Assessment of Public and Private Schools Physical Environment Standardized Features in Babylon Governorate: Comparative Study

Naji Yasser Saadoon*

ABSTRACT

Background and aim: creating a healthy school environment requires the involvement and participation of practically everyone in the school-students, administrators, teachers, school counselors, school nurses, nutrition services workers. The study aims to assess public and private schools physical environment standardized features in Babylon Governorate and to compare between public and private schools physical environment such features.

Materials and method: A descriptive study, using the assessment approach, is carried out from July 2016 to April 2017. Probability, simple random sample, of (44) school principal, science teacher, and physical sport teacher is selected from (34) primary schools in Babylon Governorate. A questionnaire, of (44) items, is constructed for the purpose of the present study. Data are collected through the use of the constructed questionnaire and the application of the structured interview technique as means of data collection. Data are analyzed through the application of the descriptive statistical data analysis approach of frequencies, percentage, mean, and standard deviation and the inferential statistical data analysis approach of t-test.

Results: The present study depicts that primary schools in Babylon Governorate experience deficiencies with respect to domains of the school environment standardized features, but private school have low deficiencies of such domains than public schools.

Conclusions: The study concludes that both public and private schools had major deficiencies identified in their environment standardized features. However, public schools have a much higher proportions of deficiencies and are in most urgent need of actions. Private schools are also in need of remediation of deficiencies.

Recommendations: The study recommends that further study with a large randomly selected sample of schools can be conducted to confirm the findings of this study and allow for greater generalizability. Advancement, in the measurement of standardized deficiencies, can take a place to advance the present study to the next level of rigor by eliminating redundant items and improving the reliability and validity of the questionnaire. Furthermore, evaluation of the improvement in deficiencies overtime using a longitudinal study design.

Keyword: Assessment, School Physical Environment, Standardized Features, Private School, Public School.

INTRODUCTION

Environmental challenge and opportunities vary considerably among schools around the world, across countries and within communities. Similarly, the resources available to schools to manage health hazards vary as widely as the threats themselves, often creating formidable management challenges, particularly in the poorest parts of the world. The school should be a suitable space for intellectual, creative, physical and social activity. The school should be lively and welcoming; a place that the pupils will make their own with an atmosphere and sense of scale that is not over-powering or impersonal. Environment is an essential component of a health promoting school (World Health Organization (WHO), 2000).

The studies on the schoolroom environment have revealed that physical arrangement plays a vital role in teaching learning process. It can affect the performance of both teachers and students (Savage, 1999). There are several factors of schoolroom physical environment i.e. visual factor, acoustic factor, thermal factor, spatial factor and time factor. Visual factor refers to the quality of lighting in different parts of the schoolroom. It is determined by the level of natural and artificial light available in the schoolroom. It also refers to the way by which the schoolroom environment is arranged i.e. visually interesting, creating a favorable atmosphere and any unwanted disruptions, e.g. windows overlooking playgrounds, etc. Acoustic factor is a significant factor as we mostly depend upon verbal communication in our schoolroom. Noise level, mainly depends upon school design, classroom organization and teaching methodologies applied during a lesson (Basit, 2005).

Creating a healthy school environment

* *Lecturer / College of Nursing / University of Babylon / E-mail: njnj_3000@yahoo.com*

requires the involvement and participation of practically everyone in the school-students, administrators, teachers, school counselors, school nurses, nutrition services workers. In addition, as well as custodial and maintenance staff schools depend on the involvement of families and environmental, public health, public safety, public welfare, and other community agencies (Axelrad, 2006).

As within any systemic reorganization, change takes time—sometimes years. Over time, schools will identify challenges and difficulties, then analyze them and make necessary changes. Even as schools come up with successful solutions to one set of issues, new challenges will eventually arise. Thus, a school's attention to the healthfulness of its environment will evolve and adapt to changing circumstances, while never losing sight of educating its students. Nevertheless, school administrators are ultimately responsible for a school's physical environment. Superintendents are required to comply with laws, rules, and education code sections that can affect and/or determine the school environment. In many districts, the administrative role might be delegated to facilities coordinators, risk managers, or environmental health specialists (American Association of School Administrators, 2007). The role played by school administrators, the design of schools is a very significant factor when it comes to establishing a healthy physical environment, in particular when dealing with sanitation issues related to moisture.

