the county in 2012 killing at least 10 people, some parts of Narok such as Olutrot village in 2013.

In all these occurrences, there occur some displacements of people including school going children as well as destruction of schools and learning materials. It is in this way that such disasters require recognition especially from the educational sector mainly because the children affected end up having their opportunity for education compromised.

Drug and Substance Abuse

Drug and substance abuse is a global problem and is one of the major problems affecting the youth both in school and out of school. Substance abuse has become a major challenge in secondary schools in Kenya. Studies carried out in Kenya indicate that 20% of adolescents aged between 12 and 22 years smoke cigarettes, 9% smoke bhang while 23% drink commercial

beer and spirits. This is the age in which most youths are in schools and colleges. At the same time, other studies have shown that more than a fifth (22.7%) of primary school children take alcohol, a figure that rises to more than three-quarters (68%) for university students. This problem impacts negatively on the academic, social, psychological, economical and physiological development among the youth who abuse drugs. The dimensions that this problem is taking clearly indicates that unless education as a sector focuses on it with an aim of mitigating it, sooner or later, it will assume disastrous proportions thereby negatively impacting on the youths' education(MOEST, 1st EPRP draft 2015).

Female Genital Mutilation

Female genital mutilation (FGM) is the term used to refer to the removal of part, or all, of the female genitalia. It is estimated that 3 million girls are at risk every year only in the African continent. In Kenya the Children's Act in 2001 banned the practice for all girls under the age of 18, but as newspaper reports show, this has had but a small effect. For example, the Somalis who live predominantly in the North Eastern province practice FGM at a rate of 97.7%, with 75%. There is also Kisii (also known as the Abagussi or Gusii) at 96.1% and the Maasai at 73.2%. By contrast, the Luhya and Luo have the lowest rates of less than 1%. (DHS 2008-09). As has been noted, in Kenya, FGM is performed mostly on girls aged between 12 and 18. Some studies have however, shown that girls are now being cut earlier, between the ages of 7 and 12. Nonetheless, it is notable that the procedure, although illegal, is often done in secret. Girls are often married almost immediately after the ritual, thus dropping out of school. Therefore the issue is also one of education for young women.

In the Pokot region for example, where over 50 percent of girls between the ages of 10 and 21 years have reportedly been subjected to FGM; local officials indicate that over 80% of girls either do not join school or drop out prematurely after undergoing FGM, as girls are often married off immediately after the procedure. This severely undermines their attainment of educational goals. With all these negative effects on education, coupled with the fact that the incidences of school strike are on the increase, school strikes are fast becoming a disaster that may soon be overwhelming if the education sector does not address it in good time (MOEST, 1st EPRP draft 2015).

School Strikes

School strikes Kenyan schools is not a new phenomenon all over the world in institutions of learning. In Kenya, cases of school strikes have been in existence as far back as the beginning of the 20th century when the first case was reported in Maseno School in 1908 (Republic of Kenya, 2001). In Kenya for instance, between 1980 and 1990, the number of schools experiencing student unrest and violence increased tremendously from 22 (0.9%) to 187 (7.2%) and by 2001, this had increased to 250 secondary schools (Republic of Kenya 2001, p.6) with glaring cases in point here include Nyeri High School 25 March 1991 where students locked up four prefects in their cubicles at night and doused them in petrol killing them instantly, St. Kizito Mixed Secondary Schools on 13, July, 1991 where male students invaded girls' dormitory and raped more than seventy girls leaving at least nineteen dead (Kenya Times, 16 July, 1991 pg. 1 col. 7, pg. 10 col. 2-6), Bombolulu Girls secondary school in May 1997 where 57 students perished in a dormitory as a result of fire started by some students, Kyanguli secondary school on 25 March, 2001 where more than sixty five students perished in fire (Institute for Security Studies, 2008) and Kabuyefwe secondary school in Kitale where more than 400 schoolboys went on rampage burning down the administration block and the store and also shattering windows of other buildings angered by poor Kenya Certificate of

Secondary Education (KCSE) results over the years and what they termed as their teachers' irregular class attendance, among other grievances (Sunday Nation, October 9, 2005).

Other than the increase in the number of schools experiencing student violence, the other concern has been the change in nature and characteristics of this occurrence. Earlier on, these disturbances were confined to secondary schools, middle level colleges and tertiary institutions but in the year 2000, primary schools joined the fray of student unrest and violence (Republic of Kenya 2001).

While incidents of school strikes in the 1960s and 1970s were relatively peaceful, taking the form of boycott of classes and mass walkouts as witnessed at Kericho High School in 1961 and St Mary's School Yala in 1990 (Sagini Report, 1991), they took a new dimension in the 1980s through the 1990s to the 2000s in which they involved wanton destruction of school property, mass rapes and worst of all, loss of human life. Just after the post election violence in Kenya early in the year 2008, violence again erupted in Kenyan secondary schools where several secondary schools' dormitories and administration blocks were set on fire by students whose indiscipline continue to be a source of concern in many parts of the country leading to the closure of about 300 schools in a span of a month.

Examinations

Examinations have always been a source of a range of feelings of anxiety and fear amongst students, and more so, in secondary schools. In Kenya, in the year 2001, the Nation Newspaper reported an incident where 69 students were burnt to death in a dormitory and several others injured by two students in a Secondary School in Machakos County following the annulment of final examinations results.

In the year 2007, the Kenya Certificate of Secondary Education (KCSE) examinations were reportedly marred by incidents of cheating. In addition to such malpractices, in the course of processing the results, there occurred what was referred to as a 'computer error' leading to errors in grading which affected 40,000 candidates (Daily Nation 27 July 2008 p.6 col.2-4), a scandal that caused a country-wide wave of strikes in secondary schools. Later in the same year, and in second term, there was an outbreak of protest in secondary schools with the form 4 students refusing to sit for mock exams. This fear has often been manifested in malpractices and exam irregularities such as cheating as illustrated in the table below:

Table showing cases of Examination Irregularities in KCSE between the years 2009-2012

Year	Number of Districts Affected	Number of Candidates Affected	Number of Centres Affected
2009	-	171(0.35 %)	-
2010	54(21.60)	539(0.15%)	69(1.15%)
2011	84(31.23)	2,927(0.71%)	154(2.39%)
2012	71(26.79%)	1,700(0.39%)	118(1.69%)

Source: KNEC - KCSE Examination Essential Statistics (March 2013)

From this scenario, one can see that examinations have become such a monster to school children and unless the education sector takes conscious steps to lower the rather high stakes in examinations, then they are going to drive most of the children to disillusionment hence compromising the value of education.

Technology

Technology has developed fairly fast and continues to develop even more rapidly. This is evidenced in its various manifestations such as internet which is highly utilized in a range of applications such as mass media, and of late, the social media. School children have gotten hooked onto the internet with all its moral shortcomings as well as the social media. In so doing, children not only waste most of their educational time on social media but also spent more time on content that may not be suitable for their level of personal development thereby adversely affecting their educational achievement. It is in this way that it is felt that if such a scenario continues unchecked, it will soon prove disastrous on the part of educational and moral welfare of the school children.

CONCLUSIONS

Education is seen as a human right, a key to civilization and enlightenment and as source of wealth and power. It's the cornerstone of the growth and development of any country's social economic and political institutions. Disasters have led many schools to be closed, students dropouts have increased, properties destroyed, infrastructure damaged, these have direct effects to the development of our nations. Disaster risk reduction has not so far received serious attention as a facet of development, despite the increasing seriousness of disaster impacts on our education sector and general development. There is an urgent need therefore for all educational stakeholders to seek strategies to solve the pandemic.

RECOMMENDATIONS

There is need to develop a coherent disaster/emergency preparedness policy and implement it at national, county and sub-county levels. The policy should generate and encourage proactive leadership and prudent use of local resources in handling disaster related issues at grassroots levels.

There is need to urgently organize a sensitization programme for all directorates in the Ministry and key education stakeholders on issues pertaining to Disaster and Emergency preparedness. This initiative will promote ownership of emergency programmes in both central and county governments.

There should be capacity of all levels of education sponsors, managers and administrators in all the 47 Counties. This initiative should be continuous and it should be able to empower all actors and facilitate rapid response to emergencies in rural areas.

Rapid Response Teams should be established at county-level as well as rapid response teams/committees in all 47 Counties to handle regional emergency situations.

A County emergency fund should be established to cater for disasters through rapid response teams mentioned in No. 4 above.

The Ministry and County officers alike should coordinate synergized responses to emergency situations through coherent networking with international and national humanitarian organizations like UNOCHA, UNICEF, Save the Children, Red Cross, Fire Brigade Department, among others.

The Kenya Power and Lighting Company should urgently survey the state of electrical wiring in schools and make appropriate recommendations.

An education policy on disaster/emergency preparedness in learning institutions should be established and be implemented at national, county and sub-county levels.

A clear coordination framework on disaster/emergency management response should be formulated.

Capacity building for BOMs/SMCs, Principals, Head teachers and even students on disaster preparedness and management should be held

A way should be found to encourage the culture of openness, transparency, dialogue (communication), democratization in schools and the community to reduce tensions that trigger vandalism and arson.

Education Cluster coordination: to strengthen humanitarian leadership, partnerships and finance (MoEST leads the cluster in Kenya). Enhanced Cluster coordination or Cluster members' stronger commitment in mitigation

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Inclusion of New Instructional Strategies in Pre-Service Teacher Training (B.Ed.) Program in Pakistan

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Abstract

Pakistan has continuously been under criticism as it does not appropriately fulfill the needs and demands of the school context and society. Its pre-service teacher training (B.Ed.) program does not efficiently prepare B.Ed. graduates to impart quality education to the secondary classes. It does not prepare them to work with others to expand their content knowledge, sharpen their instructional skills and build up their capacity to use data for meaningful decision making while its design and practice is based on strong and solid courses (i.e., general education, specialist subjects, education foundation studies, professional studies/content pedagogy as well as satisfactory practicum component). Perhaps these flaws are found in B.Ed graduates due to pay no attention to new instructional strategies during their pre-service teacher training program. This paper examines effectiveness of new instructional strategies and their impact on future teachers.

Key words: Inclusion, Instructional Strategies, Pre-Service Training, B.Ed., effectiveness

INTRODUCTION

Teacher education (B.Ed) as a pre-service professional training is the entry point for educated persons who want to join the education profession. It is prearranged to determine both the excellence and the magnitude of teachers. It constitutes a concrete base of knowledge, skills, attitudes and behaviors of future teachers to perform their duties successfully. It facilitates distinction of school education by training professionally skillful teachers. It functions as a relative between schooling and the higher education. Excellence of any educational program depends upon the quality of pre-service teacher training program. It plays a crucial role in building a capable teacher. It has potential to generate appropriate inspiration, knowledge, skills and attitudes in future teachers to instruct successfully in their professional life. It provides strong and quality foundation for efficient preparation of a teacher (Alawiye, & Williams (2001).

Pre-service teacher education and school education have a seal and representative relationship. Equal and proper expansion of both these sectors strengthens the concerns that are indispensable for the qualitative development of the entire range of education. A well-built logical association between learning and teaching brings positive manipulate on all phases of the teacher education (Reimers (2003).

Pre-service teacher education program makes an attempt to develop apposite attitudes, values, and outlook of potential teachers to make them more proficient. Therefore, the preparation of

a proficient teacher as a skilled being has been acknowledged as a very essential worth aspect of pre-service teacher education program (MacLeod (2003).

Society demands from pre-service training institutes a capable teacher training (B.Ed.) program as the teacher's responsibility is not just to put out conventional knowledge to the innovative generation because it may become outdated very soon, rather, he has to be trained how to teach, how to make a distinction between significant and insignificant facts. He/she has to learn how to make a rational use of present knowledge for the gaining of advance knowledge and superior understanding (Farooq, Husain, & Mehmood (2005).

AIMS OF PRE-SERVICE TEACHER TRAINING (B.ED.) PROGRAM

Following should be the aims and objectives of pre-service teacher training program so that the future teachers may be capable to:

- i. explore, reflect on and build up their practice,
- ii. research and reflect on pupils and their education,
- iii. comprehend and update their knowledge about education and societal issues,
- iv. share their experiences and insights with others,
- v. to work towards prioritized goals in education efficiently,
- vi. influence societal attitudes, create constitutional values in students and overcome discrimination in classroom as well as in school and,
- vii. organize and utilize effective instructional strategies to strengthen theoretical learning and understanding rather than rote learning (Siddique 2009).

ELEMENTS OF PRACTICING PRE-SERVICE TEACHER TRAINING (B.ED.) PROGRAM

It is a critical question, what do student teachers need to learn in order to become effectual teachers in future. This question demands a lot because teachers are entrusted with the communication of society's beliefs, attitudes and information, advice and wisdom to the learners. The teachers are also demanded to facilitate the students in the acquisition of the key knowledge, attitudes and behaviors that may assist them to be active in community and the economy (Ross, Hogaboam-Gray, & Hannay, (2001).

Pre-service teacher training program can be divided into the following blocks:

General Education

The general education component comprises the study of fine arts, history, literature philosophy / religion, the social sciences, mathematics, the natural sciences, and physical education. General education programs endeavor to ensure that future teachers would have a strong grounding in the main knowledge, attitudes, and values of the cultures in which they are preparing to instruct.

Specialist Subjects

The specialist subjects comprise the studies in depth that qualify learners to teach particular districts of knowledge. Student teachers who are prepared to instruct in elementary schools are generally expected to teach a wide series of content, while secondary teachers are generally more specialized. Specialist subjects offer opportunities for the learners to understand the academic basis upon which subject content is developed and planned. These subjects also provide an opportunity for the learners to gather and understand the body of facts of a discipline.

Education Foundation Studies

The history of educational thought, human growth and development, principles of learning and teaching, comparative education, and sociology of education are included in education foundation studies. These subjects should include units covering principles and practice of planning, delivering and assessing learning experiences for learners.

Professional Studies / Content Pedagogy

The content pedagogy component must be planned in such a way that it may competently help the student teachers to learn how to instruct content to the students of the secondary schools. It must extremely engage the targeted students in the process of learning content. The professional growth of future teachers must be carried out under the direct guidance of a master teacher, the principal and the senior school teacher in a clinical setting. Content phase must be strongly and appropriately planned so that it may provide basis for proficient ways of teaching and evaluating a specific subject to the student teacher. It is not important to decide what kind of knowledge and skills pupils will require when they enter in mature life; rather, it is important to decide to know what kind of knowledge and skills student teachers should possess.

Practicum

The practicum component comprises the practice teaching that works as a bridge between the theory and practice. It always gives excellent results whenever theory and practice are efficiently integrated. Integration of practicum component at all levels of teacher education must be carried out under the efficient supervision of the mentor and the head teacher (Principal) and supported in a specific way. The teaching practice must be started as early as possible so that the future teacher may observe school life and the learners from an educational viewpoint before focusing on specific subject areas and pupils' learning processes.

NEW INSTRUCTIONAL STRATEGIES

Following are the effective teaching strategies that can be incorporated in pre-service teacher training program to make it more successful (Westwater, & Wolfe 2000).

Independent Study

It is a premeditated study that makes the students to work under the direction of a classroom teacher. In this strategy the teacher assigns different questions, provides computer assisted instruction, delivers communication lessons, assigns essays, assigns homework, provides learning activity packages, provides learning centers, provides learning contracts, and assigns research projects. It is an important learning strategy because it is planned to give confidence, self-reliance and the attainment of lasting learning skills. In it the students are extremely provoked by the chance to investigate the topics of their own significance. They can easily progress their areas of weaknesses. It is particularly important in a classroom where students include different abilities in knowledge and skills.

Direct Instruction

It is a successful teacher-centered instructional strategy. In it the teacher task is to provide appropriate content to the students, employ standard procedures in the classroom and increase step-by-step skills in the students. Direct instruction involves the following strategies:

- Demonstration
A demonstration is a teacher action in which the teacher performs somewhat in front of the students for their more understanding.
- Didactic Questions

This technique brings out responses from the students and helps them in uniting their ideas logically. Dynamic questions keep up students to access and connect previous knowledge to the existing content. Different questions assist students to improve their creative and critical thinking. These questions help students to effectively recall their previous learning experiences.

- Drill and Practice

This instructional strategy involves planned, repetitive assessment of prior learned concepts to a preset level of mastery.

- Explicit Teaching

It is an effective instructional strategy as in it a teacher's task is to present precise content, conduct guided practice, provide feedback, conduct self-determining practice improve, and apply different assessment methods on daily, weekly and monthly basis.

- Mastery Lecture

It is a direct instructional strategy as a lot of information can be delivered in a short time by a teacher. The excellence of a lecture can be enhanced by incorporating audio materials.

- Guides for Reading, Listening, and Viewing

These instructional activities involve leading questions, statements and diagrams by the teacher that help students to focus on significant ideas in the textbook, lecture, media and in the presentations.

- Structured Overview

This teaching strategy involves organizing and arranging content to make them meaningful to the students. It enables the teachers to communicate difficult content according to students' level. It also enables the teacher to attract students' attention to relate content and to help them to connect new information to existing knowledge and the previous experiences.

Interactive Instruction

This instructional strategy comprises:

- a) Brainstorming

This strategy assists the students to generate pioneering ideas and their solutions because its focus is on producing rather than evaluating. It works particularly in groups. An idea presented by one person may inspire ideas in other persons in the group, which in succession inspires other ideas. The teacher task is to clearly define the subject matter for brainstorming, make clear rules, record every idea, and write down the ideas for all to see.

- b) Circle of Knowledge

This strategy helps every learner to think and talk about with his / her friend before presenting ideas to a large group. It makes students accountable towards their duties. The teacher makes varied groups (2-6 members) according to the students' characteristics and assigns them dissimilar roles to perform. All members of a cluster are co-dependent in achieving the group learning goal. This commotion creates the enthusiasm of collaboration among the students.

- c) Debate

This approach helps students to verbally switch over their ideas in a particular arrangement.

- d) Discussion

This strategy starts with the selection of a problem / issue. Selected problem / issue may or may not have a solution. The teacher task is to select problem or issue that is based on subject-matter familiar to students, discussion should be on right direction,

discussion should be concluded with consensus, discuss solution, and ask students to make a summary.

e) Interviewing

This strategy helps students to get hold of information from other concerned persons. It also helps the students to expand point of views of different persons about the same matter.

f) Lab Groups

Lab groups are cooperative learning groups happened in an experimental circumstances. These groups have lock relation to the students' day-to-day experiences.

g) Panels

Panels are small groups of students that separately discuss a topic in front of the class with the direction of a mediator.

h) Peer Practice

In it every scholar practices skills with the assist of a peer and shares theoretical information with him / her.

i) Problem Solving

It is a problem-solving approach that involves students in active learning. In it a teacher selects a real-world problem so that students may understand their environment. In it the teacher acts as a facilitator to make students self-directed learners.

j) Role Play

In it the students acknowledge roles of their own interest to play according to their competencies. It is a group actively that provides opportunities for students' better learning. The students begin to respect and appreciate the values, requirements, desires and motivations of others. They also try to find out creative and effectual solutions to the challenges.

k) Tutorial Groups

These groups are prepared for students' additional practice and improvement. A teacher supervises the tutorial group and provides individual attention to the students so that each student may actively participate in every activity. This strategy also creates cooperative learning in the students.

INDIRECT INSTRUCTION

It is a learning-centered teaching approach. It extremely involves the students in learning progression and fosters learning for accurate understanding. It includes the following strategies:

- Case Study

It is a story that is told precisely with detailed information. It provides opportunity to students to assess the information that is provided for relationship and significance, identify the difficulty/problem, identify the particulars related in defining the difficulty/problem, make possible solutions for the difficulty/problem, review the probable solutions choosing one solution, plan to implement the selected solution, and predict obstacles to the successful execution of the selected solution. This strategy actively engages the students in learning content through working significant skills including inductive interpretation, writing, and arguing.

- Cloze Procedure

It is fundamentally a diagnostic reading evaluation technique. In it every nth word is removed from a selected paragraph. The teacher asks the students to read it carefully and place a word into each empty to make a meaningful comprehension. It encourages the students to be actively involved in reading and to connect new information to their

previous knowledge. It is helpful in classroom reading assessment. It is also helpful in understanding the key concepts of the subject- matter.

- Concept Attainment
It is an indirect instructional approach that forces the students to identify distinctive characteristics of a given concept. This strategy enhances the students' learning because they discover information themselves.
- Concept Mapping
It is believed that a picture is thousand times more understandable than words. It is a graphic demonstration of a lot of concepts. It helps the students to create association among different concepts.
- Inquiry
This strategy encompasses a process of inquiring and responding to key questions. It helps the students to generate their own knowledge for independent learning. It is an indirect instructional approach that helps the student to become active and self-directed learners. It assists the students to think critically and to solve their problems. It is also helpful for students in discovering course content because every student is responsible for his or her own learning. The teacher guides the students as a facilitator or mentor.
- Problem Solving
It is a problem-solving approach that involves students in active learning. In it a teacher selects a real-world problem so that students may understand their environment. In it the teacher acts as a facilitator to make the students self-directed learners.
- Reading for Meaning
It is an indirect instructional technique that helps the students to read carefully presented information with the objective of understanding. In it the students interpret the subject-matter to create meaning inside the context of the content. It assists the students to create associations between previous and new knowledge. It is very active process because it helps the students to actually interact with the content, make predictions and conclusions. It guides the students to evaluate the new information in the light of their previous knowledge. Consequently, the students start to maximize their understanding because they find out meaning of everything that is read.
- Reflective Study
This instructional technique takes different forms like reflective writing, reflective discussion etc. It helps the students to discover more about themselves. It makes the students more active and learners. It enhances creativity in the students. It develops problem-solving skills in the students. It provides enduring and in-depth learning experience for students. The teacher works like a facilitator rather than instructor.
- Experiential Learning
It is constructive learning approach because it makes students active learners. It assists the students to construct their own knowledge. It involves the following instructional strategies:
 - Experiments
Experimentation is a procedure that is carried out under restricted conditions to find out the validity of hypotheses. It creates a situation that is related to the students' real life experiences.
 - Field Observations
It is out of classroom activity because the students make observations by naturally happening phenomena. This strategy is very close to the students' daily life experiences because the students learn by doing.

- Field Trips
It is also out of classroom/school activity that is conducted for instructive purpose for the students.
- Focused Imaging
This activity enables the students to relax and permit their thoughts to take them on journeys, to experience situations directly, and to answer with their senses to the intellectual images produced.
- Games
These are planned learning activities that include disagreement, control, and rules for winning and stopping the games. Disciplined games inculcate confidence, patience and respect for others in the students.
- Model Building
In this approach the students design and construct a theory, object, or a concept.
- Role Play
In it the students accept roles of their own interest to play according to their competencies. It is a group actively that provides opportunities for students' better learning. The students start to respect and appreciate the values, requirements, desires and motivations of others. They also try to find out creative and effectual solutions to challenges.
- Simulation
Games and simulations are teaching and learning techniques, in which contestants are directly concerned in making conclusions and learning from the results of these activities. These highly motivate the students and inculcate enduring learning in them.
- Surveys
It is a research tool that is used to ask questions from a group of individuals. It helps the students to be active learners.
- Synectics
It is a problem solving technique that grips the creative thinking of the students from diverse areas of experience and information. It uses symbol and similarity to spark creativity.

Development of Competencies Expected by New Instructional Strategies in B.Ed. Graduates during their Pre-Service Training Program

Inclusion of new instructional strategies in teacher training (B.Ed.) program may develop the following competencies in future teachers (Aly (2006)).

LEARNER DEVELOPMENT

The teacher would be able to understand how learners grow and develop recognizing their cognitive, linguistic, social, emotional and physical differences. He or she would play an important role in bringing a positive change in students' behavior so that they may adjust in future life successfully.

LEARNING DIFFERENCES

The future teacher would be capable to comprehend the individual differences and diverse cultures of the students and communities to ensure broad learning environments that enable each learner to meet high standards.

LEARNING ENVIRONMENTS

A teacher would be talented to work with all concerned persons of the school in creating proper learning environments to support individual and collaborative learning. He or she would constantly encourage positive social interaction, active engagement in learning and self motivation for better individual and independent growth of the students.

CONTENT KNOWLEDGE AND ITS APPLICATION

The prospect teacher would be competent to understand the fundamental concepts of the subject-matter, tools of inquiry, and construction of the discipline he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content. He or she would have a detailed knowledge and understanding of the discipline so that he or she would be proficient to offer the proper content for the students for improved learning.

ASSESSMENT

The upcoming teacher would be able to assess the students' achievement level by examining their performance on daily, weekly, monthly, or annually basis and by this assessment he or she would calculate their intellectual development and expresses instructional planning. He or she would understand and employ multiple methods of assessment to engage learners in their own learning, to monitor their progress, and to guide them to make themselves their own decisions.

PLANNING FOR INSTRUCTION

The future teacher would be proficient to plan instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy as well as knowledge of learners and the community context. He or she would facilitate pupil achievement by establishing appropriate long range and short range learning goals and by recognizing the instructional, assessment and management strategies crucial to help all students' progress. A prospect teacher, by applying long range planning, would try to join knowledge of content, standards, and curricula with knowledge of accurate teaching learning contexts and student's characteristics.

INSTRUCTIONAL STRATEGIES

A potential teacher would be capable to understand and use a variety of instructional strategies (learnt during his/her pre-service teacher training) to encourage learners to develop their deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways. He or she would always endeavor to encourage learner learning through the competent use of appropriate instructional strategies. The instructional strategies are the methods, techniques technologies, actions and assignments that an effectual teacher uses to assist his / her students so that they may attain the objectives of the course for better outcomes.

PROFESSIONAL LEARNING AND MORAL PRACTICE

A teacher is an ethical, contributing, responsible, and ever-learning component of the education profession. Therefore, he/she should constantly engage himself/herself in ongoing professional learning and evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapt practice to meet the needs of each learner. Professional learning connects teachers in working with others to expand their content knowledge, sharpen their instructional skills, and build up their capacity to use data for meaningful decision making.

LEADERSHIP AND COLLABORATION

A future teacher would be competent in searching for appropriate leadership roles and opportunities to take responsibility for student learning, in collaborating to the students, parents, colleagues, other school professionals, and community members to ensure the intellectual growth of the students and to advance the profession.

CONCLUSION

This paper concludes that teacher training program and school education have a close association. If both these sectors are cautiously and equally developed, no doubt, they can strengthen the concerns that are considered important for the qualitative improvement of the whole education system. Existing pre-service teacher training (B.Ed) program has become a challenge towards the secondary schools and the concerned society. It has been observed that majority of the countries is not satisfied with students' education and pre-service teacher training programs. Especially in Pakistan, the quality of B.Ed. graduates in the secondary schools is not satisfying because pre-service teacher training (B.Ed) program does not entirely address the requisite aspirations and needs of the society although its design and practice has solid foundations in subject matter. Perhaps the reason is that, it totally ignores new and latest effective instructional strategies. It has been examined that the incorporation of these instructional strategies in pre-service teacher training (B.Ed) program may help to make it more successful as these strategies would enable the student teachers to provide appropriate content to the students, employ standard procedures in the classroom and increase step-by-step skills in the learners. These strategies would also train future teachers to present precise content, conduct guided practice, provide feedback, conduct self-determining practice and apply different assessment methods on daily, weekly and monthly basis in their professional life.

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Teachers' Competence in Lesson Preparation and Presentation in Nigeria Basic Schools

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Abstract

This study assessed the competence of Nigeria Basic School teachers in lesson preparation and presentation. The study employed a descriptive research design. Four research questions were raised and answered. The sample used for the study comprised 200 elementary school teachers chosen from twenty schools in Nigeria. Simple random sampling technique was used to choose the schools as well as the ten teachers per school used. A research instrument focusing on Teachers' Competence Level in Lesson Preparation and Presentation (TCLLPP) was used to generate data for the study. The results of the findings showed that elementary school teachers in Nigeria are deficient in the knowledge of adequate lesson preparation and presentation. High percentage of the teachers sampled had no adequate knowledge of essential features of lesson note preparation. Based on the findings, it was recommended that elementary school teachers in Nigeria should be given necessary and adequate in-service training on lesson note preparation and presentation

Keywords: Competence, Universal Basic Education, Lesson Note, Teachers, Students, Basic Schools

INTRODUCTION

Nigerian educational system is divided into categories. The first category is called Universal Basic Education (UBE). This comprised the former Primary Education and the Junior Secondary School education levels. This is referred to as Pre-High school Education. There is also Senior Secondary School education system which precede the series of tertiary educational systems established in Nigeria.

UBE runs for nine years with the first six years as the elementary school years while the remaining three years is the early part of Secondary School education called Junior Secondary School (JSS). Teachers that are expected to teach in this Basic Education schools according to the National policy on Education (FRN 2004) are expected to have at least Nigeria Certification on Education (NCE).

According to the National policy on Education (FRN 2004), the minimum teaching qualification in Nigeria is NCE. This stipulated bench mark for teaching qualification is due to the fact that no nation can rise above the quality of its teachers. In agreement with this fact, Ali (1992) had earlier opined that an education system is only as good as the teacher who operates it.

Teacher's competence in his job is a strong factor that determines the level of curriculum implementation and learning outcomes. According to Ojukwu (2012), the significant role that

teachers play in the education process determines the level of educational development and national advancement. If the teacher is not competent in his duty, he will fail in producing citizens that would bring the expected advancement in a nation.

For a teacher to be effective in his duty, he must be competent in lesson note preparation and presentation. According to Ali (1992), effective teacher must have a basic command of his subject, he must be able to communicate his knowledge effectively to others. For effective communication to take place, there is the need for the teacher to have thorough knowledge of lesson note preparation and presentation. He must be able to identify and arrange all the essential features of a good lesson note and be able to the lesson note prepared for a targeted audience. This will enhance effective communication of the subject matter to the said audience. This fact was buttressed by Ojukwu (2012) when he stressed that teacher's competence is the ability and knowledge he has to discharge and impact to students while carrying out his responsibilities. It is expected that all teacher should have this attribute.

In Nigeria, lesson note preparation is a must for all teachers in elementary and post-elementary schools. This was incorporated into the teacher's training in various teachers' institutions in the country. The question then is, after some years of training in teachers' institutes, how well and how competent are the teachers in lesson note preparation and presentation in Nigeria classrooms?

STATEMENT OF THE PROBLEM

In spite of the training given to teachers at various teachers' institutes, the effects of teachers' competence seems not so much felt in schools. Most students seems not to properly understand their teachers and the concepts taught. Though schools in Nigeria are provided with necessary materials, conducive environment for teaching and learning and it was assumed that qualified teachers are employed to teach in schools as minimum qualification of those employed is NCE. Yet, most students in Basic Schools are finding it difficult to prove and practice what they were taught. The question then is: could there be any deficient in the medium of communication through materials used in Nigeria classrooms? This study was therefore out to investigate the competence of Basic School teacher in lesson note preparation and presentation

RESEARCH QUESTIONS

For the purpose of this study, the following research questions were raised and answered

1. what is the status of Basic school teachers in Nigeria?
2. what is the understanding level of Basic School teachers in some major lesson note features?
3. what is the percentage of Nigeria teachers with adequate knowledge of lesson note writing?
4. what is the competence level of lesson presentation among Basic School teachers?

RESEARCH DESIGN

The study employed descriptive research design of the survey type.

SAMPLE

200 Basic School teachers were chosen from 20 schools in Nigeria. The teachers were randomly selected and used for this study.

INSTRUMENT

A research instrument titled Teachers’ Competence Level in Lesson Preparation and Presentation (TCLLPP) was used for this study. The instrument was divided into three sections. Section A focused on teachers’ demographic variables, section B was on major lesson note features while section C was on lesson note writing and statement of lesson presentation

VALIDITY AND RELIABILITY OF THE INSTRUMENT

Face, content and construct validity of the instrument were ensured. The reliability of the instrument was also obtained using test-retest method and the data obtained was subjected to Pearson Product Moment Correlation which gave the coefficient of 0.78

ADMINISTRATION OF THE INSTRUMENT

The administration of the instrument was carried out by the researcher and research assistants who were curriculum studies experts. The researcher alongside the assistants personally visited the schools used for the study. Teachers sampled were assembled in a hall and the instrument was distributed to them. Each teacher was asked to respond to the items in the instrument and at the same time prepare a lesson note to teach basic Science in junior Secondary School two (JSS 2). Their responses were thereafter collected and collated for data analysis.

RESULTS

Questions raised were answered using the data collected from the respondents.

1. what is the status of Basic School teachers in Nigeria.

Table 1.0: Percentage Analysis of Status of basic School teachers

Qualification	N	%	Experience /year	N	%
NCE	4	2.0	1 – 5	56	28.0
B.Sc (Ed)	33	16.5	6 – 10	91	45.5
B.Ed	61	30.5	11 – 20	43	21.5
NCE + B. Ed	102	51.0	Above 20	10	5.0
TOTAL	200	100.0		200	100.0

- NCE - Nigeria Certificate in Education
- B. Sc. (Ed) – Bachelor of Science in Education
- B. Ed – Bachelor of Education

Table 1.0 shows that 100.0 % teachers in Nigeria Basic Schools are trained and certified to teach at Basic School level. Also high percentage of them are having job experience above 5 years

Q2: what is the understanding level of Basic School teachers in some major lesson note features.

Features	F _u	P _u	N _u
Entry behaviour	39 (19.5)	61 (30.5)	100 (50.0)
Reference books	102 (51.0)	74 (37.0)	24 (12.0)
Instructional materials	53 (26.5)	65 (32.5)	82 (41.0)
Stated objectives	24 (12.0)	57 (28.5)	119 (59.5)
Presentation	28 (14.0)	34 (17.0)	138 (69.0)
Summary	89 (44.5)	111 (55.5)	-
Evaluation	90 (45.0)	12 (6.0)	98 (49.0)
Home work	132 (66.0)	78 (39.0)	-

FU - full understanding

PU - Partial understanding

NU - No understanding

From table 2.0, it was deduced that most teachers had little understanding of the features of a good lesson note. 50.0% of the teachers sampled had no understanding of what entry behavior is all about while 59.5% of them could not determine the appropriate objectives for the lesson. 69.0% had no understanding of the presentation written in the lesson note. High percentage of the teachers (49.0%) had problem in understanding the meaning of evaluation in lesson note writing.

1. what is the percentage of Nigeria teachers with adequate knowledge of lesson note writing?

Table 3.0: Percentage Analysis of Teachers with Adequate knowledge of lesson note writing

Condition	N	%
Full knowledge	32	16.0
Partial knowledge	168	84.0
No knowledge	-	-
TOTAL	200	100.0

Table 3.0 reveals that 84.0% of the teachers sampled had no knowledge of how a good and adequate lesson note should be written. They only had a casual idea of the to be prepared by teachers but were not able to determine the purpose of each feature in the lesson note. Lesson notes written by high percentage of them were below standard.

2. what is the competence level of lesson presentation among Basic School teachers?

Table 4.0: Percentage Analysis of competence level of lesson presentation among Basic School teachers

Level	N	%
Excellent	46	32.0
Good	71	35.5
Fair	83	41.5
TOTAL	200	100.0

Table 4.0 showed that greater percentage (41.5%) could not clearly present the steps involve in lesson presentation. Their process of lesson presentation was grossly inadequate and inappropriate.

DISCUSSION

The findings revealed that all the teachers teaching in Nigeria Basic Schools (100.0%) have the required qualifications to teach. This was in accordance with the National policy on Education (FGN 2004) that stipulated that minimum qualification for teaching in Nigeria must not be less than NCE. Having qualified teachers in classrooms was expected to enhance the teaching and learning process. It was expected that such teachers will have a good knowledge of lesson preparation and presentation.

From the findings, it also showed that most teachers (72.0%) had over 5years of teaching experience. The teachers' year of experiences was expected to have enhanced their lesson preparation and presentation because experience enhances performance.

The findings further revealed that most teachers had no adequate knowledge of the essential features that should be considered in writing a good lesson note. 50.0% of the teachers sampled could not understand what what entry behavior stands for. 41.0% of them do not have a good grasp of the significance of instructional materials in lesson note preparation. 59.5% had no understanding of appropriate performance objectives for the lesson. When lesson notes are not properly prepared, lessons might not yield the expected outcomes.

The findings also revealed that most teachers had no correct interpretation of Evaluation after each lesson discharged. They only teach and care not about what was gained by the students and what learning outcome was achieved. The findings further showed that 84.0% of the teachers do not have full knowledge of lesson note writing. It means that they only write lesson notes for formality sake not minding the significance of the lesson notes to adequate and effective lesson discharged. Though the teaches were taught at the teachers' institutes, they were not dedicated to writing appropriate lesson note as they were taught.

Also from the findings, 41.5% of the teachers could not present a good, systematic and accurate lesson Presentation process. They had no knowledge of how to arrange the concepts to teach from simple to complex, from known to unknown. They made the teaching gradients too steep.

CONCLUSION

It was deduced from the findings that most teachers, though, had required teaching qualifications, they do not practice the profession appropriately. They handle the teaching job with levity. They do not put innovations in their practices. Preparation and presentation of lessons among Basic School teachers in Nigeria falls below expectation.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made;

1. Basic School teachers should be given regular seminars, workshops and in-service training to sensitize and refresh their memories on appropriate lesson preparation and presentation.
2. Teachers' lesson notes should be checked and corrected regularly to bring improvement where necessary.
3. Courses and activities that will enhance retention and appropriate practice of the training given to students under teacher education should be inculcated into the teacher-training curriculum.

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Testing Baron and Kenny's Preliminary Conditions for Mediating or Moderating Variables in Structural Equation Modeling

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Abstract

A common misnomer in statistical analysis is the identification of intervening variables as either moderating or mediating as a result of placement of another latent construct or variables between exogenous and endogenous variables in a Structural Equation Model (SEM). However, placement does not determine variable status. Determination of variable status requires the application of Baron and Kenny's preliminary conditions and analysis for determining whether a variable is moderating, mediating, or in fact, intervening. This procedure aids in statistically representing the actual strength and direction of variables in order to improve reporting predictor results on outcomes. An SEM was developed using the results of the analysis of the Biomedical Engineering Interdepartmental (BEI) Survey conducted in 2011. This document illustrates the application of Baron and Kenny's method to the BEI survey SEM model.

Key Words: Intervening Variables; Moderating Variables; Mediating Variables; Regression Analysis; Structural Equation Modeling

INTRODUCTION

Statistical terminology used to describe the relationship between study variables (e.g., mediating, moderating, or intervening) are often inappropriately applied or incorrectly used interchangeably. The major cause of these misnomers can be attributed to the lack of application of fundamental methods that determine the true variable relationship status. Consequently, this analysis will apply the preliminary conditions for a mediating or moderating variable status set forth by Baron and Kenny (1986) to the results of the 2011 Biomedical Engineering Interdepartmental (BEI) Survey. The following will 1) provide BEI Survey background information using Structural Equation Modeling statistical study results, 2) define and demonstrate the conditions of a mediating variable, 3) define and demonstrate the conditions of a moderating variable, 4) identify and demonstrate the characteristics of an intervening variable, and 5) summarize current variable analysis results.

BACKGROUND

The BEI Survey instrument was designed a priori by Fiedler (2011) using the Tailored Design Method (Dillman et al., 2009) and conventional analysis protocols (DeVellis, 2003; Flynn, Schroeder, & Sakakibara, 1994) to assess the inter-professional perspective of hospital quality as viewed by the biomedical engineering technician, a medical equipment maintenance occupation of Clinical Engineering. The 39 questionnaire items are associated with three latent constructs from Donabedian's Triadic relationships between structure, process and outcome

(Donabedian, 1989, 1988, 1980, 1966). Donabedian's model was linear in nature and could be illustrated SàPàO. However, the BEI Survey hypothesized a non-linear relationship demonstrated by the following:

Process Adequacy=f (Structural Complexity) and Level of Quality=f (Structural Complexity + Process Adequacy) as shown in Figure 1.

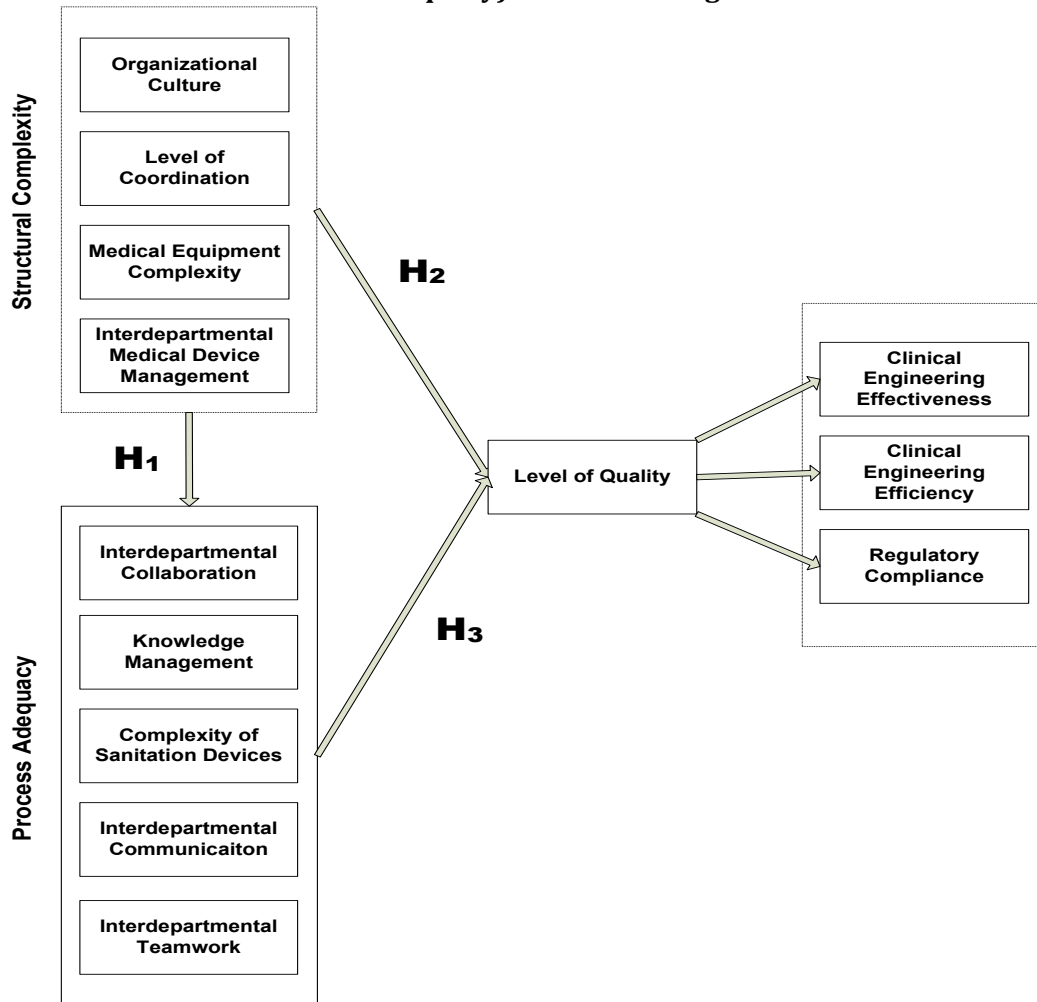
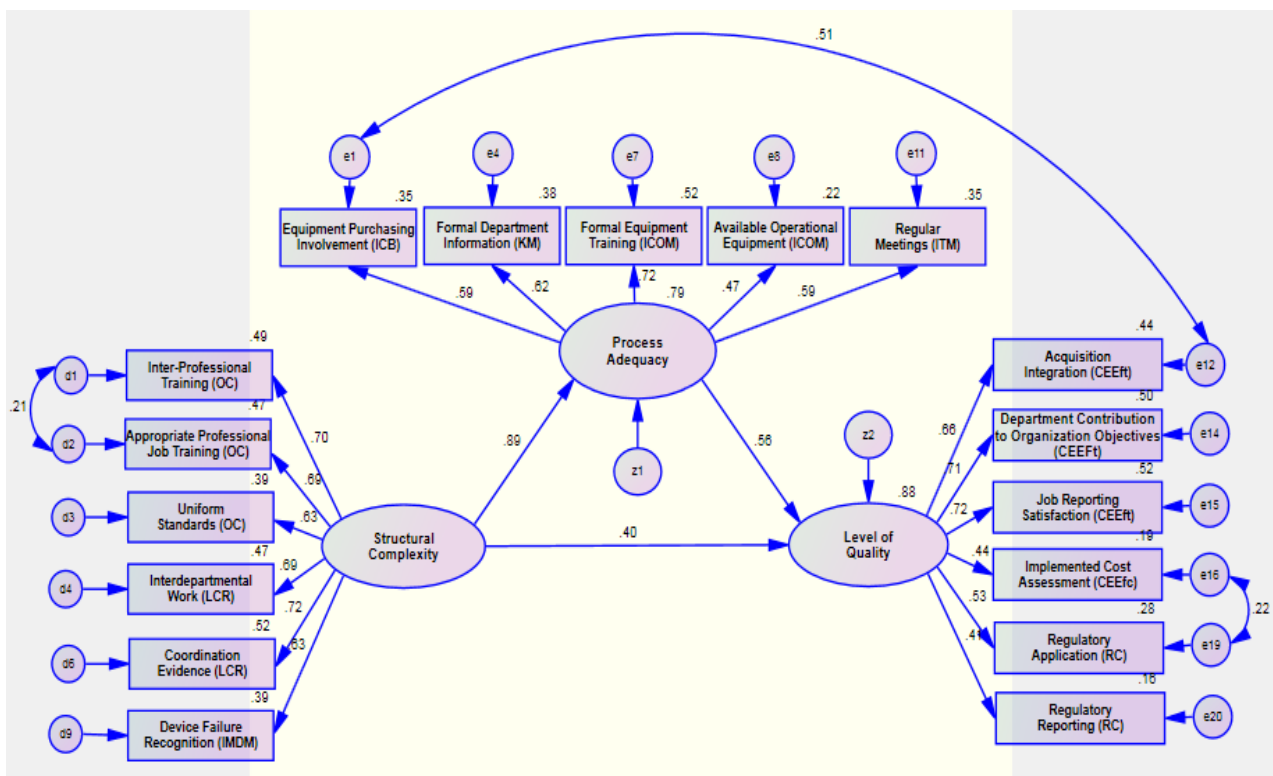


Figure 1. Unconditioned Conceptual Analytic Model with Three Latent Variables Indicating Hypothesized Relationships among Predictor Variables and the Level of Quality in Clinical Engineering as Measured by the Contributions of the Biomedical Engineering Technician

Respondents were asked to use a 5-point Likert scale (1=strongly agree, 2=agree, 3=neither agree or disagree, 4=disagree, 5=strongly disagree) on three questions for each initial indicator of Structural Complexity and of Process Adequacy and four questions for each indicator of the endogenous study variable of Level of Quality (Appendix Tables A1 to A3).

The application of the BEI Survey to the sample population of biomedical engineering technicians study met validity requirements as results from PASW statistical analysis software confirms normally distributed data. The results also demonstrated internal consistency in Item-Total Statistics analysis and Reliability Item Descriptive Statistics. The Cronbach α coefficient for each latent construct ranges from 0.718 (Process Adequacy) to 0.831 (Structural Complexity). Overall Cronbach α = 0.905, N=317, 17 survey items after data cleansing.



Note: Organizational Culture (OC), Level of Coordination (LCR), Interdepartmental Device Management (IMDM), Interdepartmental Collaboration (ICB), Knowledge Management (KM), Interdepartmental Communication (ICOM), Interdepartmental Teamwork (ITM), Clinical Engineering Effectiveness (CEEft), Clinical Engineering Efficiency (CEEfc), and Regulatory Compliance (RC).

Figure 2. Structural Equation Model of the Biomedical Engineering Interdepartmental Survey, 17 Items Listed with Equivalent Subscales on Major Constructs

The SEM model of the BEI Survey is shown in Figure 2 utilizing Analysis of Moment Structures (AMOS) v.18 graphical statistical software. Table 1 indicates the results of the unstandardized and standardized regression weight analysis and provide statistical support for the hypothesized study relationships as shown in Table 2.

Table 1. Final Structural Equation Model for BEI Survey Without Control Variables

	URW Estimate	SRW Revised	Standard Error	t	P
Process Adequacy ← Structural Complexity	.647	.889	.089	7.248	***
Level of Quality ← Process Adequacy	.504	.563	.161	3.136	.002
Level of Quality ← Structural Complexity	.262	.402	.106	2.469	.014
Structural Complexity X₁₋₆					
Interdepartmental Work ← Structural Complexity ¹	1.000	.687			
Uniform Standards ← Structural Complexity ²	1.414	.627	.141	10.062	***
Inter-Professional Training ← Structural Complexity ³	1.171	.701	.106	11.091	***
Coordination Evidence ← Structural Complexity ⁴	1.161	.723	.101	11.445	***
Appropriate Professional Job Training ← Structural Complexity ⁵	1.134	.685	.105	10.850	***
Device Failure Recognition ← Structural	.992	.627	.099	10.065	***

	URW Estimate	SRW Revised	Standard Error	t	P
Complexity⁶					
Process Adequacy Y₁₋₅					
Available Operational Equipment ← Process Adequacy ⁷	1.000	.469			
Regular Meetings ← Process Adequacy ⁸	1.850	.590	.264	7.009	***
Equipment Purchasing Involvement ← Process Adequacy ⁹	1.670	.593	.237	7.036	***
Formal Equipment Training ← Process Adequacy ¹⁰	1.576	.719	.205	7.678	***
Formal Department Information ← Process Adequacy ¹¹	1.225	.618	.171	7.172	***
Level of Quality Y₆₋₁₁					
Regulatory Application ← Level of Quality ¹²	1.000	.531			
Acquisition Integration ← Level of Quality ¹³	2.166	.660	.259	8.371	***
Job Reporting Satisfaction ← Level of Quality ¹⁴	2.026	.722	.231	8.785	***
Department Contribution to Organizational Objectives ← Level of Quality ¹⁵	1.737	.709	.200	8.702	***
Implemented Cost Assessment ← Level of Quality ¹⁶	1.294	.441	.179	7.226	***
Regulatory Reporting ← Level of Quality ¹⁷	1.139	.406	.191	5.976	***

***<0.001 (2-tailed) significance level;

Note: URW=Unstandardized Regression Weight; SRW=Standardized Regression Weight.

Notes: Scale¹⁻¹⁷: 1) I receive and/or provide interdepartmental input in order to successfully complete work, 2) Standards are applied equally across all departments, 3) The organization values contributions to other staff members' professional development, 4) Interdepartmental coordination has resulted in visible positive benefits, 5) I have been provided clear training to perform my job function, 6) I receive and/or provide advice on new equipment purchases, 7) I receive and/or provide clean, operational equipment in a timely fashion, 8) Nursing and biomedical engineering conduct regularly scheduled meetings on equipment issues, 9) I receive and/or provide advice on new equipment purchases, 10) I receive and/or provide training on the proper way to operate equipment, 11) I have access to formal knowledge within the department, 12) Biomedical engineering is able to apply medical equipment regulatory policy, 13) Biomedical engineers are integrated in the medical equipment purchasing process, 14) Biomedical engineers are satisfied with reporting authorities, 15) Biomedical engineers set and achieve department goals based on organizational objectives, 16) Biomedical engineering measures cost using generally accepted metrics, and 17) All departments have access to hospital acquired infection data.

Table 2. Summary of the Statistical Evidence in Support of Study Hypotheses

Hypotheses Statements	Summary of Statistical Evidence	Results
Hypothesis ₁ : Structural complexity positively affects process adequacy in the hospital environment of care.	PA←SC: p<0.001 level (2-tailed); β=.889, t=7.248, t>1.96 on all factors; R ² = 79%.	Supported
Hypothesis ₂ : Structural complexity positively affects the level of quality in the hospital environment of care.	LOQ←SC; p=0.014 level (2-tailed); β=.402, t=2.469, t>1.96 on all factors; R ² = 16.2%.	Supported
Hypothesis ₃ : Process adequacy positively affects the level of quality in the hospital environment of care.	LOQ←PA: p=.002 level (2-tailed); β=.563, t=3.136; t>1.96 on all factors; R ² = 31.2%.	Supported

Abbreviation Notes: SC=Structural Complexity, PA=Process Adequacy, LOQ=Level of Quality, ← = direction of the relationship between constructs.

The SEM data analysis indicates strong, positive relationships between constructs as statistically significant (2-tailed) with normal distribution: 1) Structural Complexity and Process Adequacy, 2) Process Adequacy and Level of Quality, and 3) Structural Complexity and Level of Quality. Translation of these findings into an equation form as follows:

$$\text{Level of Quality} = .889 \text{ Structural Complexity} + .563 \text{ Process Adequacy}$$

The study finds several determinants of quality derived from structural complexity including 1) uniform standards, 2) inter-professional training, and 3) coordination evidence. In addition, the intervening effect of process adequacy comprising regular meetings, equipment purchasing involvement, formal equipment training across departments, and formal department information on the level of quality is supported. In order to determine the actual role of the latent construct Process Adequacy, Baron and Kenny's (1986) causal step approach methodology was applied to the final revised SEM model.

DEMONSTRATING CONDITIONS OF A MEDIATING VARIABLE

A mediation variable is defined in classic terms as an external organism or mechanism that intervenes between a stimulus and a response. Processes that occur between the predictor input and the output response may also demonstrate mediating characteristics. (Baron & Kenny, 1986; Woodworth, 1928).

Baron and Kenny's (1986) causal step approach methodology to determine mediation requires manipulation of the final revised SEM model in three stages. First, eliminate the variable under consideration (Process Adequacy) in the SEM model. Second, determine the direct relationship between the independent variable (Structural Complexity) and the dependent variable (Level of Quality) using regression analysis (Figure 3). Third, determine if there is no longer statistical significance between the predictor and the outcome variables (Table 3).

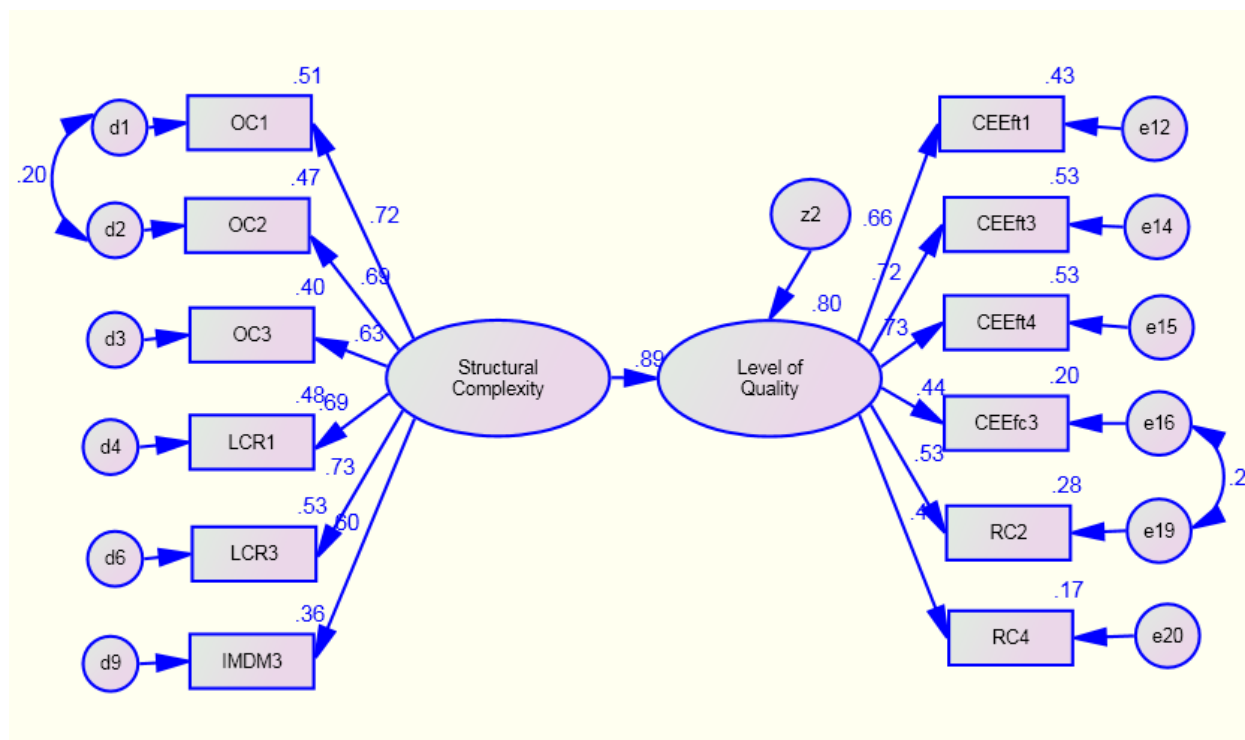


Figure 3. Results of the Final Structural Equation Model with Proposed Mediating Construct Process Adequacy, Removed for Illustrative Purposes

Elimination of the Process Adequacy term indicates a strong relationship of .89 between Structural Complexity and Level of Quality at $t > 1.96$, $p < 0.001$ (2-tailed). Since the relationship is significant without the Process Adequacy construct, the preliminary conditions of mediation did not occur. Consequently, it was unnecessary to perform the causal steps interpretation of the Beta coefficient in the structural equation model for the stimulus-response effect on the linear regression equations under the historically accepted maximum likelihood-based method (Hayes, 2009; Baron & Kenny, 1986).