In addition to building roofs that leak or will not stop water are detrimental to the student health and overall wellbeing. Water in schoolrooms leads to mold which can be responsible for causing allergic reactions. High humidity and stagnant water also creates an environment favorable to all kinds of bacteria, which can lead to the spread of serious diseases (Schneider, 2002).

The study aims to assess public and private schools physical environment standardized features in Babylon Governorate and to compare between public and private schools physical environment such features.

MATERIALS AND METHOD

A descriptive design is carried throughout the present study to assess public and private schools physical environment standardized features in Babylon Governorate for the period of July 2016 to April 2017. A probability, simple random sample, is selected for the study which includes (44) school in Babylon Education Directorate; (22) public and (22) private ones.

The study instrument was developed on the basis standardized features of the schools' physical environment. These standards were set in the Ministry of Health, Public Health Directorate, Primary Health Care Department; this question can be used as a national scale for the assessment of the Schools' Physical Environment standardized features. The instrument is comprised of the demographic characteristics and (15) domains. The response options for all (123) items are consisted of having "met the standard =1; do not meet the standard=2" (Polit and Hungler, 2012). The data are collected through the use of the constructed questionnaire and the interview technique as means of data collection. Data are analyzed through the application of descriptive statistical data analysis approach of frequencies, percentages, mean and standard deviation and the inferential statistical data analysis approach of t-test.

RESULTS

Table (1): Description of Material and Human Resources (N=44)

Variable		Percentages %
School Type	Public	50.0
	Private	50.5
Level of School	Primary	40.9
	Secondary	59.1
Classes	1 time/ day	54.5
	2 times/day	45.5
Number of Teachers	1-10	13.6
	11-20	45.5
	21-30	27.3
	31-40	9.1
	41+	4.5

Number of students in schools	150	38.6
	151-300	34.1
	301-450	15.9
	451- 600	6.8
	>601	4.5
Generators		50.0
Meeting Rooms		43.2
Gardeners		11.4
Provided lunch		27.3

Table (2): The Domain of Surrounding Environment

Items		**%**
Surrounding environment	Animals	20.5
	Gases	20.5
	Water parks	20.5
	Factories	6.8
	Waste	34.1
	Railway	6.8
	Noise	43.2
	Close to the street	52.3
	Public markets	9.1

Table (3): The Domain of School Building

Items		**%**
School building	Modern construction	45.5
	Ramshackle	29.5
	Rehabilitated	38.6
Nature of the school building	Blocks (coming in rows on a straight line)	29.5
	Central form	84.1
	Direction of the school building, according to sun and wind exposure	72.7
School area	The school area is standardized	63.6
	The school total area is appropriate for the students or pupils (10-15 meters) per pupil (the number of pupils / school's total area)	63.6
	The school area includes buildings, parks and playgrounds	50.0
School fence	The school fence is standardized (height of 180 cm to 2 meters)	81.8
	Trees are planted at the side of the school fence	29.5
School Cleanliness	The school is clean	52.3
	Janitorial staff are available to clean the school	40.9
	The school is daily cleaned	43.2
	Materials and tools are available as needed for continuous cleaning	45.5
	Janitorial staff has a medical examination card	90.9
	The janitorial staff has a certificate of health education	100
	The janitorial staff is dressed with cleaning uniform	84.1
	Collective action campaigns are held to clean up the school garden and trees and plants and watering the plants	52.3
School garden	There is a suitable garden in the school	25.0
	Trees are planted in the school garden	47.7

Table (4): The Domain of School Yard

Items		%
School yard	School yard is standardized (according to the school environment guide).	40.9
	Rain water can be drained appropriate from the school yard (connects to appropriate sewage disposal)	29.5
	Shades are available at the school yard	59.1
	Collection of waste in the school yard	79.5

Table (5): The Domain of Fire Extinguishers

Items		%
Fire extinguishers	Fire extinguishers are not available	100
	Fire extinguishers are available but they are out of service	100
	Are available but inadequate	100

Table (6): The Domain of Classroom

Items		%
Classroom	Classroom size is adequate (1-1.5) m^2 per pupil or student	70.5
	Classroom size is standardized (6 m width, 8 m length, 4 m high)	29.5
	Classroom walls are clean and does not need painting	13.6
	Natural ventilation and lighting by windows are suitable	43.2
	Ventilation and lighting are artificial industrial appropriately and within the health requirements (Using fans and air conditioners, placing meshed wire on the windows)	47.7
	Existing sufficient artificial lighting	61.4
	Standardized waste containers with lids are	54.5
	Sufficient number of air conditioners is available	40.9

Table (7): The Domain of Water Cycle

Items		%
Water cycle	Sufficient number of toilets for the number of students or pupils (one toilet for every 25 students or pupils)	59.17
	Permanently clean and standardized (according to the school environment guide)	68.2
	There is sufficient lighting	47.7
	Standardized air vacuums are available	31.8
	Disinfectant and detergents are available	43.2
	Sinks are available	13.6
	Hand-washing soap is available	59.1
	Having clean water and unfit for human use within the toilets	25
	Water siphon works well	40.9
	Water jug inside toilets is available	6.8
	Males water cycles are separated from the female ones in mixed Schools	79.5
	Toilets have appropriate and usable doors	100
	Clips on the windows are available to prevent insects from entering	100

Table (8): The Domain of the Source of Water

Items		%
Source of water	Liquefaction	13.6
	Deny (Tanks)	15.9
	Water tanks are clean and appropriate for human use	29.5

Table (9): The Domain of First-aid Kit and Pharmacy

Items		%
First aid kit and pharmacy	Standardized first-aid and kit is available (according to the school environment guide)	59.1
	Pharmacy, which contains medicines and supplies, in case of emergency is available	65.9
	First-aid kit and pharmacy supplies are provided by the school	72.7
	First-aid kit and pharmacy supplies are provided by the health center	84.1

Table (10): The Domain of Services Staff (janitorial)

Items		%
Services staff (janitorial)	Janitorial staff are not sufficient in number (one staff per 100 students or pupils)	95.5
	Medical examination cards are not available for employees (renewed every year)	77.3
	Health education certificates are not available for janitorial staff (renewed every two years)	54.5
	Adoption of standards, especially in the appointment of janitorial staff is not employed	50

Table (11): The Domain of Antiseptics and Disinfectants in School

Items		%
Antiseptics and disinfectants in school	Not available in school	88.6
	Provided by the school	15.9
	Provided by the health center	31.8

Table (12): The Domain of School Cafeteria

Items		%
School cafeteria	There is no school cafeteria	81.8
	Committed to sell materials are not known by sources and bypass	100
	Medical examination card is not available for staff in the cafeteria	84.1
	Certificate of health education is not available for staff in the cafeteria	97.7
	The staff do not wear special uniform	95.5
	Electrical insect killers are available	13.6
	Preventing insects from entry by placing wires on the windows	36.4
	Pure water bottles and drinking ones are not available	59.1
	Waste disposal is appropriately managed	47.7
	The presence of lighting and ventilation in the cafeteria	56.8
	No constant supervision on the type of food, and the application of health conditions in the preparation and delivery of food for students	86.4
	The cafeteria is not standardized within the specifications, such as building and material	97.7
	Home-made materials are sold in the cafeteria	100

Table (13): The Domain of Classroom Furniture

Items		%
1. Students' seats	Seats are available for adequate number of pupils or students	43.2
	There is adequate number of seats for pupils or students	29.5
	Seats are devoid of sharp edges and nails	53.3
	Size of seats is not suitable for the size of the pupils or students	93.2
2. Blackboard	Magnetic board is available	29.5
	Electronic board is available	27.3
	Regular board is available	6.8
	White board is available and with pens	65.9
	Blackboard is placed in the middle of the front wall	29.5
	The distance between the blackboard and the first row of seats is (1.5-2m)	72.7
	A stream is available on a blackboard to deposit atoms of chalk	20.5
	Pens or chalks are available for use	90.9
3. Instructor Platform	Platform is not available in the classroom	95.5
	Platform is in a good condition	25.0

Table (14): The Domain of Safe Water to Drink (Drinking Water)