Table 3. Structural Equation Model with Proposed Mediating Variable Removed

Predictors	URW Estimate	SRW	Standard Error	t	P
Level of Quality ← Structural Complexity	1.061	.894	.108	9.841	***

*** < 0.001 (2-tailed) significance level

Abbreviation Notes: URW=Unstandardized Regression Weight; SRW=Standardized Regression Weight

Review of the results of the complete regression analysis in Table 1 compared to the results of the direct variable relationship between Structural Complexity and the Level of Quality in Table 3 reveals two interesting conclusions. First, isolated structural changes may only have a marginal impact on quality. This conclusion is indicated by the interpretation of the unstandardized regression weight which shows that for each instance of improvements in structural complexity, a marginal increase of level of quality will occur in the ratio of 1:1.061. Second, the combined effects of structural complexity and process adequacy can result in increased levels of quality. For example, Acquisition Integration can positively impact the Level of Quality at the ratio of 1:2.166 indicating that for every instance of the biomedical engineering technician inclusion on purchasing, the rate of return will be more than twofold. Hence, having a structural reference is vital, but following the rule by completing the process is where the greatest level of benefits is achieved.

DEMONSTRATING CONDITIONS OF A MODERATING VARIABLE

Moderating variables can be either qualitative (e.g., urban, profession, non-profit) or quantitative (e.g., pay scale, budget allocation, days in hospital). Their function is to interact as a third variable between the exogenous variable and an endogenous outcome study variable in an SEM and other statistical methods (e.g., ANOVA, Analysis of Variance) in such a way that impact the strength and/or direction of the predictor-outcome relationship. (Baron & Kenny, 1986).

A preliminary consideration to determine moderation under desirable conditions requires that the “moderators and predictors are at the same level in regard to their role as causal variables antecedent or exogenous to certain criterion effects” (Baron & Kenny, 1986, p. 1174). Reviewing the hypothesized and final relationships in Figures 1-2 illustrates that this study does not consider the intervening variable of Process Adequacy on the same level as Structural Complexity since Process Adequacy has been established as both an exogenous and endogenous variable (e.g., Process Adequacy is endogenous to Structural Complexity; Process Adequacy is exogenous to Level of Quality).

Correlation analysis also plays a factor in statistically establishing a moderator variable. A preliminary consideration to determine moderation under desirable conditions indicates that

the “moderator variable be uncorrelated with both the predictor and the criterion (the dependent variable)” (Baron & Kenny, 1986, p. 1174).

Table 4. Spearman Correlation Coefficients of Structural Complexity and Process Adequacy, N=317

Process Adequacy	Equipment Purchasing Involvement	Formal Department Information	Formal Equipment Training	Available Operational Equipment	Regularly Scheduled Meetings
Structural Complexity					
Inter-professional Training	.379**	.336**	.393**	.217**	.332**
Appropriate Professional Job Training	.351**	.375**	.406**	.225**	.316**
Uniform Standards	.262**	.295**	.342**	.231**	.394**
Inter-Departmental Work	.367**	.331**	.445**	.264**	.331**
Coordination Evidence	.397**	.375**	.424**	.329**	.324**
Device Failure Recognition	.273**	.362**	.461**	.335**	.394**

**Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows multiple positive statistically significant relationships at p=.01 (2-tailed) between Structural Complexity and Process Adequacy, ranging from .217 to .461. The largest relationship is between Formal Equipment Training and Device Failure Recognition. The smallest relationship is between Available Operational Equipment and Inter-Professional Training. Formal Equipment Training also correlates with three other variables >.4. They are Appropriate Professional Job Training (.406), Inter-Departmental Work (.445), and Coordination Evidence (.424).

Table 5. Spearman Correlation Coefficient Table of Process Adequacy and Level of Quality, N=317

Level of Quality	Acquisition Integration	Department Measures Tied to Organizational Goals	Job Reporting Satisfaction	Implement Cost Assessment	Regulatory Application	Regulatory Reporting
Process Adequacy						
Equipment Purchasing Involvement	.688**	.389**	.440**	.305**	.313**	.277**
Formal Department Information	.331**	.363**	.385**	.169**	.283**	.219**
Formal Equipment Training	.433**	.428**	.416**	.356**	.378**	.230**
Available Operational Equipment	.155**	.247**	.281**	.172**	.289**	.219**
Regularly Scheduled Meetings	.459**	.349**	.421**	.346**	.239**	.184**

**Correlation is significant at the 0.01 level (2-tailed).

Correlation coefficients were calculated for the intervening variable Process Adequacy and the endogenous variable Level of Quality. The results shown in Table 5 indicate that Process Adequacy and Level of Quality indicators are positively associated, ranging from .155 to .688. The largest relationship is between Acquisition Integration and Equipment Purchasing Involvement. The least relationship occurred between Available Operational Equipment and Acquisition Integration.

Correlation is demonstrated between Structural Complexity and Process Adequacy (Table 3) and between Process Adequacy and Level of Quality (Table 4). Hence, the preliminary conditions of moderation were not met.

SUMMARY

In summation, the preliminary conditions of mediation and moderation have not been met under Baron and Kenny's (1986) causal path methodology for the Process Adequacy construct in the 2011 BEI Survey.

Consequently, Process Adequacy is an intervening variable. An intervening variable is defined as one that may affect the causal path relationship between an exogenous and an endogenous variable but does not meet the specific statistical conditions of a mediating or moderating variable.

As demonstrated in the case of the BEI Survey results, the exogenous variable of Structural Complexity had some direct impact on the endogenous study variable of Level of Quality. But, the greatest impact on the Level of Quality was the result of the interaction between Structural Complexity and Process Adequacy. The intervening process action was necessary to enhance the rules or accepted methods embedded in the organizational structure.

One additional item must be noted. If the variable of Process Adequacy had met these preliminary criteria, further analysis of mediating or moderating conditions would be required to determine the complete statistical significance of the causal path relationships.

Baron and Kenny's methods are not without critics. Other researchers have recently provided other methodologies that were not performed in this analysis which may be used to provide alternative methods for testing.

In fact, several researchers suggest that these new analysis methods may improve on the causal steps approach which may have reduced power (Hayes, 2009; MacKinnon et al., 2007; Bauer et al., 2006).

They suggest an alternative testing sequence such as the Sobel test (Sobel, 1982, 1986 as cited in Hayes, 2009), which analyzes the standard error in the direct relationship between the predictor and the outcome that may in part account for the intervening effect. But Hayes (2009) and MacKinnon et al. (2007) indicate that each potential replacement struggles with weaknesses that require further examination before a new method can gain mainstream acceptance in the statistical community.

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Evaluation of Some Approved Computer Studies Textbooks In Use In Junior Secondary Schools In Ebonyi State Of Nigeria

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Abstract

This study was designed to evaluate the content adequacy and readability of computer studies textbooks in use in junior secondary schools in Ebonyi state of Nigeria. Eight research questions and two hypotheses guided the study. The sample of the study consisted of three (3) approved computer studies textbooks, 21 junior secondary schools randomly selected from the 3 education zones of Ebonyi State, and 56 computer studies teachers in Ebonyi State. Three (3) instruments were used for data collection: (1) computer studies Textbooks Readability Test (CSTRT) (II) 8-point model by Emerole (2008), an update of quantitative approach to the content evaluation of science textbooks (QACEST) by Nworgu (2001) (III) Teachers' Perception Rating Scale (TPRS). The 8-point model of QACEST was used to answer research questions 1,2,3,4,5 and 7, research question 6 was answered by using cloze model of readability measurement. The two hypotheses were tested at 0.05 level of significance using chi-square test of goodness of fit. The results of the findings showed that the some approved computer studies textbooks, have adequate contents and learning activities. It also revealed that some of the textbooks has no chapter summaries, the illustrations, chapter summaries, study questions, in some of the textbooks were inadequate. The findings also indicated that the textbooks were culturally, ethnically and gender biased. Based on the findings, conclusions were drawn and was recommended that computer textbooks should be revised periodically to enrich the contents and readability of the textbooks and that a committee of specialists in computer studies should be appointed to selected and possibly approve computer studies textbooks when the need arises, among others.

BACKGROUND TO THE STUDY

Computer studies has become a vital subject in schools as was decided by the Federal Government thereby introducing the 9- year Basic Education Programme so as to attain the Millennium Development Goals (MDGS) by the year 2015. It becomes imperative that the existing curricula for primary and junior secondary schools (JSS) should be reviewed, re-structured and re-aligned to fit into a 9-year Basic Education Programme. This assignment was carried out by Nigeria Educational Research and Development Council (NERDC) and after which subject like computer studies was introduced into the programme curriculum with the following objectives:

- To enable the learner to acquire basic computer skills, such as the use of keyboard, mouse and operating system.
- To enable the learner to use the computer to facilitate learning electronically.

- Develop reasonable level of competence in ICT applications that will engender entrepreneurial skills (NERDC 2007). To fulfill these aims, the use of textbooks becomes absolutely necessary.

Sequel to the above, the modules for computer studies was developed and many computer textbooks were also written. The textbooks enable the teachers teach computer concepts effectively and aim at achieving the general objectives and goals of computer education. The students use it as learning materials to acquire both factual knowledge and skills of scientific enquiry, identifying questions that can be addressed scientifically, doing assignment, planning and carrying out experiments. While the teachers use the textbooks as instructional materials for teaching. Most teachers and students in different parts of the world depend so much on textbooks including those in computer studies as perhaps the only source of information (Baiyelo, 2000). Since textbooks are very important in teaching and learning processes, it needs to be critically evaluated to see whether they are meeting the expected goals of the national policy on education or that of national policy on science and technology. Federal Republic of Nigeria (FRN, 1998,2002).

PURPOSE OF THE STUDY

The purpose of the study was to evaluate approved computer studies textbooks in use in Junior Secondary Schools in Ebonyi State. Specifically, this study:

1. Determined how the contents of the computer studies textbooks in use in Junior Secondary Schools reflect the content specified in the curriculum for computer studies.
2. Determined the adequacy of the learning activities of each of the computer studies textbooks in use in Junior Secondary Schools.
3. Found out the appropriateness of each of the textbooks chapter summaries to the class level.
4. Determined the adequacy of the study questions in each of the textbooks.
5. Determined the illustration index of each of the computer studies textbooks.
6. Examined the readability levels of the textbooks for each of the classes.
7. Determined the under-represented population index.
8. Examined the teachers' perception of the three computer studies textbooks as useful instructional aid to them.

SCOPE OF THE STUDY

The study was delimited to the evaluation of the approved computer studies textbooks currently in use in Junior Secondary Schools in Ebonyi state. These textbooks are:

- Computer Made Easy-A Practical Guide for Junior Secondary Schools Book 1-3 by Maria Eze (Textbook A).
- Computer Studies for Beginners Books 1-3 by Oduronke Eyitayo and Adekunle Eyitayo (Textbook B).
- Log on to IT Book 1-3 by Roland Birbal, Michele Taylor (Textbook C).

RESEARCH QUESTIONS

The following research questions guided the study:

1. How do the contents of computer studies textbooks in use in Junior Secondary Schools reflect the contents specified in the core- curriculum?
2. How adequate are the learning activities of the computer studies textbooks in use in Ebonyi State Junior Secondary Schools?
3. How appropriate are the chapter summaries of the computer studies textbooks in use in Ebonyi State Junior Secondary Schools?

4. How adequate are the study questions of computer studies textbooks in use in Ebonyi State Junior secondary schools.
5. What is the illustration index of computer studies textbooks in use in Ebonyi State Junior Secondary Schools?
6. What is the readability index of computer studies textbooks in use in Ebonyi State Junior Secondary Schools?
7. What is the under-representation population index of the computer studies textbooks in use in Ebonyi State Junior Secondary Schools?
8. What is the teacher perception index of the computer studies textbooks in use in Ebonyi State Junior Secondary Schools?

HYPOTHESES

The following null hypotheses were formulated and tested at alpha level of 0.05.

- H01: The content of the computer studies textbooks in use in the junior secondary schools in Ebonyi state of Nigeria does not significantly deviate from the specifications of the core-curriculum in computer studies.
- H02: The learning activities of each of the approved three computer studies textbooks in use in junior secondary schools in Ebonyi State of Nigeria do not significantly deviate from the specifications of the computer studies core-curriculum.

RESEARCH DESIGN

The study employed the descriptive evaluation design. Evaluation design is the type of design, which seeks to ascertain, or judge the value of a programme or resources by careful appraisal determined by a pre-stipulated standard (Carter 1989). According to Ali (2006), evaluation design is the type of design that makes value judgement on programmes and projects based on certain pre-determined criteria. This design is useful because the study involved value judgment about computer studies textbooks in use in junior secondary schools in Ebonyi state.

AREA OF THE STUDY

The area of the study is Ebonyi State of Nigeria. Ebonyi State is located in the south East Zone of Nigeria. It was created in 1996 from both Abia and Enugu State. Specifically, the study covered all the three education zones namely;

Abakaliki, Afikpo and Onueke with 75,82 and 64 (as at 2014) Junior Secondary Schools respectively which summed up to 221 Junior Secondary Schools on the whole. This study was carried out in these zones because no such study had been done there since the creation of the state in 1996.

POPULATION OF THE STUDY

The population of the study included all the 17 approved computer studies textbooks in use in Ebonyi State, 56 teachers for computer studies in public junior secondary schools (19, 14 and 23 computer studies teachers for Abakaliki, Afikpo and Onueke education zones respectively) and 70,865 junior secondary schools students (25404,26835 and 18626 for Abakaliki, Afikpo and Onueke education zones respectively) as at 2014, Ebonyi State Universal Basic Education Board record.

Sample and Sampling Techniques

Three (3) computer studies textbooks (Bk 1-3) out of seventeen (17) approved textbooks for computer studies in Ebonyi State junior secondary schools were simple randomly selected.

INSTRUMENT FOR DATA COLLECTION

The instrument used for the data collection is the 8-point quantitative evaluation model for science textbooks. This was developed by Emerole (2008). The model is an update of the 5-point quantitative approach for content evaluation of science textbooks (QACEST) developed by Nworgu (2001). It uses the following indices in evaluating science textbooks:

- Topical Coverage Index (TCI)
- Learning Activity Index (LAI)
- Study Question Index (SQI)
- Illustration Index (ILI)
- Chapter Summary Index (CSI)
- Under-Representation Population Index (UPI)
- Readability and Comprehensibility Index (RCI)
- Teacher Perception Rating Index (TPI)

Topical Coverage Index (TCI): Provides an estimate of how far the content of the textbooks covers the prescribed syllabus.

Learning Activity Index (LAI): is an estimate of the degree of which the textbook provides activities that will ensure optimal participation of the learner.

Study Question Index (SQI): Estimates the extent to which the study question in textbooks challenges the learners meaningfully.

Illustration Index (ILI): Is an estimate of the extent to which illustration (diagrams, pictures, charts, tables graphs, equations etc.) contained in the book make for better and more meaningful understanding of the ideas being referred to in the textbook.

Chapter Summary Index (CSI): provides an estimate of the extent to which the chapter summaries promote a more permanent understanding of the content of the book.

Under-Represented Population Index (UPI): Estimate the extent to which the ideas, examples and illustrations that have gender or cultural/ethnic connotation. The textbooks are presented in a neutral or balanced form.

Readability and Comprehensibility Index (RCI): Provides the quantitative estimate of readability and comprehensibility of a textbook. These can be achieved by either applying the Flesch Read Ease Formula (Flesch, 1984) or cloze Test (Graham, 1978; Harrison 1980).

Teacher perception Ration Index (TPI): Estimate the extent of teachers perceptions on how a text book provides instructional support to them.

VALIDATION OF THE INSTRUMENT

The researcher adopted the 8-point quantitative approach for content evaluation of science textbooks, developed by Emerole (2008) an update of the 5-point quantitative approach for content evaluation of science textbooks (QACEST) developed by Nworgu (2001). The instrument does not need any other validation since the model is already a validated instrument.

RELIABILITY OF THE INSTRUMENT

The 8-point model for content evaluation of science textbooks, as an update of 5-point (QACEST) model was assessed for reliability using Kendell's coefficient of concordance (W).

This was necessary because computer studies teachers were used in the evaluation exercise. A reliability coefficient of 0.64, 0.66 and 0.86 were obtained for each of the textbooks using the rating of five teachers

METHOD OF DATA COLLECTION

Data were collected using the 8-point quantitative approach for content evaluation of science textbooks, using computer studies textbooks. The computer studies teachers of junior secondary schools were trained on how to use the manual of the 8-point quantitative approach for the evaluation of computer studies textbooks to determine the indices of topical-coverage, learning-activities, study-questions, chapter-summaries, illustration index, under represented population index, readability and comprehensibility index and teacher's perception rating index.

METHOD OF DATA ANALYSIS

The 8-point model quantitative formulae were used to answer the research questions. A standard guideline for calculation and readability level by Harrison (1980) was used to determine students mean readability score in each of the textbooks. Teachers perception rating scale (TPRS), determined teacher perception on how a textbook provides instructional support to them. The hypotheses were tested at 0.05 level of significance using chi-square test of goodness of fit.

Guidelines for Interpreting Cloze Test Scores by Harrison

Scores	Interpretation
60% and above	The students' understanding of the text is adequate and they can work on the book on their own
40% to 59%	The students' understanding of the text is adequate enough for the book to be used with the teacher's assistance.
Below 40%	The students' understanding of the text is inadequate and the use of the book can lead to frustration.

RESULT OF THE ANALYSIS

Research Question 1

How do the contents of computers studies textbooks in use in Ebonyi State Junior secondary schools reflect the content specified in the core-curriculum? Based on the data collected, the topical coverage index (TCI) was analyzed. The scores of the three computer studies textbooks were calculated and presented in table 1

$$TCI = \frac{T_t}{T_s} + \frac{S_t}{S_s} \quad 1/2$$

Where T_t = Number of topics covered by the textbook

T_s = Number of topics in the syllabus

S_t = Number of sub-topics sufficiently covered by the textbook.

S_s = Number of sub-topics in the syllabus.

Table 1: Indices of Topical Coverage (ITC)

S/N	Textbook	CLASS	T _t	T _s	S _t	S _s	Index
1.	A	JS 1	18	14	33	47	0.99
		JS 2	9	16	46	48	0.76
		JS 3	5	8	28	30	0.78
		Grand mean					0.84
2.	B	JS 1	11	14	39	47	0.81
		JS 2	9	16	45	48	0.75
		JS 3	5	8	27	30	0.76
		Grand mean					0.77
3.	C	JS 1	11	14	41	47	0.83
		JS 2	12	16	43	48	0.82
		JS 3	8	8	28	30	0.97
		Grand mean					0.87

Acceptance range = 0.75 to 1.00

T_t = Number of topics covered by the textbook, T_s = Number of topics in the syllabus, S_t = Number of sub-topics covered by the textbook S_s – Number of sub-topics in the syllabus.

The results presented in table 1 revealed that all the computer studies textbooks evaluated are within the acceptance range of topical coverage. This implies that they covered the content of the core-computer studies curriculum.

Research Question 2

How adequate are the learning activities of the computer studies textbooks in use in Ebonyi State Junior secondary schools? The data collected on the learning activities from each of the three computer studies textbooks in use in Ebonyi State Junior secondary schools were analyzed. Based on the results obtained, the learning activity index (LAI) was calculated and presented in Table 2.

$$LAI = \frac{(A - P)}{(A + P)}$$

Where, A = Number of sentences requiring the learner to perform some activities.

P = Number of sentences requiring the learner only to receive information with no other activity.

Table 2: Learning activity index

S/N	Textbook	CLASS	A	P	Index
1.	A	JS 1	111	12	0.80
		JS 2	99	17	0.71
		JS 3	69	11	0.73
		Grand mean			0.75
2.	B	JS 1	98	10	0.81
		JS 2	91	8	0.84
		JS 3	84	7	0.85
		Grand mean			0.83
3.	C	JS 1	89	9	0.82
		JS 2	91	11	0.78
		JS 3	84	10	0.79
		Grand mean			0.80

Acceptance range=0.50 to 1.00

The results presented in table 2 revealed the Learning Activity Indices (LAI) for the three computer studies textbooks evaluated. This implies that all the three computer studies textbooks contained leaning activities as specified in the core-computer studies curriculum. Research Question 3

How appropriate are the chapter summaries of the computer studies textbooks in use in Ebonyi State Junior secondary schools? The data collected on chapter summaries was used for the computation of chapter summary index (CSI). The results of the CSI for the three computer studies textbooks evaluated are presented in table 3.

$$CSI = (Js/Jc + Ns/Nc)/2.$$

Where Js=Number of statements in the summary which represent major points covered in the chapter.

Jc=Number of major points covered in the chapter.

Ns=Number of statements in the summary which represent minor points covered in the chapter.

Nc=Number of minor points covered in the chapter.

Table 3: Chapter summaries Indices

S/N	TEXTBOOK	CLASS	J _s	J _c	N _s	N _c	Index
1.	A	JS 1	No summary	38	No summary	56	No Index
		JS 2	No summary	29	No summary	34	
		JS 3	No summary	19	No summary	27	
2.	B	JS 1	No summary	28	No summary	36	No Index
		JS 2	No summary	21	No summary	34	
		JS 3	No summary	19	No summary	31	
3.	C	JS 1	38	33	5	7	0.93
		JS 2	55	51	4	5	0.94
		JS 3	26	29	8	12	0.78
		Ground					0.88

Acceptance range = 0.60 to 1.00

The table 3 shows the results of the chapter summaries index (CSI) obtained from the data from the three computer studies textbooks in use in Ebonyi State Junior Secondary Schools. The results revealed that one computer studies textbook out of the three textbooks evaluated were within the acceptance range of chapter summary index while the other two had no CSI.

Research Question 4

How adequate are the study questions of the computer studies textbooks in use in Ebonyi State Junior secondary schools? The data obtained was used for the computation of the Study-Questions Index (SQI). The computation of the SQI was based on the questions found in each of the five computer studies textbooks evaluated. The results are presented in table 4 below:

$$SQI = \frac{(T - R)}{(T + R)}$$

Where T = Number of questions that require students to engaged in real thinking
 R = Number of questions that require student to merely recall knowledge.

Table 4: Study Question index (SQI)

S/N	Textbook	CLASS	T	R	Index
1.	A	JS 1	49	6	0.78
		JS 2	20	3	0.74
		JS 3	13	3	0.63
		Ground			0.72
2.	B	JS 1	63	19	0.54
		JS 2	49	13	0.58
		JS 3	96	12	0.78
		Ground			0.63
3.	C	JS 1	136	29	0.65
		JS 2	106	24	0.63
		JS 3	89	19	0.65
		Ground			0.64

Acceptance range = -0.25 to + 1.00

Table 4 shows the study questions index for the three computer studies textbooks (SQI) in use in Ebonyi State Junior Secondary Schools. The results presented in table 4 reveals that all the three computer studies textbooks evaluated are within the acceptance range of study questions index. This implies that all the textbooks evaluated contained adequate study questions.

Research questions 5

What are the illustrations index of computer studies textbooks in use in Ebonyi State Junior secondary schools? The data obtained on illustrations found in each of the three computer studies textbooks evaluated were used for the computation of the illustrations index (ILI). The results are presented in table 5.

$$ILI = \frac{(L_a - L_b)}{(L_a + L_b)}$$

Where L_a = Number of illustrations requiring the learner to perform some activities.

L_b = Number of illustrations requiring the learner only to view.

Table 5: Illustration Index (ILI)

S/N	Textbook	CLASS	L_a	L_b	Index
1.	A	JS 1	32	72	-0.38
		JS 2	29	61	-0.36
		JS 3	26	51	-0.32
2.	B	Ground mean			-0.35
		JS 1	31	71	-0.39
		JS 2	33	69	-0.35
3.	C	JS 3	28	61	-0.37
		Ground mean			-0.37
		JS 1	34	79	-0.39
		JS 2	33	71	-0.37
		JS 3	30	68	-0.39
		Ground mean			-0.38

Acceptance range = -0.50 to 0.00

Table 5 above indicates the mean scores of the illustrations index (ILI) in each of the three computer studies textbooks evaluated. The results presented in table 5 reveals that the three computer studies textbooks evaluated are within the acceptance range of illustration index (ILI) of -0.50 to 0.00. This implies that all the textbooks evaluated contained illustrations.

Research Question 6

What is the readability index of the computer studies textbooks in use in Ebonyi State Junior secondary schools? The data used in answering this research question were obtained from the "Close Test of Readability of Computer Studies Textbooks" (CTRCST), the mean readability scores of the three Computer Studies Textbooks evaluation were computed and presented in the table 6.

Table 6 below shows the readability scores for all the three computer studies textbooks in use in Ebonyi State Junior Secondary Schools. The results presented in Table 6 reveals that the readability scores of the evaluated textbooks are within the acceptance range of readability.

Table 6: Readability Index

S/N	Textbook	CLASS	Mean Readability score	Decision
1.	A	JS 1	60.1%	Very Readable Very Readable Very Readable
		JS 2	61.2%	
		JS 3		
		Ground mean	61.1%	
2.	B	JS 1	61.5%	Very Readable Very Readable Very Readable
		JS 2	63.1%	
		JS 3	62.1%	
		Ground mean	62.2%	
3.	C	JS 1	56.2%	Very Readable Very Readable Very Readable
		JS 2	55.1%	
		JS 3	58.1%	
		Ground mean	56.5%	

Acceptance range = 40% and above

Research Question 7

What is the Under-Representation Population Index of the computer studies textbooks in use in Ebonyi State junior secondary schools? The data obtained from the three computer studies textbooks evaluated were used to answer research question 7. The results of the data analysis are presented on table 7.

$$UPI = (G-B)/(G+B)$$

Where G = Number of illustrations, examples, gender and ethnic connoted statements that are neutral.

B = Number of illustrations, examples, gender, and ethnic connoted statements that are biased.

Table 7: Under-Represented populations index (UPI)

S/N	TEXTBOOK	CLASS	G	B	Index	Decision
1.	A	JS 1	90	18	0.67	Accepted
		JS 2	75	4	0.89	Accepted
		JS 3	27	4	0.74	Accepted
		Ground mean			0.77	
2.	B	JS 1	121	30	0.60	Accepted
		JS 2	100	13	0.77	Accepted
		JS 3	30	15	0.33	Accepted
		Ground mean			0.57	
3.	C	JS 1	64	8	0.78	Accepted
		JS 2	54	15	0.57	Accepted
		JS 3	62	10	0.72	Accepted
		Ground mean			0.69	

Acceptance range = -1.00 to +1.00

Table 7 shows the under-represented population index for each of the computer studies textbooks evaluated. The results presented in table 7 reveals that all the computer studies textbooks evaluated are within the acceptance range of under-represented populations index (UPI) of -1.00 to +1.00.

The under-represented population index (UPI) of the three computer studies textbooks evaluated ranged from 0.33 to 0.89.