Items		%
Safe water to drink (drinking water)	Pure water is available for drinking (connected to the water liquefaction)	18.2
	Drinking water is sufficient and on a continuum base throughout the year	18.2
	Drinking water reservoirs are adequate relative to the number of students or pupils (10 liters per pupil or student)	40.9
	Drinking water taps are sufficient (faucet every 50 pupils or students)	29.5
	Drinking water taps are not standardized	90.9
	Drinking water taps design are standardized	56.8
	Chlorine examination is periodically and documented	9.1
	Drinking water tanks are made of aluminum	22.7
	Drinking water tanks are sealed appropriately	47.7
	Drinking water tanks are clean and maintained periodically	40.9

Table (15): The Domain of Sewage Disposal System

Items		%
Sewage Disposal System	The school is connected to a regular sewage disposal system	47.7
	The school is connected to tank	59.1
	If the answer is yes? Is the tank is drained periodically?	65.9
	The process of maintaining the sewage system is periodic	70.5
	Problems are associated with the sewage disposal system	45.5

Table (16): The Domain of Accidents Prevention

Items		%
Accidents Prevention	There is no special program for accidents prevention	70.5
	The entry and exit of students from school and classrooms is not organized	77.3
	There is no committee for students crossing the street (nearby public schools from the street)	93.2
	Redundant materials and supplies are available (damaged students seats, blackboard, others) in the school yard	38.6
	Documentation of incidents at the school on a regular base	54.5
	Fuel is stored within school buildings properly	70.5
	Safety requirements (fire extinguishers with a pharmacy) in the school are available	22.7
	Students and teachers are trained for the use of fire extinguishers	72.7
	Windows and stairs contain safety boards (for schools of two floors)	50.0

Table (17): Mean differences between Public and Private Schools relative to Primary Schools Standardized Environmental Features (n=22)

Public vs. Private		Mean	SD	Mean difference	UB	LB	P*
Domain I	1	1.59	.503				
	2	1.23	.42	.36	07	.65	.01
Domain II	1	1.91	.29				
	2	1.45	.51	.45	.19	.71	.00
Domain III	1	1.36	.49				
	2	1.45	.51	-.09	-.39	.21	.55
Domain IV	1	1.73	.45				
	2	1.77	.43	-.05	-.31	.22	.74
Domain V	1	1.82	.39				
	2	1.05	.21	.77	.57	.96	.00
Domain VI	1	1.77	.43				
	2	1.18	.39	.59	.34	.84	.00
Domain VII	1	1.50	.52				
	2	1.23	.43	.27	-.01	.56	.06
Domain VIII	1	1.77	.43				
	2	1.54	.51	.23	-.06	.51	.12
Domain IX	1	1.95	.21				
	2	1.14	.35	.82	.64	.99	.00
Domain X	1	1.45	.51				
	2	1.18	.39	.27	-.01	.55	.05
Domain XI	1	1.68	.47				
	2	1.73	.45	-.05	-.33	.24	.75
Domain XII	1	1.59	.50				
	2	1.73	.45	-.14	-.43	.15	.35
Domain XIII	1	1.73	.45				
	2	1.23	.43	.50	.23	.76	.00
Domain XIV	1	1.64	.49				.
	2	1.09	.29	.55	.29	.79	.00
Domain XV	1	1.55	.51				
	2	1.23	.43	.32	.03	.61	.03
Grand total	1	1.86	.35				
	2	1.73	.45	.14	-.11	.38	.27

1=Public 2=Private; CI=Confidence Interval; LB=Lower bound CI, UB=Upper bound CI, P=Probability Level *Unpaired 2-tailed test