Research Question 8

What is the teacher perception index of the computer Studies textbooks in use in Ebonyi State junior secondary schools? The data used in answering this research question 8 were obtained from teachers' perception rating scale (TPRS), an instrument development by Emereole and Rammiki (2004) and adopted for the study. The results obtained are presented on table 8.

Table 9: Chi-square table on the significance of Deviation of the three computer studies textbooks contents from the specification of computer studies core-curriculum.

S/N	Textbook	CLASS	T _t	T _s	S _t	S _s	X ² cal	Alpha	X ² crit	Decision
1.	A	JS 1	18 (10.9)	14 (14.1)	33 (40.7)	47 (46.3)	9.65	0.05	36.42	Accept
		JS 2	9 (11.5)	16 (14.96)	46 (43.3)	48 (49.2)				
		JS 3	5 (6.9)	8 (8.9)	28 (25.8)	30 (29.4)				
2.	B	JS 1	11 (10.8)	14 (13.95)	39 (40.4)	47 (45.9)				
		JS 2	9 (11.4)	16 (14.8)	45 (42.9)	48 (48.8)				
		JS 3	5 (6.8)	8 (8.8)	27 (25.5)	30 (28.9)				
3.	C	JS 1	11 (10.96)	14 (14.2)	41 (41.1)	47 (46.7)				
		JS 2	12 (11.5)	16 (14.96)	43 (43.3)	48 (49.2)				
		JS 3	8 (7.2)	8 (9.3)	28 (26.9)	30 (30.6)				

Table 9 shows the chi-square calculated value of 9.65 and the critical value of 36.42 at alpha level of 0.05 of significant. From the results on this table and based on decision rule, the researcher accepts the null hypothesis. This means that the contents of the three computer studies textbooks evaluated do not significantly deviate from the specifications of the computer studies core curriculum.

Ho2: The learning activities of each of the approved three computer studies textbooks in use in Junior secondary schools in Ebonyi State of Nigeria do not significantly deviate from the specifications of the computer studies core-curriculum.

The learning activities in each of the five computer textbooks evaluated in this study were matched with the learning activities specified in the computer core-curriculum. The frequencies of A=Number of sentences requiring the learner to perform some activities and P=Number of sentences requiring the learner only to receive information with no other activity, were subjected to chi-square test of goodness of fit. The summary of the result is presented on table 10.

Table 10: Chi-square table on significance of correspondence of the learning activities in the three computer studies textbooks with the specification of the computer core-curriculum.

S/N	Textbook	CLASS	A	P	X^2_{cal}	Alpha	X^2_{crit}	Decision
1.	A	JS 1	111 (110.2)	12 (12.8)	4.91	0.05	15.51	Accept
		JS 2	99 (103.9)	17 (12.1)				
		JS 3	69 (71.7)	11 (8.3)				
2.	B	JS 1	98 (96.7)	10 (11.3)				
		JS 2	91 (88.7)	8 (10.3)				
		JS 3	84 (81.5)	7 (9.5)				
3.	C	JS 1	89 (87.8)	9 (10.2)				
		JS 2	91 (91.4)	11 (10.6)				
		JS 3	84 (84.2)	10 (9.8)				

Table 10 shows the chi-square calculated value of 4.91 and the critical value of 15.51 at alpha level of 0.05 of significant. From the results on this table and based on decision rule, the researcher accepts the null hypothesis and concludes that the learning activities in the three computer studies textbooks evaluated do not deviate significantly from the specifications of the computer studies core-curriculum.

The major findings of the study based on the eight research question that guided the study are:

1. Correspondence of the content of the computer studies textbooks evaluated with the specification of the computer studies core-curriculum.
2. Adequacy of the learning activities of the computer studies text-books in use in Junior Secondary Schools in Ebonyi State.
3. Appropriateness of the chapter summaries of the computer studies textbooks in use in Junior secondary schools in Ebonyi State.
4. Adequacy of the study questions in the computer studies textbooks in use in Junior secondary schools in Ebonyi State.
5. Appropriateness of the illustration in the computer studies textbooks in use in junior secondary schools in Ebonyi State.
6. The under-representation population index in the three computer studies textbooks evaluated.

7. The teachers' perception of the computer studies textbooks in use in junior secondary schools in Ebonyi State.

Correspondence of the content of the computer studies textbook evaluated with the specification of the computer studies core-curriculum.

The result obtained indicate that the topical coverage index (TCI) or index of topical coverage for the three computer studies textbooks were as follows, Textbook A had 0.99, 0.76 and 0.78 for JS 1, JS 2 and JS 3 respectively Textbook B had 0.81, 0.75 and 0.76 for the class levels respectively and Textbook C had 0.83, 0.82 and 0.97 for JS 1, JS 2 and JS 3 respectively. The index of the topical coverage of the three computer studies textbooks are high, it could be that the authors consulted the core-curriculum before writing the textbooks. The results of the finding are not in conformity with some earlier studies. The result of the findings in this study agreed with the work of Emereoke and Rammiki (2008), who evaluated the content of all the physics textbooks used in Botswana secondary schools and reported that the index of topical coverage (ITC) were high.

The results of this study indicate that the contents of the three computer studies textbooks evaluated and which are in use in junior secondary schools in Ebonyi state correspond with the specification of computer studies core-curriculum. The researcher therefore accepted the first null hypothesis.

The Adequate of the learning activities of the computer Studies textbooks in use in junior secondary schools in Ebonyi State

The results obtained showed that the mean score for each of the three textbooks were as follows: Textbooks A had 0.80, 0.71 and 0.73 for JS I, JS 2 and JS 3 respectively, Textbook B had 0.81, 0.84 and 0.85 for the class levels respectively and Textbooks C had 0.82, 0.78 and 0.79 for JS 1, JS 2 and JS 3 respectively. The result indicates that the learning activities indices in these three computer studies textbooks are adequate. This result of the finding agreed with the study carried out by Omiko (2011), his study revealed that the learning activities in the chemistry textbooks evaluated in Ebonyi state were adequate. The researcher therefore accepts the second null hypothesis.

Appropriateness of the Chapter Summaries of the Computer studies textbooks in use in Junior Secondary Schools in Ebonyi State.

The results of data analysis obtained for the study indicate that one computer studies textbooks out of the three textbooks evaluated had chapter summaries index of 0.93, 0.94 and 0.78 for JS 1 JS 2 and JS 3 respectively using Textbook C while Textbooks A and B had no chapter summaries index because there had no chapter summaries.

This shows that the one computer studies textbook in use in junior secondary schools in Ebonyi State have chapter summaries.

The finding of the study agreed with the study of Omiko (2011), who evaluated the content and readability of some recommended chemistry textbooks in Ebonyi state secondary schools. The study reported that the chemistry textbooks cover the syllabus appropriately and also contain adequate chapter summaries.

Adequacy of the Study Questions in the three Computer Studies Textbooks in use in Junior Secondary Schools in Ebonyi State

The data collected and the results obtained showed that the three approved computer studies textbooks in use in junior secondary schools in Ebonyi State had the following mean scores on study questions index (SQI).

Textbook A had 0.78, 0.74 and 0.63 for JS 1, JS 2 and JS 3 respectively, Textbook B had 0.65, 0.58 and 0.78 for the class levels respectively and Textbook C had 0.65, 0.65, 0.63 and 0.65 for JS 1, JS 2 and JS 3 respectively. These results indicate that two computer studies textbooks used in this study had average study questions index (SQI). It also implies that these textbooks contained some study questions. This is in line with Baiyelo (2000), who evaluated the content and readability of some selected physics textbooks.

Appropriateness of the Illustrations Index in the three Computer Studies Textbooks Evaluated.

From the data collected on illustration index in each of the three computer studies textbooks, it was found that the textbooks had the following mean scores. Textbook A had -0.38, -0.36 and -0.32 for JS 1 JS 2 and JS 3 respectively, Textbook B had -0.39, -0.35 and -0.37 for the class levels respectively and Textbook C had -0.39, -0.37 and -0.39 for JS 1, JS 2 and JS 3 respectively.

The results showed that the illustration index in all the three computer studies textbooks is low. The results of the findings agree with Omiko (2011) who evaluated the content and readability of recommended chemistry textbooks in use in Ebonyi State secondary schools. He reported that the chemistry textbooks have low illustrations index and that the illustrations in the textbooks are not adequate. He recommended the revision of these textbooks to include illustrations.

Readability of the Computer Studies Textbooks in use in Junior Secondary School in Ebonyi State

The data collected and the results obtained on readability showed that the three computer studies textbooks evaluated had the following mean readability scores: Textbook A had 60.1%, 61.2% and 61.1% for JS 1, JS 2 and JS 3 respectively, Textbook B had 61.5%, 63.1% and 62.1% for the class levels respectively and Textbook C had 56.2%, 55.1% and 58.1% for JS 1, JS 2 and JS 3 respectively.

The result indicate that all the three computer studies textbooks evaluated are readable, the findings are in agreement with Omiko (2011) whose work showed that all the chemistry textbooks he evaluated are readable.

The Under-representation Population Index (UPI) in the three Computer Studies Textbooks Evaluated

The result of findings showed that the mean scores of all the textbooks were as follows: Textbook A had 0.67, 0.89 and 0.74 for JS 1, JS 2 and JS 3 respectively, Textbook B had 0.60, 0.77 and 0.33 for the class levels respectively and Textbook C had 0.78, 0.57 and 0.72 for JS 1, JS 2 and JS 3 respectively.

This indicates that these computer studies textbooks are culturally, ethnically and gender biased. They contain some terms and illustrations that are not acceptable to both males and females. These terms and illustrations may discourage the genders that are not favoured and this may make them become disadvantaged in the subject.

The Teachers' Perception of the three Computer Studies Textbooks in use in Junior Secondary Schools in Ebonyi State

The summary of the results was presented on table 8; it revealed the mean rating scores of all the three computer studies textbooks based on the class levels of JS 1, JS 2 and JS 3 respectively. The questionnaire items which the teachers rated were drawn from the computer studies core-curriculum. It covered the following areas:

1. Content coverage: The textbook coverage of topics and sub-topics specified in the syllabus
2. Presentation of content: How the content is presented to direct learners' attentions to the main ideas.
3. Illustrations: The alternative ways of presenting or explaining information as in diagrams, graphs, pictures, tables, charts etc. to reach learners of different abilities.
4. Problems solving activities: Analyzing and manipulating data, drawing conclusions and making predictions.
5. Experimental and investigative activity: Doing scientific experiments and planning investigations in order to develop the skills.
6. Study questions: Questions and exercises at the end of chapters or sub-topics meant to promote development of thinking skills and problem solving strategies.
7. Worked examples: Questions and their solutions in the textbooks to demonstrate problems-solving and applications of knowledge.
8. Readability: The ease with which learners can read and understand the textbook.

The teachers' perception of the three computer studies textbooks as their instructional aid was presented on table 8 the grand mean rating scores for the three textbooks were as follows: Textbook A had 3.07, Textbook B had 3.28 and Textbook C 3.47. Since these results were above 3.00, it implies that the teachers agreed that these textbooks provide instructional support to them.

CONCLUSIONS

Based on the results of the findings of the study, the following conclusions were drawn:

1. The contents of all the computer studies textbooks evaluated appropriately reflected the contents specified in the computer studies core-curriculum.
2. All the three computer studies textbooks in use in Junior Secondary Schools in Ebonyi State contain learning activities.
3. One out of three computer studies textbooks in use in Junior Secondary Schools in Ebonyi State contain chapter summaries. The researcher concludes that the chapter summaries of the computer studies textbooks in use in Junior Secondary Schools in Ebonyi State were appropriate.
4. All the computer studies textbooks in use in Junior Secondary Schools in Ebonyi State have both average and high study questions index (SQI).
5. The three computer studies textbooks have low illustration index.
6. Based on the Harrison's (1980) interpretation of cloze readability of textbooks, it was found that all the three computer studies textbooks in use in Junior Secondary Schools in Ebonyi State are readable.

7. The three computer studies textbooks have high under-representation population index. The researchers concludes that these textbooks were culturally, socially, ethnically and gender biased.
8. The teachers' perception of the computer studies textbooks in use in Junior Secondary Schools in Ebonyi State was adequate. This was reflected on the mean scores of all the computer studies textbooks evaluated. Based on this the researcher concluded that the teachers affirmed that the textbooks are useful to them in their instructional delivery.

RECOMMENDATIONS

Based on the findings and conclusions of this study, the researcher made the following recommendations:

1. Scientific knowledge and discoveries are increasing everyday, especially in the area of ICT applications, it is necessary that all the computer studies textbooks in use in junior secondary schools in Ebonyi State should be revised periodically. This would help to enrich the content and readability of the textbooks. Those computer studies textbooks whose readability and contents are high should be recommended for the Junior Secondary Schools.
2. A committee of specialists/experts should be appointed, to select and recommend computer studies textbooks. Such specialists/experts should include computer/education specialists, computer teachers, curriculum planners, computer studies textbook authors, science teachers, expert representative from State Universal Basic Education Board. The selection and recommendation of any computer studies textbook should be based on acceptable yardstick (standard) laid down by the expert.
3. Students and teachers are advised to use many of the approved computer studies textbooks in both their studies and lessons. The students should consult the computer studies core-curriculum before deciding on the computer studies textbook to use. Those computers studies textbooks that are readable and has high content validity should be selected.
4. Computer studies textbook authors and publishers should consult computer studies core-curriculum when writing and publishing their books. This will help them to choose topics, performance objectives, contents and learning activities from the specified core-curriculum. This would help the authors to achieve high topical coverage, learning activities, study questions and chapter summaries indices.
5. Computer professional and Educational bodies, Government, donor agencies, private school proprietors should help to organize conferences, seminar and workshops for computer studies teachers on the recent ICT applications and the best way of impacting the knowledge into the students.
6. The State Ministries of Education should organize workshops and conferences for the textbook authors and publishers on how to organize and use the core-curriculum in writing high quality textbooks.
7. One textbook should not be recommended. It is always better to use more than one textbook in any particular subject. What one textbook did not cover may be covered or treated better by others.
8. The computer studies textbook authors should incorporate recent windows (operating system) and application software where necessary so as to always get the students updated.

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Developing Multiplication Fact Fluency

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INTRODUCTION

Based on the poor performance of fourth grade students on national and international tests of mathematics, it is evident that students are not adequately prepared in mathematics (Duncan et al., 2007; Reese, Miller, Mazzeo, & Dossey, 1997). Although there are multiple factors which may contribute to these deficiencies, one key factor is automaticity of students' multiplication facts (Kilpatrick, Swafford, & Findell, 2001; National Mathematics Advisory Panel, 2008). The ability to become better problem solvers entails decreasing a student's cognitive load in order to increase the amount of energy spent on solving the problem versus trying to remember facts (Nelson, Burns, Kanive, & Ysseldyke, 2013; Speiser, Schneps, Heffner-Wong, Miller, & Sonnert, 2012). In addition, this flexibility leads to fluency and efficiency with various numbers and across contexts (Russell, 2000; Young-Loveridge & Mills, 2009).

More locally, teachers of intermediate grades students frequently express frustration at students' lack of fluency with basic multiplication facts (Boonlerts & Inprasitha, 2013; Campbell, Chen, & Maslany, 2013; Mulligan & Mitchelmore, 2009; Wong & Evans, 2007). This lack of fluency affects other mathematical topics as diverse as multi-digit multiplication and division, ratio and proportion, measurement conversions, and fraction concepts as well as long term performance in mathematics classrooms (Kilpatrick et al., 2001; NMAP, 2008). What makes this study different than others, is the nature of practice students engaged in and the combination of cognitive and social processes used as a foundation for instruction. The purpose of this study is to focus on an intervention that builds on flexible strategy choice through multiple representations (Bruner, 1964) in order to increase students' fact fluency levels.

Fluency and Flexibility

Based on an analysis of the relevant research literature, we hypothesized that an increase in fluency would occur if flexibility and conceptual understanding were the desired goals and emphasis of instruction (Fuson, 2003; Star & Madnani, 2004; Steffe, 1979; Van Amerom, 2003). For this study, we define fluency as the ability to recall basic facts accurately and quickly and is attained by a measure of a timed fact test at an approximate rate of 3 seconds or less per fact (Van Putten, van den Brom-Sniiders, & Beishuizen, 2005). We define flexibility as the ability to solve problems in a variety of ways, use information already known to solve unknown

problems, and the capability to determine the most efficient method to use when confronted with a challenging problem (Beishuizen & Anghileri, 1998). Essentially, if students work on reasoning flexibly with basic multiplication facts, they will in turn become more fluent on measures of basic facts recall.

Given international and national concerns with multiplication fluency and the immediate and long-term impediments to performing well in mathematics, many studies have focused on supporting struggling students by providing them with drill or rehearsal techniques versus engaging them in more flexible or conceptual practice (NMAP, 2008). Numerous researchers have found that for struggling learners, many with learning disabilities, drill and rehearsal techniques can increase students' short term gains in multiplication fluency (Geary, 2004; Jordan, Hanich, & Kaplan, 2003; Nelson et al., 2013). One major issue is that these gains in fluency do not always translate to flexible use of facts in problem solving or applications with later mathematics (Geary, Hoard, Byrd-Craven, Nugent, & Numtee, 2007). In a meta-analysis, Coding et al (2011) noted that for students who are labeled with learning difficulties or are in the lowest quartile for mathematics, drill and practice with modeling had the greatest treatment effects on fluency. Another set of researchers have found that when all students engage in more flexible and conceptual approaches to learning facts, their fluency increases as does their ability to transfer these skills to move novel situations (Gray, Pitta, & Tall, 2000; Mulligan & Mitchelmore, 2009).

These different intervention approaches on learning can produce different instructional techniques for increasing fact fluency (Henry & Brown, 2008; Thornton, 1978). Therefore, it becomes important to explicate and apply a framework to the topic of fact fluency to understand effective techniques for increasing fluency for all students, not just struggling learners.

Drawing from social-interactional approach, we view basic multiplication fact fluency instruction to require a general assumption that cognitive theories are also applicable as internal mental networks or schemas. For example, troublesome facts would, in theory, become easier to recall quickly when they are related to well-known facts the child retains with limited practice. Many children—including struggling learners—find multiplication by 2, 5, and 10 to be easier to retain in memory than other multiplication facts (Baroody & Dowker, 2003). Thus, learning to use a fact such as 8×5 as an “anchor” by which to connect 8×6 , 8×7 , or even 8×4 to the child's mental schema network would be the goal of cognition-based fact fluency development. However, to construct and grow the learner's schema, the learner must be placed in situations in which knowledge and ideas are shared with peers (for example two students may discuss their own individualized related facts they use to remember 8×7) and ideas must be communicated through symbols and representations that allow for all learners to examine the fact fluency strategies being shared. In order to build these internal schemas, imagery and iconic models to represent multiplication become necessary (Bruner, 1966; Gray et al., 2000; Speiser et al., 2012).

Modes of Representation

As students discuss their own personal strategies to remember troublesome facts (e.g. 8×7) a cognitive “wall” can inhibit students from understanding the strategies described by their peers (Cobb, Yackel, & Wood, 1993 1993; Mulligan & Mitchelmore, 2009). Many strategies for deriving unknown facts tend to be individualized and allow the student to use a single fact to remember a group of related facts. But, these known facts may differ between students and in an effort to increase both the number of facts easily recalled and the fluency by which the recall

process occurs it becomes necessary for students to understand a broad selection of strategies to derive basic facts in a social-interactional or cognitive realm. Relying on memory alone is deemed too great an instructional risk as memory capacity is a limiting factor in building computational fluency (Geary, 2004; Geary, Liu, & Siegler, 1996). But if a peer's facts strategies are not those a student is familiar with, how can they "learn" to use this new information?

Bruner's theory of Modes of Representation offers a gradual progression how ideas can be presented that can help students internalize and communicate new information. In Bruner's theory, he offers three modes that we can use to represent concepts as we attempt to learn the concepts; enactive, iconic, and symbolic (Bruner, 1966). First, the Enactive Mode is the form of representation in which ideas are presented as real tangible parts of the environment. Physical objects can be used to represent specific concepts as students try to model their thinking. Second, the Iconic representations, which are essentially drawings and diagrams that simulate the enactive representations, take them from being actual physical objects to approximations. The third mode in Bruner's theoretical progression is the Symbolic representations, which are the formal means by which we present abstract ideas. Notation and oral language are examples. Words, written or verbalized, have no meaning without a culturally agreed upon system that gives them meaning.

If Bruner's theory is applied to fact fluency, students would first engage in modeling facts and facts strategies using physical, enactive models such as counters and tiles. They would also be challenged with finding examples of groupings and arrays (rectangular arrangements of rows and columns) that model multiplication problems in their surrounding environment (e.g. arrays of windows, tiled floors, or rows of chairs) (Barmby, Harries, Higgins, & Suggate, 2009). After examining enactive representations of multiplication, students would then draw iconic diagrams of arrays and groupings that would offer a subsequent opportunity to label the iconic representations with symbolic notation (e.g. mathematical symbols and words). Students would then engage in symbolic-focused practice by either discussing facts strategies with peers orally or practicing multiplication facts using only cards to cue their recall and symbolic notation to clarify their ideas.

METHOD

From the research, it is clear that struggling learners increased their fluency scores (Geary, 2004; Jordan et al., 2003; Nelson et al., 2013), but it is less clear that a strategy approach does (Fuson, 2003; Woodward, 2006). Thus, we wanted to find out whether focusing on a social-interactional approach that uses cognitive impact features (in our case, enactive, iconic, and symbolic representations) would improve third, fourth, and fifth grade students' fact fluency compared to typical classroom approach of drill and rehearsal techniques. We chose a quasi-experimental design to answer the question.

Setting

The treatment and comparison teachers were chosen from a school district with six Title 1 schools located in a U.S. western city. The schools had a history of below average performance on the state standardized achievement test and the schools ranged from 63 to 89 percent of their students on free and reduced price lunch status and 11 to 30 percent English Language Learners. We randomly selected two of the schools to be part of the treatment and two of the schools to serve as the comparison. There were 5 teachers from the selected treatment schools who were willing to participate (one teaching grade 3, three teaching grade 4, and one teaching grade 5) and 7 teachers who agree to part of the comparison group (one teaching grade 3, three teaching grade 4, and three teaching grade 5).

Participants and Design

Participants were 282 students enrolled in third, fourth and fifth grade classrooms. In third grade, 25 students were assigned to the Strategy group and 25 to the Drill group. In fourth grade, 65 students were assigned to the Strategy group and 69 to the Drill group. In fifth grade, 24 students were assigned to the Strategy group and 74 to the Drill group. Group (Strategy versus Drill) and Grade (3 versus 4 versus 5) were between-subjects variables.

The multiplication fluency test consisted of 30 items (Appendix A) and was administered before and immediately after the five-week unit. Time (pretest versus posttest) was a within-subjects variable. Thus, we had a 2 (Group: Strategy versus Drill) x 3 (Grade: 3, 4, 5) x 2 (Time: Pretest versus Posttest) design.

Procedure

All students completed a 30 item multiplication fluency pretest. Teachers then taught a five-week unit on multiplication fluency. As noted next, the Strategy group received instruction based on cognitive and social-interactional framework for fluency development; whereas, the Drill group received fluency instruction for basic multiplication facts using an approach emphasizing memorization and rehearsal techniques typically practiced in schools. Following the five-week unit, students again completed the 30 item multiplication fluency posttest.

Intervention

To examine the changes in students' multiplication fact fluency, a 5 week study was constructed. The study compared a treatment group to a comparison group of 3rd, 4th, and 5th grade students that received two different approaches to fluency development. Both groups received fluency instruction for a minimum of 10 minutes and a maximum of 15 minutes each day for the duration of the five weeks.

The treatment or Strategy group received instruction based on cognitive and social-interactional theories for fluency development. That is, theories of cognition were used to guide the focus of instruction towards providing students experiences intended to build their relational thinking among multiplication facts and encourage students to enhance their mental schemas for basic facts. Social-interactional theories were primarily implemented using Bruner's Modes of Representation progression to guide instruction. Students first used enactive models to examine facts and facts strategies and then progressed to iconic and symbolic representations.

For the strategy classrooms, an instructional unit had to be designed as there were no readily available curricular materials that approached fact fluency from a predominantly cognitive or social-interactional perspective. The unit had four distinct sections that were sequenced as follows with each section lasting between 4-6 days:

1. Strategy group students began by building arrays with physical models (e.g. tiles) and finding arrays in pictures as well as the surrounding environment. Students then drew diagrams of the arrays on either grid paper (to structure the drawings) or freehand.
2. Students then transitioned from arrays to using a 12x12 blank grid as a multiplication table as both a way to list facts they knew but also as an example of an array. Students overlaid their derived facts strategies (e.g. $8 \times 5 + 8 \times 1$ to recall 8×6) on these 12x12 multiplication grids.
3. Eventually, students' materials were removed and they were engaged in what was called "fluency-talks". Students sat on the floor with no writing materials or

manipulatives available and were presented with various facts. They had to discuss as a class how they might use related facts to solve the unknown facts presented on the board.

4. To culminate the strategy group's fact development, pairs of students created sets of strategy cards, which were essentially multiplication flash cards (with a fact on the front of the card), but strategy cards included derived facts strategies the pair preferred written on the back of the card. The pairs would alternate describing two or three facts strategies for each card's fact.

In the sequence and design of the strategy group's tasks one can observe a direct implementation of Bruner's representational modes. Initially, students use a blend of enactive and iconic models examine and express ideas. Gradually, they began using a blend of iconic and symbolic models and eventually only symbolic representations (e.g. notation and oral language). In contrast, the drill groups' activities included a timed math fact test each day followed by traditional flash card practice sessions as well as various songs and mnemonic exercises designed to commit facts to memory. The comparison group or what we label the Drill group received fluency instruction for basic multiplication facts using an approach emphasizing memorization, rehearsal, and rewards systems. Classroom tasks and activities for the drill classrooms were chosen based on readily available curricular materials and were given preference based on what teachers had completed in these classrooms in prior years to build multiplication fact fluency. All activities were determined to align with a skills and rehearsal approach prior to their implementation.

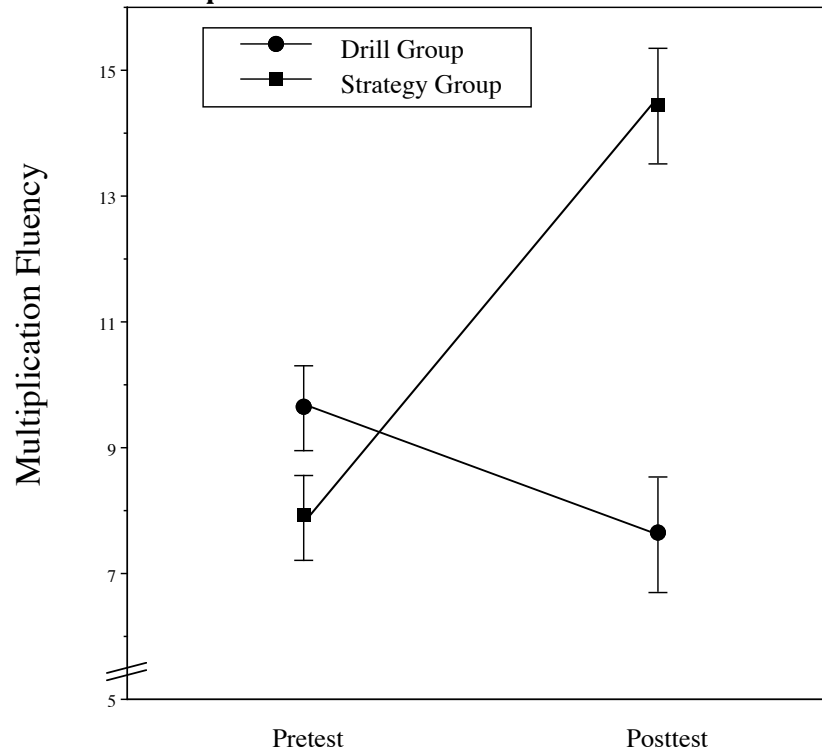
To compare the different approaches to developing multiplication fluency, we compared performance on a one-minute timed multiplication fact test of 30 facts (Appendix A) before the five weeks of instruction and immediately following the five week period. The facts chosen for the test were factors between 2 and 12. No facts with 0 or 1 was used and we ensured there would be squares (e.g. 6x6, 7x7) and more difficult facts that "anchor" facts could be used to solve. For example, 6x8 was chosen for the test as 5x8 could be used as an easier anchor fact.

RESULTS

We analyzed the student multiplication fluency data in a 2 (Group: Strategy versus Drill) x 3 (Grade: 3, 4, 5) x 2 (Time: Pretest versus Posttest) analysis of variance (ANOVA). The ANOVA revealed a main effect for Group, $F(1, 276) = 34.10$, $MSe = 34.22$, $p < .001$, eta-squared = .11; a main effect for Grade, $F(2, 276) = 46.60$, $MSe = 34.22$, $p < .001$, eta-squared = .25; and a main effect for Time, $F(1, 276) = 215.19$, $MSe = 5.98$, $p < .001$, eta-squared = .44. However, these main effects had to be interpreted conditionally because there was a three-way interaction was also significant, $F(2, 276) = 10.54$, $MSe = 5.98$, $p < .001$, eta-squared = .07. We conducted tests of simple effects to understand the nature of the three-way interaction. In particular, for each grade, we conducted a 2 (Group: Strategy versus Drill) x 2 (Time: Pretest versus Posttest) ANOVA.

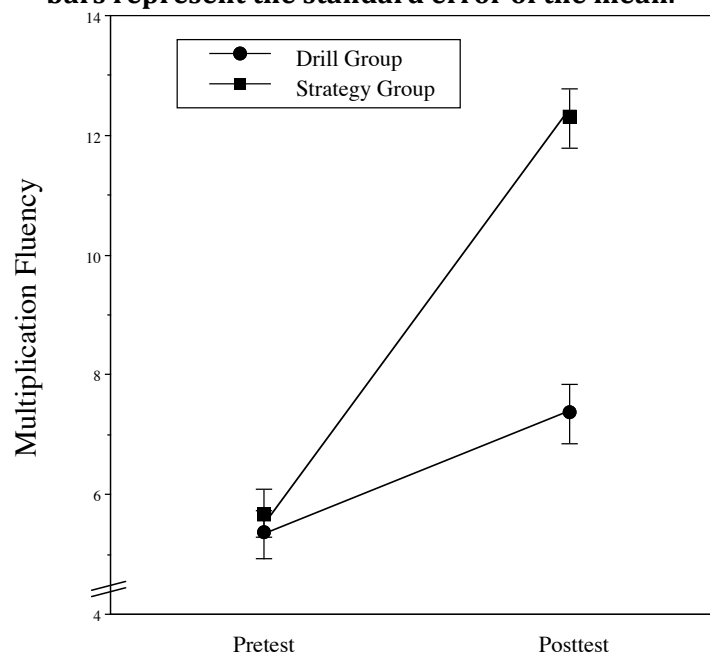
For third grade, the two-way ANOVA revealed a main effect for Group, $F(1, 48) = 8.10$, $MSe = 19.90$, $p = .006$, eta-squared = .14; and a main effect for Time, $F(1, 48) = 20.15$, $MSe = 6.34$, $p < .001$, eta-squared = .30. However, the interaction was also significant, $F(1, 48) = 71.61$, $MSe = 6.34$, $p < .001$, eta-squared = .60. We conducted additional tests of simple effects to understand this two-way interaction. As seen in Table 1, pretest scores were significantly greater for the Drill group than for the Strategy group, $F(1, 48) = 5.26$, $p = .03$. In contrast, posttest scores were significantly greater for the Strategy group than for the Drill group, $F(1, 48) = 30.09$, $p < .001$.

Figure 1. Grade 3 performance on a multiplication fluency pretest and posttest by group. Error bars represent the standard error of the mean.



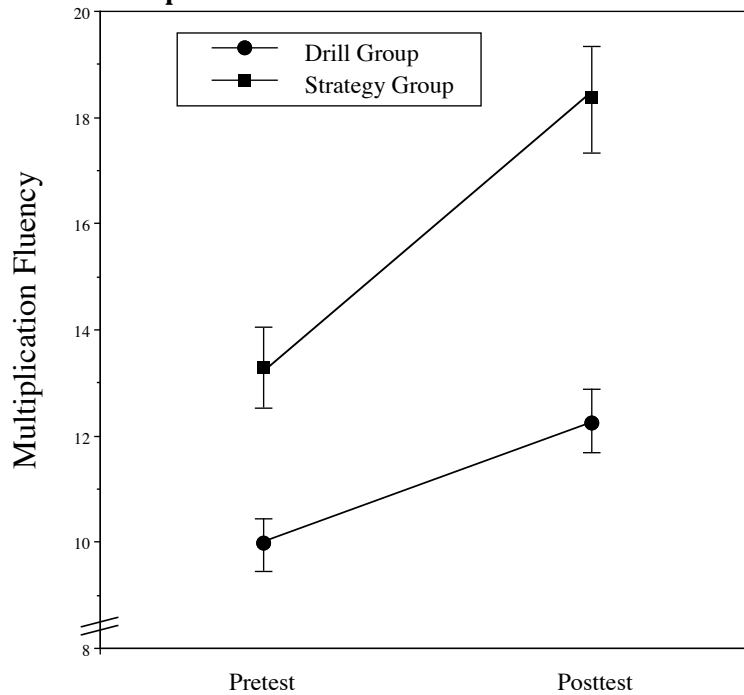
For fourth grade, the two-way ANOVA revealed a main effect for Group, $F(1, 132) = 17.22$, $MSe = 26.44$, $p < .001$, eta-squared = .12; and a main effect for Time, $F(1, 132) = 285.26$, $MSe = 4.84$, $p < .001$, eta-squared = .66. However, the interaction was also significant, $F(1, 132) = 74.58$, $MSe = 4.84$, $p < .001$, eta-squared = .36. We conducted additional tests of simple effects to understand this two-way interaction. As seen in Table 1, pretest scores did not differ, $F(1, 132) < 1$. In contrast, posttest scores were significantly greater for the Strategy group than for the Drill group, $F(1, 132) = 40.41$, $p < .001$.

Figure 2. Grade 4 performance on a multiplication fluency pretest and posttest by group. Error bars represent the standard error of the mean.



For fifth grade, the two-way ANOVA revealed a main effect for Group, $F(1, 96) = 15.14$, $MSe = 52.07$, $p < .001$, $\eta^2 = .14$; and a main effect for Time, $F(1, 96) = 68.21$, $MSe = 7.37$, $p < .001$, $\eta^2 = .41$. However, the interaction was also significant, $F(1, 96) = 9.09$, $MSe = 7.37$, $p = .003$, $\eta^2 = .09$. We conducted additional tests of simple effects to understand this two-way interaction. As seen in Table 1, pretest scores significantly greater for the Strategy group than for the Drill group, $F(1, 96) = 7.34$, $p = .008$. Posttest scores were also significantly greater for the Strategy group than for the Drill group, $F(1, 96) = 20.26$, $p < .001$.

Figure 3. Grade 5 performance on a multiplication fluency pretest and posttest by group. Error bars represent the standard error of the mean.



DISCUSSION

This study demonstrates that by providing students in grades 3, 4 and 5 with 10 to 15 minutes of fact fluency practice each day through a social-interactional framework for five weeks, their fact fluency improves. Students receiving instruction through drill and rehearsal gained on average 0.79 facts per minute over the five weeks, with positive gains of 2 facts per minute in fourth grade 2.36 facts per minute in fifth grade. Students receiving instruction grounded in the social-interactional approach demonstrated an average gain of 6.08 facts per minute, with the highest gains in fourth grade of 6.65 facts per minute. This finding is consistent with other studies in that by providing students opportunities to learn their multiplication facts, they will improve over time through both approaches (Chung, 2004; Woodward, 2006). However, our study demonstrates that when students focus solely on drill-based practice for five weeks, they only gain slightly, while in the strategy group students gained 7.7 times as many more facts.

The evidence from this study also demonstrates that students receiving instruction grounded in a framework built upon Bruner's Modes of Representation combined with social-interactional elements significantly outperform students who receive instruction grounded in a behavioristic theory of learning. These instructional activities designed for the Strategy group emphasized strategic thinking and mathematical relationships between multiplication facts and created greater and more consistent gains in fact fluency than activities emphasizing memorization and repetition. Although Brownell (1935) had similar conjectures and findings,

more recently Russell (2000) found that students build an understanding of multiplication facts through problem solving and, then, sharing and examining their own strategies.

One of the implications to this finding involves memory: one might presume that students will remember any piece of information (including multiplication facts) more accurately if the information is connected to already easily-remembered information (Hiebert & Carpenter, 1992). In the case of multiplication facts, this would mean that students who know 8×5 would ideally spend instructional time learning to use that knowledge to solve 8×4 , 8×6 , and 8×7 and so forth. Time spent building flexibility with facts would in turn produce fluency with facts as students would have related strategies to refer to should memory fail them. This would contrast with a similar amount of time being spent by students trying to commit 8×4 , 8×6 , 8×7 , etc. to memory.

Our study shows evidence that students in the Strategy group made much larger gains than students in the Drill group. The sample was too small to examine the differences among students of special populations. However, several continuations of this study would serve promising to the field of fact fluency research. Specifically, analyzing the impact of cognitive and social-interactional approaches for populations such as English Language Learners or Special Education students. This would help us articulate whether these theories apply broadly to students from a variety of backgrounds. Woodward (2006) found that an integrated approach focusing on basic facts, extended facts, partial products and methods for approximation, helped students with learning disabilities learn basic facts as well as more extended facts than the control group.

One difference in our approach than other approaches, which may allow for an increase in fact fluency across different students, is that we utilize Bruner's (1964) modes of representations and progressive formalization (Freudenthal, 1973, 1991; Gravemeijer, 1999; Treffers, 1987) through social interaction (Carpenter & Lehrer, 1999), as an instructional framework for progressively formalizing student thinking. Instead of having students use only manipulatives or technology to develop their fact understanding, which has had marginal success for most populations of students (Fuson, 2003; Russell, 2000; Wong & Evans, 2007), we encourage students to explain their enactive model and then progressively formalize that understanding by pressing them to create an iconic model such as a number line or array. Once students formalize these models, we encourage them to connect these prior ideas to different symbolic representations, typically the ratio table and partial products. When students use their prior knowledge combined with arrays and symbolic representations Young-Loveridge and Mills (2009) demonstrated greater gains in student achievement.

A final implication for this study is the foundation for building understanding with multi-digit multiplication. Once students have a solid understanding of and flexibility with single digit multiplication, which implies the ability to use different models to represent different situations and the ability to articulate why they work, we hypothesize that they are ready to begin building a deeper understanding of multiplication that allows them to solve different types of contextual problems, move more fluidly into proportional thinking, and to understand algebraic structures such as equality, relationships, and the commutative, associative, and distributive properties (Baek, 2006; Young-Loveridge & Mills, 2009).

Ultimately fact fluency, regardless of the operation, is a trait that supports student learning of mathematics in various forms throughout their school career (NMAP, 2008). However, acknowledging the importance of fact fluency and determining the most effective method to increase students' fact fluency are two different propositions. A behavioristic approach with an

emphasis on memorization and repetition was demonstrated in this study to be less effective than an approach built from theories emphasizing relational thinking and building of mental schemas for facts that students find easier to remember. In essence, building flexibility through a socio-cognitive framework using a variety of facts enhances fluency with basic facts.

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Table 1. Pre and posttest results: Correct facts in one-minute.

Group	N	Pre	Post	Gain
		Mean (SD)	Mean (SD)	Mean (SD)
3 rd grade Drill	25	9.64 (2.55)	7.64 (3.11)	-2.00 (2.94)
3 rd grade Strategy	25	7.92 (2.75)	14.44 (5.36)	6.52 (4.00)
4 th grade Drill	69	5.38 (3.69)	7.38 (3.97)	2.00 (2.20)
4 th grade Strategy	65	5.66 (2.91)	12.31 (4.98)	6.65 (3.05)
5 th grade Drill	74	9.99 (4.64)	12.35 (5.41)	2.36 (3.62)
5 th grade Strategy	24	13.29 (5.65)	18.38 (6.49)	5.08 (4.01)
Average		8.34 (3.63)	9.12 (4.16)	0.79 (2.92)
		8.96 (3.77)	15.04 (5.61)	6.08 (3.69)

APPENDIX A

Name: _____ Date: _____ School: _____

Teacher: _____ Grade: _____

Multiplication Fluency Pre-----Post (circle one)

(fold this section back and complete with the Test portion face down)a

$7 \times 5 = \underline{\quad}$	$6 \times 10 = \underline{\quad}$	$4 \times 4 = \underline{\quad}$	$5 \times 8 = \underline{\quad}$	$10 \times 7 = \underline{\quad}$
$6 \times 6 = \underline{\quad}$	$7 \times 6 = \underline{\quad}$	$6 \times 11 = \underline{\quad}$	$4 \times 5 = \underline{\quad}$	$6 \times 8 = \underline{\quad}$
$9 \times 7 = \underline{\quad}$	$8 \times 6 = \underline{\quad}$	$4 \times 8 = \underline{\quad}$	$12 \times 7 = \underline{\quad}$	$9 \times 5 = \underline{\quad}$
$2 \times 12 = \underline{\quad}$	$5 \times 4 = \underline{\quad}$	$10 \times 8 = \underline{\quad}$	$8 \times 5 = \underline{\quad}$	$10 \times 6 = \underline{\quad}$
$9 \times 4 = \underline{\quad}$	$12 \times 6 = \underline{\quad}$	$7 \times 7 = \underline{\quad}$	$5 \times 11 = \underline{\quad}$	$3 \times 7 = \underline{\quad}$
$6 \times 3 = \underline{\quad}$	$7 \times 8 = \underline{\quad}$	$12 \times 8 = \underline{\quad}$	$3 \times 6 = \underline{\quad}$	$4 \times 9 = \underline{\quad}$

Work Engagement in the Work Place: The Role of Procedural Justice, Perceived Organizational Support and Organizational Trust

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Abstract

Employee engagement in the workplace is very important, especially for the organizational competitive advantage. Employee engagement in the workplace can be built through procedural justice, perceived organizational support and organizational trust. This research is an explanatory research that will explain the causal relationship between variables or through hypothesis testing. The sample in this study was collected through 118 respondents. The criteria of the selected respondents were the ones that working in the production division, since production division is the core of industrial companies. The sampling technique in this study used Partial Least Square. The results of this study supports the relationship between procedural justice and perceived organizational support with employee engagement either directly or with the mediation of organizational trust.

Keywords : Procedural Justice, Perceived Organizational Support, Organizational Trust, Employee Engagement

INTRODUCTION

When an economic recession happened in 2008, many companies in the world have begun to realize the importance of the human role in organization. Many companies have started to be more focused to manage the human capital of the company. Employee engagement in the workplace has contributed its role for company performances and competitive advantages. Company's role is not only doing the recruitment and retaining their best employees but also expecting them to have an emotional attachment toward the company and their work.

The result of Employee engagement measurement in the world shows an upward trend, while in Asia Pacific is still very low (Aon Hewitt, Download, March, 2015). Employee engagement in Indonesia is still at its lowest level in Asia Pacific, but in Southeast Asia, Indonesia is still better than Malaysia (Aon Hewitt, Download, March, 2015). Employee engagement has a very strong effect on the employees' performance compared with the effect of the intrinsic motivation, involvement, and job satisfaction. Employee engagement reflects the happiness of the employee rather than the job satisfaction. (Rich et al., 2010).

High Employee engagement is showed by Say, Stay and Strive of the employees (Aon Hewitt, Download, as of March, 2015). Say is to speak positively about the organization to co-workers, potential employees and customers. Stay is to have an intense desire to be a member of the organization, and Strive is the behavior of the employee that they will do their best to achieve the organization business success.

Furthermore, Employee engagement is not just a physical presence in the organization, but it's more about emotional attachment which shown by the employees' focus on their performance.

Schaufeli et al. (2003) explained that employees who have engagement on their job will be more energetic, enthusiastic, and happy in carrying out their work. Those employees will also have the initiative and can contribute in enhancing innovation for their company (Hakanen et al., 2008).

Macey et al. (2009: 13) states that if employees are treated fairly, then they will have engagement on the job. Employees that are treated with procedural fairness will believe and trust their organization which can influence employee engagement at work (Chughtai and Finian, 2009).

Theoretically, procedural justice is based on the social exchange relationship between the employee and the organization. The law of reciprocity states that a person who was being treated fairly by the others will feel obliged to treat the others with a good treatment as well (Blau, 1964: 88). A good treatment that is received by the employees will be able to increase employees' trust toward their organization. Empirical studies have shown that trust in the organization has been linked with positive attitude in the workplace. When employee believes in organization, the norms of reciprocity will happen and the employee will exchange the good treatment from the organization with strong engagement with their job.

The total number of labor force in Indonesia per February 2014 has increased by 5.2 million people compared to August 2013, but the employment structure has not changed, in which Agriculture, Trade, and Industry Sectors are still the biggest employers in Indonesia (BPS, 2014). But if the number of the labor force increasing without the number of the employment, it can lead to the unfair treated from the company to its employee, and it will block up the development of trust in the organization.

But the unfairness in determining the rewards for the employee in those sectors are still happened, it is showed by the cause of the protests is often demanding salary increases. That unfairness occurs due to the low gain of employment and the low levels of education of the workforces. In Indonesia elementary levels workforces are still dominating (46.80 percent), while Diploma level workforces are around 3.1 million people (2.65 percent) and workforces with University level are just 8.8 million people (7.49 percent) (BPS, 2014). The low gain employment and low educational levels of the workers led to industrial companies assuming that those workers are not a part of human capital, but as a cost which affects the unfair treatment.

Employee engagement can also be built through perceived organizational support. Many studies have recognized that organization is an important source of socio-emotional development for its member (Van Dyne et al. 1994; Organ (1988) in Organ et al. (2006: 251); Van Scooter & Motowidlo (1996); William & Anderson, 1991 and Coleman and Borman, 2000). Hawthorne's research around 1930 (Wren, 2005: 279) have described that an organization is an important source of socio-emotional development for its members. The results of Hawthorne's study shows that employees who has more flexible and shorter working hours had better attitudes and higher productivity than employees who did not get any benefits from the organization. Hawthorne studies showed that if organization considers the employees as valuable human capital and notices them by giving them favorable treatment, the employees will have higher level of productivity and positive attitude toward their organization. The confidence level of the organization' members will be influenced by their evaluation of their experiences and observations about how the organization treats its members in general (Allen & Meyer, 1990; Eisenberger & Rhoades, 2002).

Based on the description that has been described previously, the focus of this research is to build employee engagement through procedural justice and perceived organizational support that mediated by organizational trusts of employees in the industrial company.

THEORY AND HYPOTHESES

Procedural Justice

Procedural justice is the procedures that are used by the organization to distribute the results and the resources of the organization to its members. Procedural justice in an organization will be more about the implementation of formal regulations that exist in the organization. Colquitt (2001) describes that procedural justice is a process of the procedural rules in an organization, such as consistent, unbiased, accurate and ethical. Those rules become one assessment of employees' perception to see the organizational level of procedural. Procedural fairness include: a) Structural components: the organization's policy and regulatory that are based from the employees' opinion or their feedback to the organization, b) Informational components: organizations explanation about the decision that has been made. c). Interactional components: the quality of the interpersonal treatment received by employees.

Perceived Organizational Support

Perceived Organizational Support (POS) is an important concept for explaining the relationship between the organizations treatment toward their members with the attitude and behavior of the organization's members toward their jobs and or the organization. The basic concept of Perceived Organizational Support (POS) recently introduced and measured in 1986 by Eisenberger et al. (1986). Eisenberger and Rhoades (2002) define Perceived Organizational Support (POS) as employee perceptions of the organizational support for its members to have a better life. The perception of the organization's members about their organization will deliver a certain level of confidence from the organization's members because of the rewards that are given to them by the organization for their contributions (valuation of the employee's contribution) and the organization's attention on quality of life (care about employee's well-being).

Work Engagement

Work engagement concept was introduced by Kahn (1990). Work engagement is defined by Kahn (1990) as "the use of the organization's member role in their work". Maslach and Leiter (1997) defined Work engagement as the opposite of burnout, energy, engagement, and sense of efficacy. But Schaufeli et al. (2003) did not conceptualize work engagement as an opposite of burnout. Work engagement is a positive motivational condition for the employees' self-esteem. Work engagement is a combination of high energy (spirit) and strong engagement.

Schaufeli et al., (2003) took a different approach about work engagement's concept, he conceptualizes it as a positive antithesis to burnout, as claimed by Maslach and Leiter (1997). Work engagement is defined as something positive, fulfilling the obligations, and related to the mind, it's characterized by psychic powers, dedication, and absorption (Schaufeli et al., 2003). Psychic power is showed through the high levels of energy and mental abilities while working, willingness to invest more efforts to the job, even the continuing to do the job despite the difficulties. Dedication is showed through a strong involvement on the job and a sense of enthusiasm, inspiration, pride, and challenge. Absorption is showed through the concentration and interest of the employees' in their job that made the employees happy, feel that the times pass quickly and find it difficult to leave his/her job (Saks, 2006).

Trust

Trust according to Mayer et al. (1995) is: "The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party". Empirical study by Mayer et al. (1995) and Schoorman et al. (1996) explained that trust will be able to enhance the ability of the employees on doing teamwork and the employees who trust their organization will expand their role in the work especially on doing their teamwork.

According to social exchange theory, people will support the social exchange as long as they get the benefits that were given by the partner (Blau, 1964). Mayer et al. (1995) suggested that trust is based on the expectation that others will commit acts that are considered important by the trustor, without the need to be monitored or controlled by the trustor (Brockner et al., 1997). Mayer et al. (1995) argued that something or someone that considered as reliable is depend on their ability, benevolence, and individual integrity. Integrity shown by someone's honesty in a relationship, often cited as a basis of trust and may be formed by procedural justice (Brockner et al., 1997). If the procedure used by the trustee is seen as procedurally fair by the trustor, there's no need to monitor the trustee. Someone who is considered to be kind and like to help the others is usually likeable, and consequently considered to be trustworthy.

A leader should have the ability to develop the trust level of the employees in the organization. Skill, competence and relevant personalities found as an integral part of the ability (Mayer et al., 1995). Trust also refers to the expectations of the kindness (benevolence) and integrity (Schoorman et al., 1996).

RELATIONSHIPS BETWEEN VARIABLES

The influence of Procedural Justice and Perceived Organizational Support to Employee Engagement

The relationship between perceived organizational support and procedural justice with Employee Engagement can be seen in the perspective of the social exchange theory. The employees that are treated procedurally fairly and appreciated by the organization, they will exchange it with the behavior that is expected by the organization. Procedural justice include fairness in the treatment and fairness in the decision-making process. Perceived Organizational Support is the level of their confidence that the organization notice and pay attention about their existence and give full support to their works and welfares. Organizations that treat their members with fair, support them, and care about their welfare will get dedication and the best result from the employees'. Based on the statements, the hypothesis is :

H1 & H2: Procedural Justice and perceived organizational support has positive effect on employee engagement.

The influence of procedural justice on Trust

Stinglhamber, Florence et al. (2006) stated "There is a relationship between procedural justice and trust." The social exchange theory (Blau, 1964) is a theoretical framework that is predominantly used to examine the relationship of employees in the literature of organizational psychology (Setton, Bennett, & Liden , 1996; Wayne, Shore, & Liden, 1997). According to Blau (1964), trust plays an important role in these relations to be a mechanism which later will give a result that justice will affect the employees' outcome. Aryee et al. (2002) examined the relationship between procedural justice and trust in the workplace. Mayer et al. (1995) suggested that fair treatment will develop employees' trust. Fair treatment that's

received by the employees will make them believe that in the future they will be treated fairly as well. Based on the statement, the hypothesis is :

H 3: Procedural Justice has a positive effect on employees' trust in the organization

The influence of Perceived Organizational Support on Trust in Organizations

Perceptions organizational support (POS) is theoretically based on the social exchange relationship between the employee and the organization. The law of reciprocity states that a person that is being treated fairly by the other party will feel obliged to reciprocate it with good treatment as well (Blau,1964: 88). Furthermore, Eisenberger et al. (1990) in Coyle et al. (2004) found Perceived Organizational Support as the foundation of trust. The good treatments that are received by the employees will be able to develop the employees' trust of in organization. Employees' perception of organizational support (POS) through the rewards that are given by organization based on their contributions (valuation of the employee's contribution) and the organization's attention about their life (care about employee's well-being) (Eisenberger & Rhoades, 2002) will grow the employee's trust in the organization. Based on the statement, the hypothesis is :

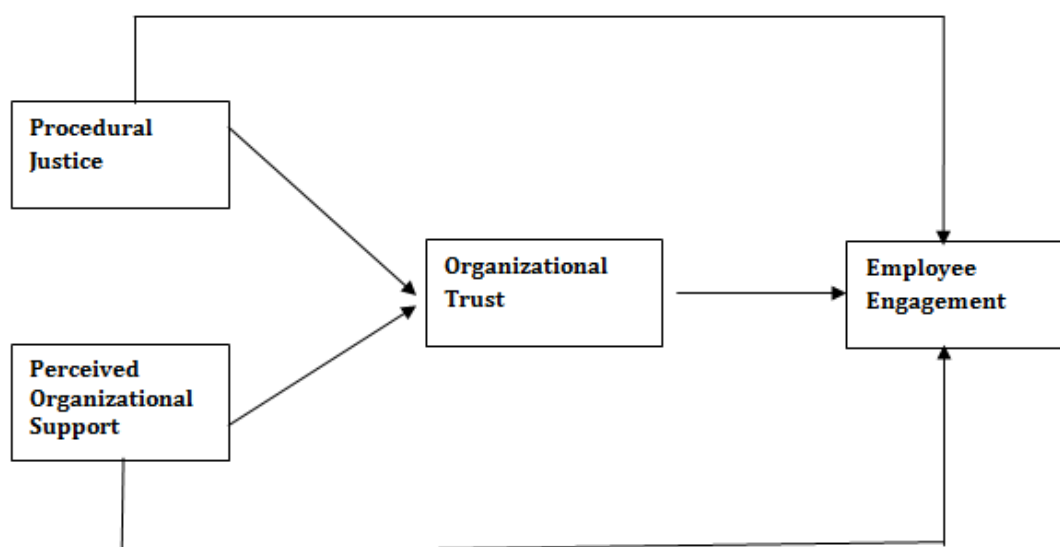
H 4: Perceived Organizational Support has a positive effect to employee's trust in the organization

The influence of Trust in the organization to Employee Engagement

Trust in the organization can lead to higher Work Engagement, when employees believe in the organization; they will focus to the achievement the organizational goals. The employees will do their task full of dedicated (Kahn, 1990; Rothbard, 2001). Employees will trust their organization if their leaders have the ability, benevolence and integrity. Trust in the organization lead to the positive motivation of the employees to work with more energy, passion and dedication. Based on the statement, the hypothesis is :

H 5: Trust in the organization has a positive effect on Employee Engagement

Conceptual Framework



METHOD

The samples in this study were the employees in the industrial company. The selected respondents are the ones working in the production division, since production is a major part in industrial companies. The questionnaires were distributed conducted through online media, 124 questionnaires were answered but the questioners that met the criteria are only 118 questionnaires. The examples of industrial companies are printing, chemicals and household items companies. The various types of company has done different test and there is no significant different showed in the result.

MEASURES

Procedural Justice

Procedural justice is respondents' perception of fair treatment received by them from their organization, both in the way the organization treat their employees and the justice policy created for employees. Measurement indicator is adopted from the scale developed by Shore and Shore (1995).

Employee Engagement

Employee Engagement is respondents' perception of the level of energy, strong involvement in work and concentration as well as the interest that makes them happy when doing their works. Measurement indicator is adopted from the scale developed by Schaufeli et al. (2003) scale.

Trust

Trust in the organization is measured by three indicators: ability, kindness (Benevolence) and Integrity. Measurement indicator is adopted from the scale developed by Mayer et al. (1995).