DISCUSSION

In table (1), a description of the material and human resources available in the schools is presented. Most of the schools have I time/day classes (54.5%), (11-20) teachers (45.5%), (150) student (38.6%), generators (50%), meeting rooms (43.2%), gardeners (11.4%) and provided lunch (27.3%). Table (2) shows that the domain of surrounding environment has deficiencies, which are ranged (6.8%) for “Factories” and "Railway" to (52.3%) for “Close to the street”. Table (3) indicates that school building; all (21) items have deficiencies; ranging from the lowest percent deficiency of (25.0%) for “There is a suitable garden in school” to (100%) deficiency in “The janitorial staff has a certificate of health education, with seven items having greater than (70%) deficiencies. Table (4) reveals that school yard deficiencies have ranged from (29.5%) for "Lack of rain water drainage" to (79.5%) for "Collection of waste in the school yard". Table (5) depicts that all three items of fire extinguishers are reported to be (100%) deficient each (i.e., not available, not functional, inadequate). Table (6) presents the classroom domain of (8) items: "Classroom walls are clean and do not need paint" (13.6%) deficiencies are noted' whereas the other (6) items are ranged in deficiencies from (29.5 %) for "Classroom size is standardized" to (70.5%) deficiency in for classroom size is adequate. Table (7) deals with the Water cycle domain, shows two items are (100 %) deficient (Toilets have appropriate and usable doors" and "clips on windows are available to prevent insects from entering." The remaining items in this part have between (6.8%) to (79.5%) deficiencies. Table (8) indicates that the deficiencies are (13.6%) (Liquefaction) and to only about one third of the source of water (29.5%) "Water tanks are clean and appropriate for human use". Table (9) deals with first-aid kit and pharmacy domain and shows that there is mild to moderate deficiencies relative to items of this domain. Table (10) deals with service staff (Janitorial) and depicts that they are not sufficient in number (95.5%); have no medical examination cards available in (77.3%); have no health education certificates (54.5%) and (50%) have no adopted standards. Table (11) reveals that antiseptics and disinfectants in school are not available in (88.6%) of schools; are only provided to schools (15.9%) and by health centers (31.8%). Table (12) is presenting the domain of school cafeteria and depicts that there are deficiencies in (13) items ranging from (13.6%) to (100%). Of these, two are (100%), such as "committed to sell materials known by source and bypass" and "Home-made materials are sold in the cafeteria". Table (13) shows the classroom furniture domain with (14) items, (6.8%) to (95.5%) deficiencies are noted. Table (14) Consists of (10) items related to the "Safe water to drink" domain and presents the deficiencies ranged from (18.2%) "Drinking water is sufficient and on a continuum base throughout the year" to (90.9%) for "Drinking water tap design is not standardized". Table (15) presents the domain of "Sewage disposal system" with (5) items domain, the deficiencies were between (47.75) for "The school is connected to a regular sewage disposal system" to (70.5%) deficient in the item of "the process of maintaining the sewage system is periodic". Table (16) shows the domain of accidents prevention with (9) items which indicates the lack of meeting standards ranged from (22.7%) for "Safety requirements" to (77.3%) for "The entry and exit of students from school and classrooms are not organized". Table (17) presents that there are differences in means discrepancies between public versus private schools. Such differences in means are with 95% confidence intervals (CI).

Throughout the course of data analysis, the study findings depict concerning the material and human resources available in the schools is presented that most of the schools have I time/day classes (54.5%), (11-20) teachers (45.5%), (150) student (38.6%), generators (50%), meeting rooms (43.2%), gardeners (11.4%) (Table 1). These findings reflect the reality of the public and private schools in Babylon Governorate relative to such features. "The pupil/teacher ratio is an indicator of education quality. In crowded classrooms with a high number of pupils per teacher, the quality of education suffers. For pupils it is difficult to follow the course and teachers can dedicate less time to the needs of each individual student. On the pupil/teacher ratio in primary school show that crowded classrooms are more common in Sub-Saharan Africa and Southern Asia than in other parts of the world. 22 of the 27 countries with 40 or more pupils per primary school teacher are located in Sub-Saharan Africa. Global primary school attendance rates have been on a steady upward trend over the past years" (United Nations International Children's Emergency Fund, 2003). Throughout the course of data analysis, the study findings depict concerning the provided lunch (27.3%) (Table 1).

Good nutrition perfect and keeps up physical and psychological wellness, which can bring about youngsters missing less school and being better ready to effectively realize when at school. A healthy nutritional environment can positively affect the nutritional intake of students and influence their academic, physical, and social development. For example, students who eat a nutritious breakfast perform better in the schoolroom (Taras and Polts-Datema, 2007). School sustenance administrations ought to be coordinated into a school's push to deal with its condition. It could be coordinated with health and nutrition education and with other components of the health-promoting school to reinforce lessons on healthy eating and ensure nutrition support. If food is provided, the school should offer a variety of healthy food choices and promote healthy eating and food safety (World Health Organization WHO, 2002).