Perceived Organizational Support

Perceived Organizational Support using 8 indicators adopted from Survey of Perceived Organizational Support that has been developed by Eisenberger and Rhoades (2002).

RESULT
Table 1. Validity Test

Variable	Indicator	Outer Loading	Standar Loading	Result
Procedural Justice	PJ 1	0,776	0,5	Valid
	PJ 2	0,813	0,5	Valid
PERCEIVED ORGANIZATIONAL SUPPORT	POS 1	0,670	0,5	Valid
	POS 2	0,754	0,5	Valid
	POS 3	0,894	0,5	Valid
	POS 4	0,842	0,5	Valid
	POS 5	0,856	0,5	Valid
	POS 6	0,757	0,5	Valid
	POS 7	0,504	0,5	Valid
	POS 8	0,873	0,5	Valid
ORGANIZATIONAL TRUST	OT1	0,809	0,5	Valid
	OT2	0,863	0,5	Valid
	OT3	0,868	0,5	Valid
EMPLOYEE ENGAGEMENT	WE1	0,749	0,5	Valid
	WE2	0,735	0,5	Valid
	WE3	0,687	0,5	Valid

Table 2. Reliability Test

Variable	Critical Value	Estimation	
		<i>Cronbach Alpha (α)</i>	Result
Procedural Justice	0,6	0.893413	Reliabel
Perceived Organizational Support	0,6	0.748786	Reliabel
Organizational Trust	0,6	0.843632	Reliabel
Employee Engagement	0,6	0.953033	Reliabel

Table 3. Determination Coefficient

Variable	R ²
Procedural Justice → Employee Engagement	0,349
Perceived Organizational Support → Employee Engagement	0,279
Procedural Justice → Organizational Trust	0,309
Perceived Organizational Support → Organizational Trust	0,202
Organizational Trust → Employee Engagement	0,207

Table 4. T -Test

Hypothesis	Endogen Variable	⇒	Exogen Variable	T –Table	T- Statistic	Result
H1	Procedural Justice	⇒	Employee Engagement	1,96	4, 321	Significant
H2	Perceived Organizational Support	⇒	Employee Engagement	1,96	3,391	Significant
H3	Procedural Justice	⇒	Organizational Trust	1,96	4,667	Significant
H4	Perceived Organizational Support	⇒	Organizational Trust	1,96	3,100	Significant
H5	Organizational Trust	⇒	Employee Engagement	1,96	3,211	Significant

Hypotheses are tested using the Partial Least Square (PLS). Using outer and inner testing models. Outer model is used to test the construct of the validity and reliability. An inner testing model is used to test the relation between variables. Tests carried out using t-test. Validity and reliability testing can be seen in table 1 and 2. All indicators are valid and reliable. In Table 3 shows the relationship between variables and as can be seen in the table 4, employee engagement has significant relation to both procedural justice and perceived organization support. Organizational trust was significantly and positively correlated with procedural justice and perceived organizational support. Organizational trust was significantly and positively correlated with employee engagement. Organizational Trust acts as a partial mediating in the relationship between perceived procedural justices with organizational support employee engagement.

DISCUSSION

Theoretical Implications

The main objective of this study is to prove that employee engagement in the workplace affected by the procedural justice, perceived organizational support and organizational trust. Results of studies have proven that organizations that procedural justice and organizational support perceived effect on employee engagement. Results of this study also proves that the Organizational trusts acts as a mediation to both the relation between procedural justice relationship with employee engagement and organizational support perceived relationship with employee engagement. Procedural justice and perceived organizational support can directly affect employee engagement. Procedural justice and perceived organizational support can also affect employee engagement through organizational trust. Results of this study proves that procedural justice has a great influence both on organizational trust and employee engagement (see table 3). Results of this study also proves that procedural justice has motivated the employees' to engage with their work. The study is also justifying the social exchange theory, someone who is being treated fairly by the other party will feel the obligated to reciprocate it with good treatment as well (Blau, 1964: 25). Perceived organizational support will develop organizational trust of the employees. Confidence level of the organization's members about the Organizational support is influenced by their evaluation of the experiences and observations about how the organization treats them in general (Allen & Meyer, 1990; Eisenberger and Rhoades, 2002). Organizational trust will be able to motivate employees to engage in the work.

Practical Implications

The findings of this study shows that procedural justice plays a major role in building employee engagement. Procedural justice what employees feel in everyday work, so if

employees are treated procedurally unfair, it will affect the employee engagement. Employees who receive procedural justice in both the way they are treated and their voices are heard by the organization, will trust the organization. Procedural justice in this case is the response of the employees about the treated they received and procedural fairness provided by the organization in making policies for employees. Justice is the way employees feel that the organization has to be fair in giving tasks, providing opportunities for self-development, and applying the rules and policies to all employees.

Other findings from this study shows that perceived organizational support has also contributed in building employee engagement but not as big as the role of procedural justice. Procedural justice has bigger role than comparison to the role of organizational support, support work's facilities and the awareness of employees' welfare.

Employees of production division in industrial company are very sensitive to unfair treatment. The increase numbers of workforce that are not followed by the increase numbers of employment in Indonesia led to unfair treatment received by the employees. Employees need fairness, especially the unfair treatment from their supervisors and they want their voices to be heard and used in making the organization's policies. Employees, who feel the existence of procedural fairness, will believe that their leaders have the ability, integrity and concern about them.

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Policies to Mitigate the Socio-economic Impact of the Global Financial Crisis on Sudan

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Abstract

This study aimed at examining the socio-economic impact of the global financial crisis (GFC) on Sudan; specifically its impact on: Balance of Payment performance (with emphasis on exploring its effect on both Foreign Direct Investment (FDI) and Remittances of Sudanese expatriates); inflation rates; Gross Domestic Product (GDP) growth rate; exchange rate; unemployment; and poverty. Moreover, the proposed policies to mitigate the negative impact which may take place as a result will be assessed critically. This study indicated that the GFC had an adverse effect on both the economic and social indicators, which had been examined. Accordingly, it lowered exports, caused FDI and remittances to drop, thus widening the balance of payments deficit. Furthermore, inflation and unemployment rates both rose to 12.1% and 18.7% in the years followed the crisis, with inflation recording 45.8% in 2012. In addition, GDP growth rates declined to 5.9% and 5.2% in the years 2009-2010 that followed the crisis, and even to 1.9% and 1.1% in 2011-2012 respectively. Moreover, the Sudanese pound lost 21.5% of its value immediately after the crisis, as well as almost 100% of its value during the period 2011-2012, while poverty rates loom high at 46.5%. A set of policies were proposed in order to contain the negative impact of GFC.

Keywords: Balance of Payment, Inflation Rates, GDP Growth Rate, Exchange Rate, Unemployment.

INTRODUCTION

The global financial crisis (GFC) is commonly believed to have started with the bursting of the housing bubble in the United States in 2007 when many home owners who had taken out sub-prime loans found they were unable to meet their mortgage payment, with large numbers of these owners defaulting on loans. Actually, American Banks such as Lehman Brothers, and the two giant mortgage companies "Fannie Mae and Freddie Mac" used to provide loans to their customers in order to purchase homes with soft conditions, i.e., the income of some of these customers might not be proportional to their home value, and thus to the monthly installment that should be paid. As a result banks had a liquidity crisis on their hands, and giving and obtaining loans became increasingly difficult as the fallout from the sub-prime lending bubble burst (1-3).

Indeed the GFC can be attributed to several factors such as a prolonged credit expansion leading to accumulation of debt; the emergence of new types of financial instruments; the inability of regulators to keep up (4); inefficiency of the financial infrastructure and their inadequate awareness with financial risk at all levels; lack of ethical and behavioral conduct; and the nature of the free market economy itself (5-6).

As a result of the GFC the world economy had faced a deep downturn, with global growth to slow from 3.5% in 2008 to about 0.5% in 2009 before recovering somewhat in 2010. In fact the GFC is more global than any other period of financial turmoil in the past 60 years. Accordingly,

Africa and Sub-Saharan Africa and even the Arab Region (to which Sudan belongs) had been badly affected by the crisis. For instance Africa growth rate dropped down from 5.75% in 2008 to 2.9% in 2009, while Sub-Saharan Africa growth rate declined by 1.5% during the same period (7).

Arab Region as well had been severely hit by GFC despite the prevailing perceptions that the region is wealthy due to its oil riches and countries have plenty of foreign exchange reserves to tide them over. However, the impact varies across countries, with the rich Gulf States been badly affected by the crisis due to its major overseas investments, especially in the United States and Europe. This manifests itself chiefly as a sharp decline in the region's stock markets (between 20% and 60%), and the cancellation of major projects (8). Alternatively, other poor countries such as Sudan, Yemen, Mauritania, and Somalia had experienced less impact in this field due to their weakest link to the global financial market. Nevertheless, these poor countries beside other middle income ones (such as Jordan, Egypt, Morocco, and Tunisia) had suffered greatly from the sharp reduction in remittances of their workers who work abroad either in the Gulf States or United States and Europe. Actually, remittances account on average for 6% of the GDP of these countries; hence a decline in remittances could cause a decline in the economic growth rate of these countries. Furthermore, the demands for immigrant labor will slowdown as a result of the decline in the economic activity in the countries of employment leading to a rise in unemployment rate in the countries where the immigrant labor belongs. This situation is being confirmed by Arab Labor Organization which estimated the number of unemployed people in the region during the period 2009-2010 by 3.6 million (9).

Objectives of the Study

The aim of this study is to explore the socio-economic impact of the GFC on Sudan. The economic impact will explore the impact of GFC on certain economic indicators which include: balance of payments with special emphasis on the crisis effect on both Foreign Direct Investment (FDI) and remittances of Sudanese expatriates; inflation rates; GDP growth rates; exchange rate; unemployment. The social impact will focus mainly on examining the impact of the crisis on poverty as a major social indicator. Moreover, the proposed policies that aimed at mitigating the negative impact which may take place as a result of the crisis will be assessed critically.

Importance of the Study

The importance of this study stems from the fact that only few studies of the GFC and its impact on Sudan economy have been conducted. Even research conducted by Sudanese scholars on the GFC tends to focus mainly on examining the economic impact of the crisis with little or less reference to the social ones (10-12). No wider attention has been given to the social forces that might emerge as a result of the crisis. This study aims to overcome these shortcomings and to cover these areas, which have not been the subject of previous research; besides examining the proposed policies that aimed at containing the effect of the crisis.

METHODOLOGY

The methodology adopted in this study is a combination of comparative, descriptive, and analytical methods. The performance of the economy will be compared before and after the GFC, i.e., during the period 2006-2012. The study investigates the impact of the crisis on the following indicators: Balance of Payments; FDI and Remittances; inflation rates; GDP growth rates; unemployment; and poverty. The objective is to identify the likely effect of the crisis on the previous mentioned indicators. A variety of sources (mainly secondary) had been explored

in order to discuss the expected economic and social impact; this may include Ministry of Finance and National Economy annual reports; Central Bank of Sudan annual reports; International Financial Institutions reports (mainly IMF); papers presented in workshops and seminars; Master Theses; as well as the World Wide Web.

Organization of the Study

This study is divided into four major parts; part two reviews the economic; and social impact of GFC. Part three explores the proposed policies that aimed at mitigating the negative impact (if any) that might occurred as a result of the crisis, while part four presents the conclusion of the study and its main findings.

THE SOCIO-ECONOMIC IMPACT OF THE GFC

This section explores the socio-economic impacts that associated with GFC, starting with examining its impact on the economy (basically on certain economic indicators), then followed by an examination of the GFC possible impact on the social field.

The Economic Impact of the GFC

This section focuses mainly on identifying the economic impact of the crisis during the period 2006-2012, specifically on the following key economic indicators: balance of payments components (with special emphasis on both the FDI and remittances); inflation rates; GDP growth rates; exchange rate; and unemployment.

Balance of Payments

The GFC has adverse effects on the Sudan balance of payments components, it lowered export remarkably since the crisis led to a sharp decline in the price of oil (from 140\$ to 40\$/barrel), where oil contributed with about 90% of the country export (before the secession of Southern Sudan). Moreover, the crisis has slowed down FDI, as well as remittances from Sudanese expatriates as indicated by table 1 below.

Table (1): Sudan Balance of Payments 2006-2012, Million Dollars

Item	2006	2007	2008	2009	2010	2011	2012
Current Account	(4,919.4)	(3,268.2)	(1,575.7)	(2,177.4)	254.8	143.2	(6563.3)
Exports (fob)	5,656.6	8,879.2	11,670.5	8,257.1	11,404.3	9,655.7	3,367.7
Imports (fob)	7,104.7	7,722.4	8,229.4	8,528.0	8,839.4	8,127.6	8338.0
Services, Income Transfer Account	(3,471.3)	(4,425.0)	(5,016.8)	(1,906.5)	(2,310.1)	1384.9	(1593.0)
Financial Account	4,690.9	2,425.6	1,307.7	3,116.9	610.2	948.5	4252.7
FDI (net)	3,541.4	2,425.6	2,600.5	1,816.2	2,063.7	598.8	2465.4
Loans	100.2	453.7	152.0	572.3	239.8	142.4	(1.5)
Errors & Omissions	19.9	61.1	289.1	1,441.5	(919.2)	(1736.2)	2310.2
Overall Balance	208.6	282.0	(21.1)	502.0	54.2	644.5	0.4

Source: Central Bank of Sudan Annual Report 2012.

Table (1) shows the sharp decline in Sudan exports in the years followed the crisis, i.e., exports reduced from \$11,670.5 in 2008 to \$8,257.1 in 2009 leading to a 29% reduction in the volume of exports during the period (2008-2009). As a result the deficit in the balance of payments increased to a record figure in 2009 of \$502 million dollar. Alternatively, the rise in the volume of exports in 2010 to \$11,404.3 can be attributed mainly to the rise of the price of oil associated with a remarkable increase in gold export during the same period, i.e., gold export increase from \$403.4 to \$1, 018.0 leading to a 152% increase in the volume of gold export during the period. The situation in trade balance even aggravated in 2012 (after the secession of the South Sudan in 2011), as a result the deficit in trade balance amounted to a record figure of 4,970.3 million dollar, where about 75% of Sudan oil revenue generated from Southern oil production.

Similarly, FDI reduced sharply immediately after the crisis, i.e., FDI dropped from \$2,600.5 in 2008 to \$1,816.2 in 2009 (a 30% reduction in the volume of FDI), although FDI showed a slight increase in 2010 (a 13% increase) but still lagging behind its volume during the period of 2006-2008, then FDI fell drastically in 2011 to record only 598.8 million dollar.

We should also note that in 2006 the government succeeded in restoring its economic relationship with most of the Arab Development Funds and governments leading to a notable increase in the amount of FDI by some Arab Countries (including Saudi Arabia; UAE, Egypt; and Jordan), mainly in the agricultural projects to produce wheat, maize, vegetable, fruits in certain states. Indeed, there were many factors behind the remarkable rise in the overflow of Arab investment to Sudan during the period of 2006-2010 as Ahmed explains:

"First, Arab countries were suffering from a huge food supply deficit; Sudan with its abundant fertile land, had always been regarded as the breadbasket of the Arab World. Second, there was mounting distrust and risk associated with Arab investment in US and Europe stock markets, with investors losing vast sums during the crisis. Third, there was a greater realization among Arab investors that investing in the real economy of Sudan and other Arab countries was safer and more rewarding, both materially and strategically, than investing in US government securities and toxic stocks in the West. Western governments have imposed political pressure on Arab governments to undertake serious and unpopular reforms, making them fearful about investing in these markets" (13).

Table 1 also shows that loans which came mainly from China and Arab and Islamic Funds such as Saudi and Kuwaiti Development Funds; Islamic Development Bank; Abu Dhabi Fund has witnessed a remarkable increase during the period 2008-2009, i.e., it increases from \$152 to \$572.3 (a 276% increase in the amount of loans during that period). Alternatively, the amount of loans started to decrease during the period 2010-2012 recording its lowest amount since 2006.

Regarding the impact of the GFC on remittances, one should note that no official data are available to show if remittances from Sudanese working abroad are declining after the crisis. A phenomenon stressed by Ahmed who argued that "historically, data on migration and return migration have not been available and/or consolidated by any specific national institutions. No monthly records are available in terms of number, category, gender and/or profession" (14) . The main reason behind the difficulty of recording remittances of Sudanese abroad can be attributed to the fact that most of these remittances came through the black market channels and outside official banking and public institutions channels. Reported remittances figures are therefore very low compared with the reality, so while the IMF estimated the amount of

remittances by \$ 433.1 million in 2008, the Ministry of Finance estimated their average by \$1.02 billion during the period 2006-2010, and the International Organization for Migration indicated that formal remittances has been increasing since 1995, reaching a total of \$1.9 billion in 2008. Nonetheless, remittances are expected to drop in the years 2009-2010 as a result of the crisis impact on the economy of the Gulf States where the majority of Sudanese expatriates are residing. In fact over half of the Sudanese migrants are concentrated in Saudi Arabia, with the rest in other Arab countries and a smaller proportion in Western countries (15).

Inflation Rates

The GFC had led to increases in the inflation rates during the period 2009-2012 due to a combination of factors, namely the increase in budget deficit; rise in government spending; the higher food prices that represents 53% of total basket; and the devaluation of the Sudanese Pound as indicated by table 2 below.

Table 2: Impact of GFC on inflation rates 2006-2010, Million Pound

Items	2006	2007	2008	2009	2010	2011	2012
Government Revenue	15,075	18,462	24,708	20,046	20,737.9	22,766.9	22168.1
Government Spending	18,253	20,971	25,986	24,941.1	28,324	32,193	29,821.5
Over All Balance	(3,178)	(2,509)	(1,278)	(4,89.5)	(7,586.1)	(9426.1)	(7653.4)
Inflation Rates	7.2%	8.1%	14.3%	11.2%	13.0%	18.1%	45.8%

Source: Central Bank of Sudan, Annual report 2012.

Table 2 shows the increase in both government spending and deficit in the years followed the GFC. Accordingly, government spending increases from SDG 21,736 million (on average for the period 2006-2008) to an average of SDG 26,632 million during the period 2009-2010 (recording a 22.5% increase in government spending in the years followed the crisis). Also, the budget deficit rises from 1,278 billion pound in 2008 to 4, 89.5 billion pound and 7,586.1 billion pound in 2009 and 2010 respectively, the same situation continued in the period 2011-2012. As a result inflation rates rise from 9.6% on average for the period 2006-2008 to an average of 12.1% during the period 2009-2010. The inflation rates even witnessed a sharp increase in 2012 (the year immediately following Southern Sudan secession) recording 45.8%.

Gross Domestic Product Growth Rates

The GFC had affected negatively the country GDP growth rates, as a result GDP growth rates declined from 10.9% in 2007 to 6.4%, 5.9%, and 5.2% in 2008, 2009, and 2010 respectively. The decline in GDP growth rates continued in the period 2011-2012, where it amounted to 1.9% and 1.1% respectively. The main reason behind the decline in GDP growth rates could be attributed to the huge drop in oil revenue, where the oil sector recorded a negative growth rate of 5.1% in 2010 and its contribution in GDP dropped from 9.5% in 2007 to only 8.3% and 7.5% in 2009 and 2010 respectively (16).

Exchange Rate

The combined effect of the decline in oil revenue (as a result of Southern Sudan secession), the fall in both FDI and Sudanese remittances abroad, coupled with the widening of balance of payments deficit (as outlined by the previous sections) had led to a decline in the value of the

Sudanese pound after the crisis. Consequently, the value of the pound dropped from SDG2.0913 against the dollar in 2008 to SDG2.3259 and SDG2.5417 in 2009 and 2010 respectively, i.e., the pound had lost about 21.5% of its value against the dollar in the period 2008-2010 (17). The Sudanese pound even witnessed a huge reduction in its value during the period 2011-2012, i.e., its value dropped to SDG 2,881 and SDG 5.6 respectively (approximately 100% decrease in its value).

Unemployment

The cumulative effect of the increases in both budget and balance of payments deficits, together with the drop in the number of immigrant labors in the Gulf States (the major host of Sudanese expatriates) has had an adverse effect on unemployment. Consequently, unemployment rate rises to 18.7% in 2009- 2010 compared with 16.7% in 2008 (18) .

The Social Impact of GFC

This section will focus mainly on examining the impact of GFC on poverty, since poverty is a multidimensional phenomenon, and an indication of deprivation in one or more aspect of the welfare of a person. However, data on poverty are scarce; a number of attempts were taken in the last two decades to quantify poverty in Sudan and to outline its causes. Nevertheless, these attempts were constrained by the limitations of data and the incomplete coverage of the survey on which they are based. A serious limitation was the unavailability of household budget survey on which to base the estimate of poverty, since only one survey was carried out in 1967/1968 and twenty years later the second one was conducted in 1978/1980. In 2009 a National Baseline Household Survey (NBHS) was conducted, considered as the first nationally representative household consumption survey. According to the NBHS, 46.5% of household in the northern states of Sudan live below the poverty line, where this represents approximately 14.4 million people . The survey also indicated that poverty rates are higher among the rural area, with 57.6%of household below the poverty line compared to 26.5% of the urban population (19).

In fact, the persistent poverty in the country can be attributed to several factors, the most important one include: the civil war in the southern, western, and eastern part of the country that diverted attention and resources from development to fighting wars; the concentration of socio-economic development in certain areas (mainly the urban areas); and a huge and unsustainable external debt which amount to 40\$ million by 2012, coupled with long economic international sanctions which prevents the country to benefit from the debt relief initiatives such as HIPC's (20).

Although no recent data are available in order to show the effect of GFC on poverty, one would expect the same pattern of income distribution to continue as highlighted by 2009 NBHS, especially in the light of the continuation of the war in the western and eastern part of the country, together with the sharp decline in government revenues as a result of the negative impact of the GFC on oil prices (21).

THE PROPOSED POLICIES TO DEAL WITH THE VARIOUS IMPACT OF GFC

We should note that the policies to deal with the impact of GFC should vary from one country to another depending on the extent of the GFC impact and the level of economic activities prevailed in the country, as well as its close links to international financial markets. For example Sudan Stock Exchange Market has not been adversely affected by GFC due to its limited direct link to other regional and international financial markets. Nevertheless, other sectors of the economy were adversely affected by the crisis as outlined by the previous

sections. In view of that a set of policies may be adopted in order to mitigate the negative impact of the crisis, this may include the following :

1. A strict regulation by the Central Bank of Sudan on the Banking System to ensure their compliance with the financial and accounting laws, as well as implementing strict measures to limit the power of bank directors when lending to financially unqualified and incredible investors, as this phenomenon is referred to by many scholars as the main reason behind the eruption of GFC (22).
2. Maintaining the stability of the external sectors through reducing the balance of payments deficit by increasing the contribution of non-oil products in exports (especially animal resources and agricultural products).
3. Reducing of the government budget deficit through reduction of government spending. Moreover, a tax system reforms including broadening of tax bases, strengthening of tax administration; and a simplified and more transparent tax codes (23).
4. Introduction of policies that directed to reduce poverty, including activation of the role of Zakat Chamber, as well as increasing the provision of social services (24).
5. Introduction of policies that directed to attract more FDI, especially the remittances of Sudanese expatriates in order to cover the deficit in government budget (25).
6. A former Governor of Sudan Central Bank wondered if the crisis indicates "the failure of the capitalist system to control economic activities" or if it reflects a problem within the capitalist system itself, which can be fixed". He further pointed out that "the Islamic economic system which forbids the use of usury and financial securitization that based on unreal assets may provide an answer to the capitalist system shortcomings that emerged clearly during the GFC" (26).

CONCLUSION

This study indicates that the GFC has an adverse effect on both the economic and social indicators, which have been examined. Accordingly, it lowered exports, caused FDI and remittances to drop, thus widening the balance of payments deficit. Furthermore, inflation and unemployment rates both rose to 12.1% and 18.7% in the years followed the crisis, with inflation recording 45.8% in 2012 (its highest value since 2000). Furthermore, GDP growth rates declined to 5.9% and 5.2% in the years 2009-2010 that followed the crisis, and even to 1.9% and 1.1% in 2011-2012 respectively. Moreover, the Sudanese pound lost 21.5% of its value immediately after the crisis, as well almost 100% of its value during the period 2011-2012, while poverty rates loom high at 46.5%.

We should note that in order for the proposed policies that mentioned in part three to succeed, their implementation must be part of a wider set of conditions, i.e., consistent and clear government's policy, especially in the political and economic arena, and efforts should be made to move away from this vicious circle of continuing crisis of political legitimacy.

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An Empirical Attempt at Evaluating Stress: A Failure Discovered Through Cross-Validation

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Abstract

Stress remains popular as a psychological construct. Different aspects of stress are emphasized depending upon the environmental issue, target population, and measure used. Existing measures are often confounded between causes of stress and effects of stress and also may emphasize a particular perspective on stress. Here we evaluate the empirical method of item selection as an alternative for developing a stress scale, using salivary cortisol levels as the empirical criterion. Items were adapted from measures of perceived stress, daily hassles, and life events as used in two studies of stress that measured salivary cortisol. Correlations with cortisol levels led to the retention of 75 items of the pool of 535, which were administered to a third sample of 28 medical students. The 75-item scale did not correlate with cortisol levels. Of 15 individual items that did, six correlated in the opposite direction to that predicted. Results illustrate the dangers of empirical item selection methods.

Key words: Stress; Cortisol; Test Construction; Perceived stress; Daily hassles; Life events

INTRODUCTION

With the continued wide use and popularity of the term, there is increasing acceptance of the term "stress". Selye [1] provides a history of the term, noting that it involved a short- or long-term taxing environmental event or any perceived threatening event [2, 3]. Either of these may affect any number of the emotional, physiological, or biochemical system [4, 5]. A general modern definition is provided by Morris [6] for usage in psychology: "1. Specifically, a physical or emotional reaction to a situation perceived as unfamiliar, threatening, harmful, and so on. 2. The negative situation itself." (p. 2110).

Given the variability inherent in the definition, it is not surprising that there are a variety of ways of measuring stress by self-report [7]. Many of these are questionnaires, and some simply quantify the number of major life events that a person has experienced, while others focus on minor life experiences and "daily hassles" (e.g., [8, 9]). Still others ask about emotional or other subjective reactions to work [[10]. The items on the majority of these scales seem high in face validity, in that all seem to be related to the construct of stress. The scales often have high internal consistency, and show significant correlations with criterion measures, such as physical illness and psychiatric symptomatology. However, often there is not a clear

demonstration that the criterion measures of illness or symptomatology are in fact related to stress, or whether the degree to which an event is uncontrollable, unpredictable, threatening, or taxing is, in fact, stressful. This makes the construction of measures using the atheoretical empirical methods of scale construction as typified by the widely used Minnesota Multiphasic Personality Inventory [11] more attractive.

The early measures of stress were based upon major life changes that occurred over a specified period of time [12]. Later studies refined elements of the stress reaction, such as time urgency [13] and well-being [14]. A simple listing of stressful life experiences does not take into account the actual impact of the events upon the person's life. Holmes and Rahe [15] developed a questionnaire which measured both the number and the severity of life events occurring. The events were chosen because they required a degree of adaptation (e.g., a change of marital status, employment, or death of a close friend) [16].

Despite its face validity, life event research has been criticized [4]. One of these criticisms was that some events on the inventories appear related to the criteria they were used to predict. For example, someone with a slowly developing illness may become less productive at work, receive pressure to improve, lose contact with friends, and become a burden upon a spouse as disease processes develop. When the illness is diagnosed, adjustment problems in the person's life may be construed as having caused the illness.

In 1966, Lazarus [2] proposed a model of psychological stress which accounted for individuals not only in the appraisal of potentially threatening conditions, but also in the appraisal of the person's abilities to cope. This model suggested that there were a number of ways in which individual differences could modulate responses to a threatening environment. Lazarus thus proposed that stress be defined as an interaction between individuals and their environment. A central tenet is that people differ in their beliefs, motives, education, abilities, and social resources, and that such differences play an important role in determining whether or not an experience will be construed as threatening. The Lazarus [2, 3] model led to the development of the Perceived Stress Scale (PSS) as a measure of "appraised stress" [17, 18]. The fourteen PSS items ask the respondent to estimate, on a scale ranging from "never" to "very often", how often events have been perceived as stressful, anxiety provoking, overwhelming, and uncontrollable. Again, the PSS is reported to be a significant predictor of a number of indices of health, including depression scores, frequency of visits to health clinics, physical symptoms, and adherence to a smoking reduction program. However, Lazarus, DeLongis, Folkman, and Gruen [19] have argued that the PSS overlaps events antecedent and consequent to a stressful event. Individuals who obtain elevated scores on criterion measures which assess emotional or physiological symptoms may very well report feeling distressed, nervous, and upset that things were not going well. Thus, a significant association between scores on the PSS and scores on criterion measures may be inflated simply due to the amount of content variance shared. Such an association is less likely to occur if items are selected on empirical grounds.

In contrast to stressful events, Kanner, et al. [8] proposed that the relatively minor daily irritants which most people experience represent an important source of stress that is not evaluated in other measures. Such "daily hassles" refer to experiences such as being stuck in traffic or annoyed by smokers. Under the argument that stress results as a result of the accumulation of these minor events, Kanner et al demonstrated that minor daily irritants account for a greater proportion of variance in psychological symptomatology than do major life events. Martin [20] noted that daily hassles account for more variance in mood disturbance than do major life events, even after the variance due to major events has been

parceled out. In contrast, if hassles are first parceled out, major life events do not add significantly to the variance accounted for in mood disturbance. Interestingly, the daily hassles scale has been criticized for the same reasons that Lazarus and others have criticized other stress scales. There were significant confounds between the daily hassles scale and other measures [21].

Since the problem of confounded measures seems to be an inherent property of scales intended to measure stress, is it time to head back to the theoretical blackboard? Perhaps there should be two separate research endeavors: first determine whether the construct of stress exists independently of illness, and then second, test to see if there is any association between the construct stress and the construct illness.

PHYSIOLOGY OF STRESS

The early models of stress [22] emphasize the physiological reactions in response to threatening events [23]. The activation of the sympathetic nervous system and hypothalamic-pituitary-adrenal (HPA) axis was central to this physiological reaction [24]. The production and release of adrenal hormones, including cortisol, produce a variety of physiological changes, including increased heart rate and respiration, greater blood flow to the muscles and brain, and changes in the metabolism of serum proteins and sugars. These physiological changes have well-recognized survival advantages for animals that are threatened in that they prepare the animal for greater amounts of activities so that it may either combat the threat or run away.

Although much early research examined these processes in animals, many results have been found to be applicable to humans, particularly associated with the onset of depression [25]. As they are highly reliable, they may form an ideal criterion for determining whether an individual has recently experienced threat as reflected in excitation of the sympathetic division of the autonomic nervous system, known to be a common response to challenging or threatening experiences in humans [26, 27]. Such overt physiological symptoms may form the core of items that reflect empirical indicators of stress.

The secretion rate of stress hormones increases significantly during autonomic arousal and while cortisol may be measured in a serum, only 5% of serum cortisol level is biologically active. The free fraction of cortisol is associated with levels in saliva and urine [28]. This method has been shown to be diagnostic in both normal and clinical populations [29, 30, 31].

The use of cortisol measured from saliva appears to be a reliable and valid biochemical measure of responsivity to a variety of events that could reasonable seen as taxing, challenging and threatening. Given the complexity and cost of obtaining this measure, an alternate inexpensive method, such as a questionnaire, would be highly desirable. The present paper thus describes an attempt to develop a paper and pencil measure of stress, as defined by changes in cortisol values produced in response to an event. The scale was developed empirically, by selecting items on the basis of their association with cortisol levels. This method has a long history within psychological assessment, although it has been subject to criticism [32]. We attempted to compensate for the most important of these, the capitalization upon chance in performing repeated statistical tests, by cross-validating the selection items in a different sample.

METHOD – STAGE 1

Selecting Items

Items for the scale were derived from a series of studies in which subjects completed questionnaires and provided saliva samples for the quantification of salivary cortisol. The questionnaires included the Perceived Stress Scale [17], the Daily Hassles Scale [8], the Telic Dominance Scale [33], Profile of Mood States [34], and the Life Events of College Students [35]. In both studies, subjects also completed other scales not reported here.

Cortisol was quantified from the saliva samples by RIA [31]. Materials were obtained from Nuclear Diagnostics, and each assay was run in duplicate with known control values to test the reliability of the assay. The intra-assay correlation was .91, and control samples fell within the expected ranges.

Participants

Participants in both studies were introductory psychology students, participating in return for course credit. In the first study, 42 subjects (19 males and 32 females) produced saliva samples and completed questionnaires on two occasions: once immediately after spring break during a period with relatively few academic demands, and once during final exam week. Each individual subject participated at the same time of day on both occasions. In the second study, 30 subjects (14 males and 16 females) provided saliva samples and completed questionnaires for five consecutive days.

Procedure

Correlations were calculated between cortisol levels and individual items from each of the questionnaires. Because items from different questionnaires had different numbers of response options, items from different scales would produce unequal variances across items. This problem was resolved by transforming all items to standard scores. In order to control for the collection of data at different points of time during the day, and thus at different points during the daily cycle of cortisol levels, time of day was partialled out of the correlations of items with cortisol levels.

A total of 535 items was evaluated. At a Type I error level of .05, it was expected that 27 items would be selected on the basis of chance alone. The analysis was repeated in both samples.

RESULTS – STAGE 1

Forty items were selected from the first study, with an internal consistency (co-efficient alpha) of .85. Forty-two items selected in the same manner from the second study led to a co-efficient alpha of .70.

After reviewing the content of the items, seven were excluded on the basis that they were nearly identical to another item. This led to a total of 75 items chosen for the first draft of the questionnaire. The 75 items used are reproduced in the Appendix. Because the majority of response scales was on a five point Likert scale, the remaining items were rescaled to this format as well. The majority of the items showed a plausible association between “stress” and item content.

Cross Validation

The 75 item questionnaire was appended to a battery of questionnaires in a separate research project in which cortisol levels were also evaluated.

METHOD – STAGE 2

Participants

Twenty-eight first-year medical students, with a mean age of 23.4 years, were tested during their first week back to school after spring break.

Materials and Procedure

A 30 ml sample of heparinized blood was obtained from the antecubital vein of each subject when they arrived for the study. They were then given a 10 x 17 mm test tube, and asked to provide 5 ml of saliva. They then completed the battery of questionnaires. Total cortisol levels of plasma were quantified in addition to cortisol levels from saliva. Plasma was extracted from whole blood by centrifuging samples at 300 g for 20 minutes. Aliquots of plasma were placed in fresh tubes and frozen at -70 degree C until assayed. Materials for assay of cortisol were obtained from Calastead Laboratories. Cortisol levels were assayed from both plasma and saliva using materials with the same lot numbers.

RESULTS – STAGE 2

The 75 item scale gave a co-efficient alpha of .88, and with the deletion of five items with low-item total correlations, alpha rose to .90.

The intra-assay correlation was .98 for plasma cortisol and .88 for salivary cortisol. The control samples fell within the expected ranges for both plasma and salivary cortisol. The mean plasma cortisol level was 145.26 N MOL-L-L, while the mean salivary cortisol level was 8.64 N MOL-L. Both values fall within the normal expected range for samples. As would be expected, total cortisol levels of plasma were unrelated to unbound cortisol assayed from saliva ($r = .09$, ns).

There was no association between scores on the stress scale and cortisol levels assayed from either plasma or saliva. When correlations between individual items and cortisol levels were evaluated, only 15 of the 75 items have a significant correlation. Furthermore, 6 of these 15 items were now correlated in the opposite direction to that initially obtained. For example, subjects who agreed with the item "I have been concerned about the health of a family member" apparently have lower levels of cortisol in the second study than people who were not worried ($r = -.39$, $< .05$).

GENERAL DISCUSSION

The purpose of this investigation was to select questionnaire items on the basis of their empirical association with cortisol levels, and then to cross validate those items in order to eliminate the less stable ones. The scale showed a high co-efficient alpha in both studies, suggesting a consistency in measuring the relevant construct. However, the total scores proved to be unrelated to cortisol levels (cf. [27]). Furthermore, of the original 75 items, only 15 retained a significant association with cortisol upon cross validation. In addition, a significant proportion of those 15 items showed a reversal in the direction of association.

With this degree of shrinkage upon cross-validation, it would appear that any further attempt at refinement of an empirically derived questionnaire would be futile.

Nevertheless, the results of this study raise several interesting issues regarding the nature of cortisol secretion during threat, and about self-report measures of responses to threat. The first issue is whether or not people are consciously aware of any physiological phenomena that may be associated with responses to threat. For example, sympathetic activation typically

includes increased heart rate, increased respiration, muscle tension, shakiness and warm hands. Such items appear to be theoretically sound, having been demonstrated to be associated with responses to threat, and may be salient enough for subjects to recall accurately whether they have recently experienced such symptoms of arousal.

One of the problems with asking subjects about these physiological indices of arousal is that many events may produce them. Such items may be endorsed by a subject who had just attended a fitness class, as well as by one who had just broken up with a lover. Thus, it would seem that in order to obtain a measure of response to threat, it may be necessary to develop questions regarding the subject's appraisal of recent events. Thus, a fitness class would be rated as less distressing than ending a relationship.

These results also confirm that the concept of "stress" is indeed a slippery one that varies over time within individuals dynamically [36, 37]. It would appear that perhaps the best method would be to return to a theoretical reconceptualization, and to derive measures based from that theory. Given the intuitive acceptance of the Lazarus [3] model, it would appear that this would be a fruitful starting point. Given the results found here, which confirm previous criticisms of empirical test development [32], it would appear that such a theoretical approach would be far more likely to be productive than an empirically based one.

APPENDIX

JD Scale

On the following pages is a list of 75 statements. Indicate the degree to which you agree or disagree with each statement, using the following scale:

A = strongly disagree

B = disagree

C = neutral

D = agree

E = strongly agree

- | | | | | | | |
|----|---|---|---|---|---|---|
| 1. | I would prefer taking an evening course for fun over taking an evening course to improve my qualifications. | A | B | C | D | E |
| 2. | I would prefer improving an athletic skill by playing the game over improving it through systematic practice. | A | B | C | D | E |
| 3. | I often like to do things "for kicks" | A | B | C | D | E |
| 4. | I would prefer to always take holidays in the same place over taking holidays in many different places. | A | B | C | D | E |
| 5. | I prefer a continual unexpectedness or surprise in my life over a steady routine. | A | B | C | D | E |
| 6. | After having a disagreement with a close friend in which both of us are shouting very loudly, I would feel anxious. | A | B | C | D | E |

- | | | | | | | |
|---|--|---|---|---|---|---|
| 7. | After having a disagreement with a close friend in which both of us are shouting very loudly, I would feel excited. | A | B | C | D | E |
| 8. | After having a disagreement with a close friend in which both of us are shouting very loudly, I would feel stressed. | A | B | C | D | E |
| 9. | If the teacher announced that she would hand back exams in order of grade, beginning with the highest mark in the class, and my name was one of the first to be called, I would find this quite amusing. | A | B | C | D | E |
| A = strongly disagree B = disagree C = neutral D = agree E = strongly agree | | | | | | |
| 10. | I vary an awful lot from one situation to another in the extent to which I laugh or otherwise respond with humor (i. e. It depends a lot on who you are with, where you are, how you feel, etc.) | A | B | C | D | E |
| 11. | One of my most outstanding characteristics is that I can be amused and laugh in a wide variety of situations. | A | B | C | D | E |
| 12. | I have often found that my problems have been greatly reduced when I tried to find something funny in them. | A | B | C | D | E |
| 13. | I often miss the comical point in a situation where others catch on. | A | B | C | D | E |
| 14. | I have often felt that difficulties were piling up so high that I could not overcome them. | A | B | C | D | E |
| 15. | I have generally been feeling playful. | A | B | C | D | E |
| 16. | I have generally been feeling worried. | A | B | C | D | E |
| 17. | I have generally been feeling emotional. | A | B | C | D | E |
| 18. | I have generally been feeling worked up. | A | B | C | D | E |
| 19. | I have generally been feeling hyper. | A | B | C | D | E |
| 20. | I have generally been feeling distressed. | A | B | C | D | E |
| 21. | I have generally been feeling fidgety. | A | B | C | D | E |
| 22. | I have generally been feeling tense. | A | B | C | D | E |

23.	I have generally been feeling worn out.	A	B	C	D	E
24.	I have generally been feeling shaky.	A	B	C	D	E
25.	I have generally been feeling sad.	A	B	C	D	E
26.	I have generally been feeling discouraged.	A	B	C	D	E
27.	I have generally been feeling miserable.	A	B	C	D	E
A = strongly disagree B = disagree C = neutral D = agree E = strongly agree						
28.	I have generally been feeling exhausted.	A	B	C	D	E
29.	I have had troubling thoughts about my future.	A	B	C	D	E
30.	I have been concerned about the health of a family member.	A	B	C	D	E
31.	I have been concerned about owing money.	A	B	C	D	E
32.	I have been bothered recently by my use of alcohol.	A	B	C	D	E
33.	I have had problems with employers.	A	B	C	D	E
34.	I am having problems with my boyfriend/girlfriend (wife/husband). Circle "C" if not applicable.	A	B	C	D	E
35.	I have the feeling that my work is unchallenging.	A	B	C	D	E
36.	I feel that I do not have enough time to do the things that I need to do.	A	B	C	D	E
37.	I have recently felt pressured by a supervisor.	A	B	C	D	E
38.	I have recently been concerned about news events.	A	B	C	D	E
39.	I have recently written an exam which was stressful for me.	A	B	C	D	E
40.	I have little control over the way I can spend my time.	A	B	C	D	E
41.	In the last day, I have not dealt successfully with irritating life hassles.	A	B	C	D	E
42.	In the last day, I have not been coping effectively with changes that are occurring in my life.	A	B	C	D	E

43.	In the last day, I have felt tense and nervous.	A	B	C	D	E
44.	I am never late for meetings.	A	B	C	D	E
A = strongly disagree B = disagree C = neutral D = agree E = strongly agree						
45.	I sometimes put words in peoples' mouths to speed up conversations.	A	B	C	D	E
46.	I consider myself to be more relaxed and easy-going.	A	B	C	D	E
47.	People look to me for leadership more often than they look to others.	A	B	C	D	E
48.	Coworkers and friends would agree that I "live, eat, and breathe" my work.	A	B	C	D	E
49.	It would bother me if other people experienced more success than I.	A	B	C	D	E
50.	I like most of my fellow workers, and enjoy my work.	A	B	C	D	E
51.	I rarely engage in two or more activities at the same time.	A	B	C	D	E
52.	I believe that organizations work best when employees do not compete with each other.	A	B	C	D	E
53.	I seldom take work home with me.	A	B	C	D	E
54.	I usually show up early for work to prepare things.	A	B	C	D	E
55.	I often compare my performance to that of my coworkers.	A	B	C	D	E
56.	I have been bothered by misplacing things.	A	B	C	D	E
57.	Smokers are annoying.	A	B	C	D	E
58.	I am bothered by my physical appearance.	A	B	C	D	E
59.	I have had troubling nightmares lately.	A	B	C	D	E
60.	I would rather compile a short-dictionary for financial reward than write a short story for fun.	A	B	C	D	E
61.	I would rather recount an incident accurately	A	B	C	D	E

than exaggerate for effort.

A = strongly disagree B = disagree C = neutral D = agree E = strongly agree

62.	I would rather have continuity in the place I live than having to move frequently.	A	B	C	D	E
63.	I typically finish my work before going out to enjoy myself.	A	B	C	D	E
64.	I would enjoy climbing a mountain.	A	B	C	D	E
65.	I like to plan ahead rather than taking each day as it comes.	A	B	C	D	E
66.	Before attempting a new task, I feel excited and challenged.	A	B	C	D	E
67.	I have often found it difficult to live up to my parents' expectations.	A	B	C	D	E
68.	My parents usually gave me a lot of praise and encouragement.	A	B	C	D	E
69.	I have had a lot of difficulty making close friends.	A	B	C	D	E
70.	I have not been as successful in my life as I should have been.	A	B	C	D	E
71.	I am my own worst critic.	A	B	C	D	E
72.	I have generally been feeling bushed.	A	B	C	D	E
73.	I have recently begun counseling.	A	B	C	D	E
74.	I have been feeling generally annoyed lately.	A	B	C	D	E
75.	I would rather win a game easily than play with scores very close.	A	B	C	D	E

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FOOTNOTES

The data reported here were collected by JPD who also wrote the initial report as part of his studies. This paper is submitted in his memory, deceased on 1 November 2007 at age 47.

Implications of Cultural Diffusion in Nigeria Through the Television Medium: A Survey of Selected Youths in Imo State

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Abstract

The impact of television on cultural diffusion is not in doubt; technological advancement of the television medium has turned the entire world into a global village. Developed countries influence the less developed ones with their culture through modern information dissemination apparatuses; these cultural influences have both positive and negative impacts on the ethical values of youths in a developing country like Nigeria. The study looks at the cultural implications and influences of television on youth cultural integration. Relevant literature bordering on cultural integration as well as the impact of globalization on culture was reviewed, premised on the 'cultivation theory' developed by George Gerbner. Survey method involving the use questionnaires was employed to articulate the extent of media influence on the values and beliefs of purposively selected youths in Imo State, Nigeria. Empirical data from the survey was presented and analysis produced a number of vital findings: television provided a globalization mechanism that encouraged cultural diffusion and migration; television was perceived as an important relaxation tool; television can be employed in improving ethical standards; youths are vulnerable to foreign ideas from satellite and cable television. Conclusively, the study recommends that television should be employed in improving traditional values through indigenous cultural information dissemination and expounding national heritage.

Keywords: Culture; television; youths; values

INTRODUCTION

Television is a shinning force for molding attitudes and public opinion. Apart from offering sights and sounds, it is also able to make dramatic representations of people and products to a global audience. It is a communication medium necessary for the maintenance of a meaningful and functional society hence it helps in binding and transmitting cultural heritage from generation to generation (McQuail, 2010). Culture is composed of the norms, values and ethical standards that are used to identify individuals, groups or communities; it is the totality of a people or an area's way of life. For a culture to be identified there must be an acceptable symbol that is common to all. Okonkwo (2008) describes culture as a social heritage or learned behavior, inherited from generation to generation.

The invention of television has brought about transformation and globalization; information now flows across national boundaries resulting to dilution of strict adherence to cultural instincts. Evolution of television in Nigeria started in 1959 by western regional government of Nigeria with the objective of improving the educational system within the region. The eastern and northern regional governments followed suit in 1960 and 1962 respectively, claiming the

same objective as was professed by the western region government but were found wanting as all of them turned commercial later on. In today's Nigeria, television is associated with promoting and enlightening intellectual attitudes of youths towards culture. Programs in drama, soap opera, documentary, Nollywood films and discussion programs aired on various cable TV providers (like Multi choice, MY TV and Easy NET) and local stations (like AIT, Channels, NTA and IBC) are geared towards sensitization and integration of young people to the ethical values of the Nigerian society. Majority of programs on television are reflective of the diversity of their audiences' interest, and cultural values (McDonald, 2009). In a cultural, religious, and ethnically diverse country like Nigeria with over 250 ethnic groups, television plays a vital role in integrating their diverse interests. Programming on television has an important role to play in shaping social meaning, bearing in mind that communication contents determine the way local or global mass media systems will affect people's social experiences (Oso & Pate, 2011).

Globalization has taken the world beyond modernity to what can be described as information society; advances in information technology have made possible easy communication of ideas and views between people of diverse nationality. The ability to freely communicate without hindrance could generate mutual relationship as well as appreciation of individual problems. The advent of satellite television and the resultant multi-channel global television has fastened the globalization process. Proponents of western cultural imperialism as reported by Tabassum (2012) believe that globalization brings about homogenization that facilitates cultural uniformity throughout the world. Against this backdrop, television being a medium of dissemination of global information will be surveyed to ascertain its capability to promote or violate ethical values in Nigeria.

RESEARCH PROBLEM

Television programming in Nigeria is not always commercial in nature; they sometime engage themselves in transfer of technology and know-how. Importation of foreign programs into local television stations, in addition to satellite services and cable networks have overtime occupied the television screen in most Nigerian homes. Often times, the globalized television channels (satellite services and cable network) aggressively show contents that cater for the youth which in turn produce convergence that imposes a homogeneous taste unto larger, more diverse audiences and content integration for youths. This development according to experts is capable of cultivating the spark of change amongst our youths from cultural norms to foreign values, as well as offering us opportunity to present and portray ourselves to the world in a more palatable form to change our battered image abroad. On that note, the study looks at the impact these foreign programs have on youths to ascertain the extent they contribute to ethical and cultural violations in Nigeria.

RESEARCH QUESTIONS

1. Is television viewing advantageous or disadvantageous to cultural integration of youths in Nigeria?
2. What are the damaging/beneficial effects of television on youth-cultural integration?
3. How can television, especially, cable network and satellite services help in projecting Nigeria's rich culture across boundaries?

THEORETICAL FRAMEWORK & REVIEW OF RELEVANT LITERATURE

This study is hinged on cultivation theory developed by Gerbner (1977). The theory proposes that repetitive or persistent consumption of certain media content leads to change of attitude, values and adoption. The theory, according to its proponent suggests that mass media,

especially television, is responsible for molding viewers' perception of social reality. Analyzing the theory, Anaeto et al., (2008) emphasized that television has a cultural function of socialization and acculturation; television indirectly exposes certain ideas and knowledge one would not have ordinarily known. As it relates to this study, it implies that the abandonment of local media content in television air waves gradually results to diminishing of values, beliefs and norms. With the proliferation of westernized media contents, youths in Nigeria have adopted a different social relationship away from what was traditionally obtainable in our norms and values; this may grossly affect the assimilation of culture in the Nation.

TELEVISION AND CULTURAL INTEGRATION

Burton (2010: 296) exhaustively summarized four global media landscapes underscored by media and communications scholar, Annabelle Sreberny. In one of the forms, Sreberny mentioned that global does not mean universal; global television affects only leisure and social lives of the developing world, and not their inherent cultures and beliefs. This is evident in the way local audiences in the developing world make selective choices of their media use. In the same vein, Chua (2008) insists that the situation brought about by the massive influx of western values through audio-visual medium is not as dire as people perceived it to be; individuals still abide by most traditional norms and values despite sharing the same preference for western dresses and music as other young people. Meanwhile, there are positive sides to the assimilation of foreign media content; particularly its effect in helping to eliminate devilish cultural practices and enhance good ones. Culture of maltreatment of the widow and relegating women to the background are being eliminated in some quarters today. There is good number of women in political office than was obtainable in the past. Youths are given the opportunity to air their views and contribute to the helm of affairs in the country, hence the establishment of the youth parliament. In the opinion of Pais (2006), television has helped in the development of the world especially in disseminating information and carrying enlightenment programs that have helped human development both in the rural and urban areas. Many strategies and slogans were initiated in both present and past governments aimed at portraying the country positively. To that effect, the Nigerian Ministry of Information designed a logo and slogan; "Nigeria Rebrands: Good People, Great Nation" meant to upturn negative perception and negative attitudes of foreigners and Nigerians alike towards the country. During the launching and unveiling of the product in 2009, the then vice president Goodluck Jonathan made a remarkable statement:

"The campaign signals a new dawn in our collective quest to entrench a culture of moral rearmament and ingrained positive values of resilience, diligence, transparency, accountability, and selfless service" (Oshodin, 2009).

The advent of new technology in television medium thwarted everything; information now flows across national boundaries hence the dilution of strict adherence to cultural instincts. In Nigeria, the dilution of original culture is evident in youth dressing patterns, spoken words and other social adaptations. Youths prefer to wear western dresses, speak with foreign accents, play foreign music and watch their movies so much so that they perceive themselves to be westerners (Okonkwo, 2008). For instance, the traditional Igbo dressing of wrapper and blouse for women has gradually turned to mini skirt and hanging top that exposes the body. The boys wear sagging trouser, exposing their pants or sometimes buttocks. Perhaps, in recognition of the extent of our cultural extinction, authorities in many Nigerian higher institutions have placed a ban on illicit and immoral dressings and passed a rule that requires decent or traditional dresses to be worn at all times in their areas of jurisdiction (Olori, 2003; GNA, 2014 & Belo-Osagie et al., 2015). Ayakoroma (2010) lamented on the extent of challenges

as regards the dress culture in Nigeria; many Nigerians have obvious preference to western style of dressing than indigenous dressing due to over indulgence in consuming of western media content. Contrarily, Baran (2010) insists that though globalized television content effect is undisputable, the internal government regulation over infiltration of foreign media and its content has helped to keep erosion of indigenous cultures in check.

THE IMPACT OF GLOBALIZATION ON CULTURE

Globalization has given us the ability to freely communicate without hindrance as well as generate mutual relationship and appreciation of our individual problems. The dominance of Europe and America in world affairs brought about cold war amongst countries of the world (Hobsbawn, 1999). Each region, in its bid to free itself from such dominance formulated its own economic platform to cater for its welfare (Kraidy, 2005). Sequel to that, globalization facilitates free flow of ideas between people across the borders which could lead to cultural integration or separation. Unfortunately, African youths have a long history of migration owing to their economic dependence on the economy of either Europe or America (Kohnert, 2007); this movement has resulted to a high level of cultural diversity or even erosion of cultural values amongst our youths. Foreign programs in our local television stations could be perceived as a strategy aimed at overpowering the cultural values of Nigerian youths; Abide (2011) opines that Nigerians copy, and imitate the west, especially America and Britain without understanding why the west live their lives the way they do. However, owing to the ability of the television medium to not only impart knowledge but to also promote action on the audience, culture integration programs are being encouraged by Nigerian government and aired on their controlled air waves. Youths in all spheres, being the drivers and victims of change are easily affected by the transformation of social change brought about by globalization (Jegade & Idowu, 2012). Nyamnjuh (2008) opined that instead of achieving convergence, globalization appears to accelerate differences, heterogeneities and structures of inequality. No wonder, an open letter written to Barrack Obama by Aliba Prossie, a Ugandan, who categorically stated how moral-less the American society is, citing example with incessant sporadic shootings in American schools by under aged pupils and their intention to persuade African countries to relax enacted anti-gay law in their various countries (Prossie, 2014). Burton (2010:292) describes globalization 'as something of an illusion'; many countries (especially developing countries) have limited access to new media content and have regulation on their media content to mark borders. However, he agrees that globalization is applied fully to people or countries whose material and cultural history allow them to think global – the developed world. To him, globalization is a myth.

TELEVISION AND NIGERIAN YOUTHS

Nigeria is a country of diverse ethnic, religious and cultural entities. Irrespective of these diversities, the youths seem to tow the same line in preference of media consumption. The ability of television to use sound, visual and motion in transmitting programs gives it the advantage of easy conviction. Iyorza (2014: 308) argues that global television employs the combination of sight, sound, motion, color, drama, and persuasiveness to achieve creativity, variety, and flexibility. Therefore television has the ability to influence the views, beliefs and norms of people, especially the youth. Global television poses a strong impact on the cultural intuition of consumers through its contents. It is used in promotion of culture either intentionally or otherwise. The effect can be positive or negative depending on the understanding of its consumers. For instance, many television channels, put advertisement of alluring products in between popular programs like sports, and news to capture the interest of unsuspected youths in underdeveloped world (Ayozie et al., 2011). Drama series, movies, international television acts from the American continent, India and Europe have the lifestyles,

speech, and general behavior of the country of origin embedded in the presentations, which in turn are transmitted to less developed countries with inadequate media machinery (Iyorza, 2014). A study conducted by Obono & Madu (2010) revealed that globalized television news on social realities in Africa is more negative than positive; this in turn affects the cultural, political, and sociological perception of the people. The situation has been curtailed in Nigeria with the Nigerian Broadcasting Commission (NBC) mandating that television stations must produce up to 70% indigenous programs (NBC, 2009); this policy is aimed at curtailing cultural and media imperialism. According to Hasan (2014: 647), the audio-visual characteristics of television gives young people the ability to share 'cultural experiences' because the level of audience involvement generated by television is so high that it can act as an agent of social change. Cultural programming can affect values appraisal of art and cultural heritage. However, inadequate norms and values formation due to unsatisfactory parental guidance could push youths to negative interpretation of television contents. Therefore, the question is in what direction is televisions' social change coming? Is it towards the formation of acceptable ethical standards or are the youths being lured to foreign values?