With regard to the domain of surrounding environment, the study findings reveal that most of the schools are located close to the streets (52.3%), noise (43.2%) and (34.1%) (Table 2).

Roads are a source of noise and this is another reason why schools should be sited wherever possible away from busy through fares. Wherever frontage to a noisy road is unavoidable, a well planned landscape outside the classrooms can achieve better sound conditions (WHO, 2005).

Relative to the domain of school building, the study indicates that more than one third of the schools have modern construction (45.5%); (29.5%) have blocks; half of them have school area that includes buildings, parks and playgrounds; (29.5%) of the schools have trees planted at the side of the school fence and only (43.2%) of the schools are daily cleaned (Table 3). This presents a fact about the nature of the schools' building governorate-wide. With respect to the domain of school yard, the findings present that only (40.9%) of the schools have standardized school yard; (29.5%) of the schools have rain water drainage; and (59.1%) of them have shades at the school yard (Table 4). Such findings provide empirical evidence about deficiencies of this respect. Regarding the domain of the domain of fire extinguishers, the study reports that all schools experience deficiency relative to this domain (i.e., not available, not functional, inadequate) (Table 5).

According Kisioglu, A. and et al. "In a survey study, thirty-seven state primary schools located in the Isparta region of Turkey are studied during the period between March and May of 2002. The results showed that all the schools of the region had a number of inadequacies because they had not been adequately adapted to comply with existing standards. The survey showed that local and central official bodies must reinforce the need for standards and ensure the implementation of high standards in the schools to ensure the pupil health, safety and security"(Kisioglu *et. al*., 2005).

Concerning the domain of the domain of classroom, the study findings depict that most schools have deficiencies relative to items of this domain, except that of classroom size is adequate (1-1.5) m2 per pupil or student (70.2%) and existing sufficient artificial lighting (61.4%) (Table 6). These findings provides clear image about the reality of these schools. The higher student achievement brought about by class size reduction may result from some of the ways in which reducing class size naturally alters the schoolroom environment. On being allocated to littler classes. Class measure reduction also changes the educational opportunities beyond the schoolroom (WHO, 2000).

Relative to the domain of water cycle, the findings reveal that most of the schools experience deficiencies almost all items of this domain, except that of toilets have appropriate and usable doors (100%); males water cycles are separated from the female ones in mixed (79.5%); schools permanently clean and standardized (according to the school environment guide) (68.2%); sufficient number of toilets for the number of students or pupils (one toilet for every 25 students or pupils) (59.17%) and Hand-washing soap is available (59.1%) (Table 7). Regarding to the domain of the source of water, the study presents deficiencies relative to all items of such domain, these items are concerned with water tanks are clean and appropriate for human use (29.5%); deny (tanks) are available (15.9%) and liquefaction (13.6%) (Table 8). These findings provide evidence that the pupils in these schools are consuming unsafe water. Concerning the domain of safe water to drink (drinking water), it has been realized that most of the schools experience deficiencies connected to all items of this domain. This provides empirical evidence that supports the fact the pupils at schools unfortunately do not drink safe water (Table 14).

Availability of pure water and electricity, as well as drainage conditions should be considered, so that, the expense of making lengthy connections to water, electricity and sewers mains can be avoided (WHO, 2013b). The school survey, released by the Iraq Ministry of Education, shows that one-third of all primary schools in Iraq lack any water supply and almost half are without any sanitation facilities. The survey reveals that despite the difficulties, overall enrolment surged in the 2003-2004 school year. However, it also shows that the number of suitable school facilities has failed to keep pace with demand. In fact, while there are more than 14,000 named primary schools in Iraq, there are only 11,368 actual schools buildings available to house them. Some 2,700 of these need major re habilitation (UNICEF, 2003).

Concerning the domain of first-aid kit and pharmacy, the findings indicate that the schools vary with deficiencies regarding all items of standardized first-aid and kit is available (according to the school environment guide) (40.9%); pharmacy, which contains medicines and supplies, in case of emergency is available (34.1%); First-aid kit and pharmacy supplies are provided by the school (27.3%) and first-aid kit and pharmacy supplies are provided by the health center (15.9%) (Table 9).