METHODOLOGY

Survey method was adopted to generate data for the study. This method is considered appropriate because it is capable of obtaining information from a large number of people, and offers the researchers an opportunity to conduct the study in a real life situation (Nachmias & Frankfort-Nachmias, 1996). Questionnaire was the main instrument of data generation.

POPULATION

The population of the study consists of all the youths in Imo state under the umbrella of Community Government Council (CGC) across the 637 autonomous communities in Imo state. The population is restricted to youths between the age brackets of 18-35. This is because Nigerian national youth policy defines youths as comprising all young people between the afore-mentioned age ranges (NYP Nigeria, 2009). It is also believed that youths in such age range exhibit traits and lifestyle pertaining to dressing, speech, social relationship, and entertainment synonymous to activities of youths in other parts of the country.

SAMPLE AND SAMPLING TECHNIQUE

Youths in the study were stratified into two categories: educational level and level of exposure. Based on this, bachelor's degree graduates, bachelor's degree undergraduates, senior school certificate examination (SSCE) holders, First School Leaving Certificate holders (FSLC) holders and FSLC attempted fell into first category while youth that are exposed to media information content and those that are not were in second category. Youths that have second degrees were intentionally left out because they are believed to be either above the age range or are not active members of the youth forum due to their level of academic exposure. Purposively, 90 respondents were selected from each of the strata with the help of the youth leader in each of the autonomous communities. This brings the total number of youths surveyed to 450.

INSTRUMENTATION

The major instrument employed in this study is questionnaire, containing both open-ended and close-ended questions. It was prepared by the researchers, validated by colleagues, pre-tested and found reliable. Based on the objectives of the research, 450 copies of questionnaires were administered proportionately on the respondents. Though 450 copies were distributed, only 410 were retrieved. Majority of the un-returned copies of questionnaire came from the copies given to low educational level among the respondents. This was because most of them

thought the study was meant to witch-hunt them therefore, were afraid of possible sanction.

DATA PRESENTATION AND ANALYSIS

<i>Age Bracket</i>	<i>Frequency</i>	<i>Percentage</i>
18-21	70	17.07%
22-25	80	19.51%
26-28	85	20.73%
29 -31	90	21.95%
32-35	85	20.73%
Total	410	100%

Table 1: Age Bracket of Respondents

The above table shows that majority of the respondents fall within the age bracket of 26-28 years (20.73%), 29-31 (21.95%) and 32-35 representing 20.73%. The age bracket actually forms youth category that are more exposed to media technology and are always sensitive to change.

<i>Item</i>	<i>Frequency</i>	<i>Percentage</i>
FSLC ATTEMPTED	70	17.07%
FSLC	80	19.51%
SSCE	83	20.24%
UNDER DEGREE/CERT	87	21.22%
DEGREE/CERT	90	21.95%
TOTAL	410	100%

Table 2 shows that 70 representing 17.07% attempted primary education, 80 (19.51%) had FSLC, 83 (20.24%) studied up to secondary school, 87 (21.95%) are still in higher institution while 90 (21.95%)r have graduated from higher institution.

<i>Item</i>	<i>Frequency</i>	<i>Percentage</i>
Yes	300	73.17%
No	110	26.83%
Total	410	100%

TABLE 3: Number and percentage of respondents that have access to television

The table above indicates that a whopping 300 (73.17%) number of respondents, have complete access to television while 110 (26.83%) have minimal access to television due to either lack of electricity to power the set or do not own it at home.

<i>Age Bracket</i>	<i>Frequency</i>	<i>Percentage</i>
18-21	20	4.8%
22-25	30	7.3%
26-28	29	7.07%
29 -31	46	11.22%
32-35	40	9.76%
Total	165	40.24%

Table 4: Television program content helps in integration and assimilation of culture on youths

From the table above, only 20 out of 90 numbers of youths between the age brackets of 18-21 that were given questionnaires agreed that television content helps in imbibing cultural traits on youths. 30 out of 120 numbers of the respondents in age range of 22-25 gained cultural

integration through television, another 29 number of respondents from 89 in 26-28 age range earlier given the questionnaire affirmed the advantages of television to youth-cultural integration. 46 representing 11.22% out of the respondents in age range of 29-31 agree; 40 (9.76%) out of 51 respondents received cultural integration information through the television. In all, only 165 numbers of respondents out of 410 representing 40.24% affirmed to the positive use of television to integrate youths to good cultural values.

<i>Age Bracket</i>	<i>Positive</i>	<i>Percentage</i>	<i>Negative</i>	<i>Percentage</i>	<i>Total</i>
18-21	70	17.07%	-	Nil	70
22-25	80	19.51%	-	Nil	80
26-28	85	20.73%	-	Nil	85
29 -31	90	21.95%	-	Nil	90
32-35	85	20.73%	-	Nil	85
Total	410	100%	-	Nil	410

Table 5: Television affects the youths.

All the respondents ranked television influence very high. They revealed that television, especially, cable television is like a mirror to the world to them, and therefore they regard and see it as extremely influential. They spend more time watching television because it provides them with entertainment when they are alone. They all agree that it is the best way to unwind and alleviate boredom. They unanimously agreed that television is the second best way to relax after music.

<i>Item</i>	<i>Percentage</i>
Local television	60%
Cable Network	10%
Satellite Services	5%

Table 6: Television positive portrayal of rich cultural heritage of Nigeria

From the table above, local television positive portrayal of Nigerian culture ranks highest. Cable network only minimally portrayed Nigerian good aspects while satellite services barely talks of good aspects of Nigerian culture.

SUMMARY, FINDINGS AND RECOMMENDATIONS

Nigerian youths have significant access to globalised media to the extent that they use it for transnational connections thus resulting in globalized migration as well as culture. Younger people within the adopted age range for this study saw television as a tool for keeping busy, especially when they are alone. There are obvious differences in the extent of influence on viewers between program contents of cable network and satellite services and that of local television stations. Local stations tend to run programs that protect and promote culture than the cable or satellite counterparts mainly in compliance to Nigerian Broadcasting Commission's policy and regulations that television stations must have up to 70% indigenous sourced programs (NBC, 2009). Most young people love television because it helps them to curb boredom when they are alone in the house as revealed in the study.

In the question of the station that promotes the national interest best, local stations ranked best. They have programs in form of soap operas, movie, documentary, drama, talk shows that they use to inculcate cultural interest on youths. The study also revealed that globalization is part of the challenges facing Nigerian culture apart from mass media. According to Pais (2006), culture has been grossly influenced and altered through trade, migration and war; young people develop identity confusion as such they are confused about themselves and their

preferences. The vulnerability of youths endear them to foreign ideals, as a result, the values and goals they are expected to uphold are reduced such that they prefer western ideas than traditional ones. However, the study revealed that television is the most impactful and memorable advertising medium. It plays an important role in young peoples' lives. Therefore television is the best tool for rebranding, reviving and inculcating cultural discipline on Nigerian youths to attain high level ethical standard.

In conclusion, the researchers advocate that mass media outlets in the country should turn towards the dissemination of information on indigenous products like foods, music, fashion and abandoned traditional festivities in their air waves bearing youths in mind; this will curb cultural extinction and achieve national cohesion among youths. Parents should support legislation that encourages not only responsible media use but indigenously cultural packed media programs. The youths should be educated and prepared in the right way to be patriotic in order to face the future of our countries heritage. Apart from the usual use of television to educate and entertain, it should be employed also as a channel of enhancing traditional values and not cultural alienation.

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Racial Differences in Neighborhood Safety, Poverty, and Self-Rated Health

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Abstract

Objectives. Guided by a sociological model of the effects of neighborhood segregation and a quality of health model that includes the relationship between structure, process, and outcomes applied to neighborhoods, this study examines the effect of perceived neighborhood safety and poverty on self-rated health status across Asian, Black, Latino, and White Americans.

Methods. We conducted a secondary analyses using the 2009 and 2011 California Health Interview Survey. The sample is comprised of 83,507 respondents aged 18 to 85 including 9,127 Asians, 4,029 Blacks, 12,206 Latinos, and 58,145 Whites. We used logistic regression and tested the interaction effects between race, neighborhood safety and poverty level on self-rated health.

Results. The results revealed that race and perceived neighborhood safety had a statistically significant interaction effect on self-rated health ($F(7, 73) = 43.60, p = .001$). Similarly, the interaction effect between race and poverty on self-rated health was also statistically significant ($F(7, 73) = 127.29, p = .001$).

Conclusion. Perceived neighborhood safety and poverty exert negative effect on self-rated health and their effects varied among racial groups. Both variables are important for the understanding of health disparities among racial groups. Using the context of structure, process, and outcomes within neighborhoods, the sociologic model of residential segregation which ties SES, neighborhood safety, and physical activity across races as predictors of perception of poor health continues to prevail.

INTRODUCTION

Despite efforts of the US health system and health organizations to conquer health disparities in access and quality of care (Betancourt, Corbett & Bondaryk 2014; Federico, Tjoeng & Berman, 2007), minorities and immigrants experience deterioration in their self-reported health status as a health outcome as reported by many studies (Aqtash & Van Servellen, 2013; Brewer et al, 2013; Griffith et al, 2011). We know there are sociologic and perceptions-of-health differences between immigrants and those minorities with sustained generational poverty in the United States. However, prior published data includes findings that suggest that what we know is riddled with greater complexity than we thought. Embedded in minority or immigrant perceptions of health is the location where they live and their level of income because of the relationship between these two structures. For example, Kandula and colleagues (2007) found that health status measures used in collecting perceptions of health need to be less susceptible to cultural bias particularly in the Asian and Latino communities. It is also understood that racial segregation in neighborhoods congregates groups that are similar from a socioeconomic status (SES) perspective. Yet health researchers have not given attention to the causes of racial disparities in SES that are perpetuated by determination of education and employment opportunities by where racially diverse groups live (Williams & Collins, 2001). Finally, neighborhood safety, SES, and physical activity are highly related to determinants of mental and general health (Meyer, Castro-Schilo, & Aguilar-Glaxiola, 2014; White & Borrell, 2011).

While sociologic literature continues to support the undergirding theory that it is residential segregation that initiates and compounds health disparities, we also know that complexity in neighborhoods must include health outcomes as perceived from an interaction of structure and process experienced uniquely across races. Taken from the Donabedian Model of Health Quality, what we need to understand is that in health care systems at the micro or macro level is the reality that structure, process and outcomes are related to one another across any phenomenon of interest. Without exploring these complexities we miss a complete understanding of experiences in perceptions of health and healthcare (Donabedian, 1988).

For example, outcomes from a variety of neighborhood processes include, people living in resource-limited geographic areas have reported poorer health outcomes, and people living in segregated and high-crime areas often experience increased risk of developing cancer (Freedman, Grafova & Rogowski, 2011; White et al., 2011). These findings imply that there is a relationship between resource deprivation, social segregation and safety as an interactive process that impacts health in some way (Freedman et al., 2011; White et al., 2011). In addition to resource deprivation, availability of services that support unhealthy lifestyle options like the process of allowing the ubiquitous presence of liquor stores in African American communities affect health outcomes negatively (LaVeist & Wallace, 2000). Besides the importance of access to positive resources or goods for positive health outcomes, the experience of ethnic discrimination is highly correlated with poorer reported health, and feelings of lack of safety in the neighborhood; in fact, perceived discrimination is found to be related to binge drinking behavior as an unhealthy way to compensate for not feeling connected or wanted in one's neighborhood structure (Crengle et al., 2012; Cummins, 2007). Islam (2014) identified in south Asian Canadian-born people a strong positive relationship between social capital and social support and mental and physical health.

Physical environment is considered as a structure or determinant of health. Research has found that lack of green space was associated with poorer health in under-represented communities that lacked health resources (Maas et al., 2009). Moreover, living in green spaces

is correlated with positive levels of mental health, and this relationship was even stronger for children and people of low socioeconomic status (Maas et al., 2009). The relationship between residents and their community can also impact their health status as Wang & Hu (2013) compared different social and environmental determinants of health within three populations of Canadian-born, Asian immigrant and overall foreign-born, Asians had the weakest sense of reported community belonging and poorer mental and physical health in comparison with other groups.

The association between immigration status and health status or well-being has been inconclusive or “paradoxical.” For example, many immigrants tend to have lower average income and education, and low socioeconomic status is usually associated with worse health outcomes and higher death rates (Blue & Fenelon, 2011). However, some studies reported that less acculturated foreign-born immigrants appear to have a better health status than U.S-born and those that are more acculturated (Wang & Hu, 2013; Eshbach et al., 2007). Other studies found that the “immigrant health paradox” was weak in Chinese immigrants (Wang & Hu, 2013; John et al., 2012; Huh, Prause & Dooley, 2008). On the contrary, there is also evidence that foreign-born Asians rated their health lower than US-born Asians. Findings from research with Hispanic Americans are also mixed such as the self-reported mental and physical health status was worse in US-born Mexicans compared with non-US-born Mexicans (Jerant, Arellanes & Franks, 2008). However, Spanish speaking Hispanics were twice as likely to report poor/fair health compared with Whites (Brewer, 2013). The mortality rate in foreign-born Hispanics was low in comparison to Whites, but show the exact opposite results when US-born Hispanics were compared to Whites (Eshbach et al., 2007). Low socioeconomic status was strongly correlated with major depressive disorders in all ethnic groups including Whites (Gavin et al., 2010), and ethnic homogeneity and density within a society was associated with better social health, as it reduced stigma and exposure to racial discrimination (Pickett & Wilkinson, 2008).

The large and growing immigrant population in the United States calls for a growing need to understand different socioeconomic and environmental processes that create determinants of their health. Environmental features such as resource limitation, lack of green spaces, and even a prevalence of liquor stores were all associated with poor identified or self-reported health in non-white neighborhoods. Social features such as high crime rate, experience of ethnic discrimination, and lack of safety feeling showed the same association with low health outcomes. Although there are limitations to self-reported health data across different ethnic groups, there is validation that different levels of environmental distress such as neighborhood unsafety and poverty condition influence negative health outcomes.

Hypotheses. We hypothesized that the negative effect of perceived neighborhood lack of safety and poverty as part of a structure and process interaction on self-rated health outcomes varied according to race. The rationale for this hypothesis is that each selected racial group in this study has its own unique cultural, historical, and socio-economic backgrounds, and the predisposing experiences caused by racial differences could moderate the impacts of perceived neighborhood unsafety and poverty on health status

METHODS

Data Sources

The 2009 and 2011 California Health Interview Survey (CHIS) data were used in this study. CHIS is considered as one of the largest telephone health surveys using both landline and cell-phone lists to select sampled households. Interviews were conducted in five languages:

English, Spanish, Chinese (Mandarin and Cantonese dialects), Vietnamese, and Korean. The 2009 and 2011 CHIS adult data consisted of 90,045 interviews conducted among participants aged 18 or older. This study's sample includes 9,127 Asians, 4,029 Blacks, 12,206 Latinos, and 58,145 Whites. A detailed description and discussion of CHIS sampling methods can be found online posted on the CHIS website (California Health Survey, 2011). Data analyses were conducted using Stata 13 for the present study (Long & Freese, 2014).

Measures

Dependent Variable. Self-rated health status was originally measured on a 5-point scale (excellent = 1, poor = 5) that was recoded to a dichotomous variable with two categories (0 = fair/poor, 1 = excellent, very good, or good). This coding procedure was the same as that employed in two previous studies using CHIS data, and the rationale for the coding is that fair/poor ratings of health status are associated with higher risk for morbidity/mortality (Finch & Vega, 2003; Grant et al., 2011).

Independent Variables. Race was coded into 4 racial groups: Asian, Black, Latino, and White. Neighborhood safety was measured by the question "Do you feel safe in your neighborhood?" This variable was coded 1 for unsafe and 0 for safe. Poverty level was coded 0 for being at 200% or above the federal poverty level and 1 for under this threshold.

Covariates. Age was measured by self-reported chronological age ranging from 18 to 85 years. Sex was coded 1 for female and 0 for male. Marital status was coded as 1 for currently married or living with a partner and 0 for other groups. Education was coded as 1 for college and 0 for high school or less. Foreign Born was coded 1 for born outside the U.S. and 0 for U.S. born.

Data Analysis. We used logistic regression and performed two stage analyses (Long & Freese, 2014). First, we tested for the interaction between race and neighborhood safety with self-rated health adjusted for the covariates and the interaction effect between race and poverty with self-rated health adjusted for the covariates. Second, we stratified our sample into 4 racial groups then performed a logistic regression for self-rated health on neighborhood safety and poverty adjusted for the covariates. This subgroup analysis not only encompasses the interaction effects of race and neighborhood safety and race and poverty, it also offers an opportunity to highlight the potential interaction effects of race and the covariates with self-rated health. All analyses were adjusted for complex survey sampling designs because CHIS employed both disproportional stratified sampling and multiple frame sampling methods (California Health Survey, 2011).

RESULTS

Table 1 presents the descriptive statistics of all variables used in the study stratified by race. With respect to self-rated health status, Black and Latinos respondents reported a greatest percent of poor health (5%) compared with (4% of Asians and 3% of White). Racial differences in perceived neighborhood safety varied from 6% of Whites who perceived that their neighborhood as unsafe compared with 12% of Asians, 15% of Blacks, and 19% of Latinos. Respondents who lived under 200% of the federal poverty level included 19% of Whites, 29% of Asians, 42% of Blacks, and 61% of Latinos. Blacks had the greatest percent of females (54%), and Latinos the greatest percent of males (51%). Whites reported the greatest average of household incomes (\$49,277) compared with \$46,032 for Blacks, \$42,928 for Asians, and \$39,617 for Latinos. Sixty percent of Whites and Asians were currently married compared with 38% of Blacks, and 59% of Latinos. More than 70% of Asians (72%) and Whites (71%) had some college education or higher compared with 61% of Blacks and 31% of

Latinos. Finally, 71% of Asians were foreign born Americans compared with 60% of Latinos, 10% of Blacks, and 9% of Whites.

Table 1. Descriptive Statistics of Variables Used in the Analysis (N=83,507)

Variables	Asian	Black	Latino	White
Mean Age (95%CI)	42.93 (42.43, 43.42)	46.03 (45.15, 46.92)	39.62 (39.23, 40.00)	49.28 (49.08, 49.47)
Female %	53.35	54.30	48.54	50.87
Married/Partnered %	60.93	38.62	59.04	63.28
Under 200%FPL %	29.32	42.25	61.24	19.25
College Education %	72.24	61.52	31.34	71.25
Foreign Born %	70.85	10.49	60.65	9.59
Unsafe Neighborhood %	12.18	15.69	19.10	5.70
Poor Health %	3.89	5.40	4.73	3.32
Income	\$42,928	\$46,032	\$39,617	\$49,277

Test for the Interaction Effect in the Whole Sample. We tested the interaction effect of race and perceived neighborhood safety on self-rated health status, and race and poverty on self-rated health in the logistic regression model (race##perceived neighborhood safety; race##poverty) and using the “testparm” procedure. The results revealed that race and perceived neighborhood safety had a statistically significant interaction effect on self-rated health ($F(7,73)=43.60, p = .001$). Similarly, the interaction effect between race and poverty on self-rated health was also statistically significant ($F(7,73) = 127.29, p = .001$). It is difficult to interpret the interaction effects from the logistic regression models; therefore we proceeded with the subgroup analysis stratified by race.

Subgroup Analyses

Asians. The results of logistic regression of perceived neighborhood safety and poverty level on self-rated health are reported under column 2 of Table 2. Both variables had a similar association with self-rated health. Asians who perceived their neighborhood as unsafe had a 3.42 times increased risk of poor health compared with those who perceived their neighborhood as safe (Odds Ratio = 3.42, $p = .002$). Similarly, Asians who lived under 200% federal poverty level had a 3.47 times increased risk of poor health compared with those living from 200% federal poverty level or higher (Odds Ratio = 3.48, $p = .001$).

With respect to the covariates used in the analysis, Age had a relative weak association with poor health status among Asians in such a way that older Asians were more likely to report a poor health status than younger Asians (Odds Ratio = 1.05, $p = .001$).

Blacks. Among Blacks, perceived neighborhood safety had no statistical association with poor health status, however, those who lived in poverty, under 200% federal poverty level reported a 3.44 times increased risk of poor health compared with those who lived at 200% federal poverty level or higher (Odds Ratio = 3.44, $p = .001$). Older age was slightly associated with poor health (Odds Ratio = 1.05, $p = .001$). Married people were less likely to report a poor health status compare with people who were not currently married (Odds Ratio = .51, $p = .003$). People with some college education or higher were also less likely to report a poor health status compare with those who had only a high school education or less (Odds Ratio = .61, $p = .01$).

Latinos. Among Latinos, respondents who perceived their neighborhood as unsafe had a 1.77 times increased risk of poor health compared with those who perceived their neighborhood as safe (Odds Ratio = 1.77, $p = .001$). Similarly, respondents who lived under 200% federal poverty level had a 2.31 times increased risk poor health compared with those who lived at 200% federal poverty level or higher (Odds Ratio = 2.31, $p = .001$). Older age was slightly associated poor health (Odds Ratio = 1.05, $p = .001$). Currently married respondents were less likely to have a poor health status compared with those who were not currently married or single (Odds Ratio = .83, $p = .004$). Finally, respondents who had some college were less likely to have a poor health status compared with those who had a high school or less (Odds Ratio = .63, $p = .00$).

Whites. Among White respondents, individuals who perceived their neighborhood as unsafe had 2.81 times increased risk of poor health compared with those who perceived their neighborhood as safe (Odds Ratio = 2.81, $p = .001$). Respondents who lived under 200% federal poverty level had 3.18 times increased risk of poor health status than those who lived at 200% federal poverty level or higher (Odds Ratio = 3.18, $p = .001$). Older age was slightly associated with a poor health status (Odds Ratio = 1.03, $p = .001$). Currently married respondents were less likely to report a poor health status compared with those who were not currently (Odds Ratio = .75, $p = .01$). Participants with College education were less likely to report poor health status compare with participants without a college education (Odds Ratio = 0.63, $p < .001$)

Table 2. Logistic Regression of Self-Rated Health Status Across 4 Selected Racial Groups

Variables	Asian (N=9,102)	Black (N=4,003)	Latino (N=12,169)	White (N=57,749)
Unsafe Neighborhood	3.42** (1.57, 7.46)	1.31 (0.83, 2.06)	1.77** (1.29, 2.44)	2.81*** (1.91, 4.14)
Federal Poverty Level Under 200%FPL	3.48** (1.69, 7.16)	3.44*** (2.37, 4.99)	2.31*** (1.61, 3.31)	3.18*** (2.69, 3.76)
Age	1.05*** (1.03, 1.08)	1.05*** (1.04, 1.05)	1.05*** (1.04, 1.06)	1.03*** (1.03, 1.04)
Female	1.30 (0.77, 2.20)	0.86 (0.56, 1.33)	1.09 (0.81, 1.48)	0.93 (0.76, 1.13)
Married/Partnered	1.04 (0.67, 1.60)	0.51** (0.33, 0.79)	0.83 (0.61, 1.13)	0.75** (0.61, 0.91)
College Education	0.66 (0.43, 1.01)	0.61* (0.41, 0.91)	0.68 (0.45, 1.04)	0.63*** (0.52, 0.77)
Foreign Born	0.98 (0.39, 2.48)	0.46 (0.16, 1.36)	0.62* (0.43, 0.90)	1.14 (0.72, 1.81)

Note: *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$. Coefficients without "*" are not significant

Cross-Racial Comparisons

The results in Table 2 indicate racial variations in the effects of perceived neighborhood safety and poverty on self-rated health status. Perceived neighborhood safety had a significant association with self-rated health status among Asians, Latinos, and Whites, but not among Blacks. Its effect on self-rated health is strongest among Asians. With respect to poverty, the results show that regardless of race, poverty had a significant association with self-rated health

status in such a way that respondents who lived under 200% federal poverty level consistently reported a poor health status compared with those who lived at 200% federal poverty level or higher. However, poverty appears to have the weaker association with self-rated health status among Latinos compared with Asians, Blacks, and Whites.

With respect to the covariates used in the analyses, age is the only variable that had consistently significant association with self-rated health status across the four racial groups. Older age associated slightly with increased risk of poor health status regardless of respondents' race. Married status associated significantly with lower risk of poor health among Blacks and Whites but not among Asians and Latinos. College education associated significantly with lower risk of poor health among Blacks and Whites but not among Asians and Latinos. Finally, foreign born status associated significantly with lower risk of poor health only among Latinos.

DISCUSSION

The results supported our hypothesis that perceived unsafe neighborhood structures and processes and the presence of poverty significantly associated with increased risk of poor health as an outcome, but this association varied across racial groups. More specifically, perceived unsafe neighborhood and the presence of poverty exert different complex interactions and impact on poor health outcomes depending on respondents' race. In the study, we found that perceived unsafe neighborhood had a strongest effect on poor health status among Asians and the weakest impact among Blacks. This could be interpreted that Asian Americans were not familiar with their local community due to that fact that 70% of them were born outside the U.S. However caution needs to be heeded with this finding since those Asians that have lived in neighborhoods for a long time may experience acculturation and this acculturation may affect how they perceive their health (Shi, Zhang, van Meilgaard, MacLeod, & Fielding, 2015).

Recent statistics from the American Community Survey also revealed that more Asian Americans could not speak English well compared with Latinos (Camille, 2013). Lack of familiarity and English skills could exacerbate the impact of perceived neighborhood unsafety on health outcomes among Asians.

The Black community as designated in most data sets is made up of individuals who identify as African American (persons born in the US descended from members of the black community living in the US since the era of slavery) and other black individuals including persons born in Africa, the Caribbean basin and parts of Central and South American (CDC, 2015). Variation across these differences often are not available statistically so that there is a deeper and tailored understanding of the differences between the Black culture when it comes to health and the environment. It may be the case that the immigrant health paradox continues to exist among Blacks from African, the Caribbean basin and parts of Central and South America. The African American community may have less perceived problems with health when situated where they live because the health of their community has been a normalized generational experience where health is constantly seen as poor and a way of life and survival (Borrell, Kiefe, Williams, Diez-Roux, & Gordon-Larsen, 2006). In a similar way, the impact of poverty on poor health status appears to be weaker among Latinos compared with other racial groups in this study. This could be due to their resilience that may parallel the experience of African Americans (Shetgiri et. al., 2009; Cardoso & Thompson, 2010).

The variable of age and the relationship to decreased perceptions of good health seems logical across all cultures. In thinking about increasing frailty with age the more frail one becomes across any culture the more anxiety or fear about maintaining balance, decreasing falls, and maintaining instrumental functional status (Seematter-Bagnoud, Santos-Eggimann, Rochat, Martin, Karmaniola, Aminian, Piot-Ziegler, & Bula, 2010). The connection between frailty and the decrease functional status may interact negatively with the experience of living in poorer neighborhoods or unsafe environments at different scales. Feeling safe walking in a home in a poor neighborhood setting may be much different than feeling safe walking on broken pavement or in dangerous high trafficked area with cars, busses and many people. One's perception of health based on environment may be significant to the degree the perception has real risk related to frailty and possible injury.

Finally, partnered couples are often found to perceive their health in a positive light more than those that are not partnered. The reasons for this phenomenon which is verified in this study across racial groups consistently is that marriage or being with a partner encourages people to maintain good health behaviors and have good social support and a sense of purpose and responsibility to stay healthy in life (Zheng & Thomas, 2013).

This study does have a few limitations including the representativeness of the sample and measures of neighborhood unsafety. Since the data were collected in California, any implications of the results toward the larger population should be cautious. Second, the measurement of perceived neighborhood safety should be refined to encompass other dimensions relevant to health outcomes. Nevertheless, this study's results are important in the effort to reduce health disparities among different racial and ethnic groups in our diverse society.

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