These findings show that the schools do not experience severe deficiencies regarding items of this domain. School health services help to treat health problems and to prevent, reduce and monitor them. In a health-promoting school, health services work in partnership with and are provided for students, school personnel, families and community members. School health services should be coordinated with members of the school and community to recognize and treat health problems resulting from exposure to environmental threats. These threats vary from community to community (WHO, 2015).

Relative to the domain of services staff (Janitorial), the study depict that more than half of the schools have deficiencies with respect to items of this domain. These items are janitorial staff are not sufficient in number (one staff per 100 students or pupils) (95.5%); medical examination cards are not available for employees (renewed every year) (77.3%); health education certificates are not available for janitorial staff (renewed every two years) (54.5%) and adoption of standards, especially in the appointment of janitorial staff is not employed (50%) (Table 10).

Regarding the domain of antiseptics and disinfectants in school, the findings present that most of the schools have experienced deficiencies relative to this domain. Such deficiencies are presented in items of not available in school (88.6%); provided by the school (15.9%) and provided by the health center (31.8%) (Table 11).With respect to the domain of school cafeteria, the study indicates that the majority of the schools have deficiencies on all items of this domain. Such finding provides evidence that these schools have experienced devastating features concerning their school cafeteria (Table 12).With regard to the domain of the classroom furniture, it has been noted that most of the schools experience deficiencies concerning all items of the subdomains of students' seats, blackboard and instructor platform of the domain of classroom furniture (Table 13).

According Hussain *et. al*. 2012, "in Pakistan, educational institutions lack of physical facilities which results in malfunctioning of these institutions. Poor and inadequate facilities affect the overall performance of the institutions. Sufficient facilities promote academic achievement and ensure to strengthen the overall institutional performance. While unattractive and old school buildings; cracked classroom walls and floors; lack of toilets; lack of desks and benches; lack of transport facility; lack of proper security system; lack of drinking water; lack of power supply; lack of playgrounds; lack of teaching staff; lack of sufficient classrooms; overcrowded classrooms; lack of educational technology; lack of first aids facility etc. negatively affect academic achievement of the institutions. Therefore, it is right to say that academic achievement has a close link with the availability of educational facilities" (Hussain *et. al*., 2013).

Regarding to the domain of sewage disposal system, the study depicts that the schools, in general, experience moderate deficiencies with regard to items of this domain. This presents evidence that these schools still having problems with their sewage disposal system (Table 15).

Give sanitation offices Human excreta are the greatest wellspring of ailment creating living beings including bacteria, parasites, and viruses. Success in eliminating fecal material from the school environment is dependent on: informed and responsible students; supervision of young students; a fence or structure to stop animals from defecating in areas where children play; toilets conveniently located, reliable, clean, odor-free, private, and well-maintained 101 Separate facilities for girls can reduce dropout rates during or before menses. A variety of latrine systems are used in different parts of the world depending on cultural, environmental, and economic state . Education and health officials need to make sure that construction of latrines is technically appropriate and acceptable (WHO, 1997).

Relative to the domain of accidents prevention, the schools have experienced deficiencies with most items of such domain. Due to this fact, the study can make a concluding statement that items of this domain need more attention for the benefit of preventing accidents in the schools (Table 16).

The structure of a school building should protect students and staff, but poorly designed school buildings and play areas may present serious health risks instead. School buildings are often larger than traditional domestic or residential buildings. Special construction techniques may be required to ensure safety. School buildings and play areas should be constructed without asbestos and with the safest, non-toxic materials available (WHO, 2015b)

Finally, the present study reveals that there are significant differences between public and private schools with regard to all domains of the school environment standardized features, except the domains of III, IV, VII, VIII, XI, and XII (Table 17). Such findings provide meaningful evidence that private schools experience less deficiencies relative the standardized features. This results was in agreement with Ogaji study, The variation between various proprietorship statuses was highest between private and government schools. Deficiencies observed in the physical environment of the schools, reflects the poor implementation of relevant standards by the supervising authorities and thus, leaving the attaining of a healthy physical environment in schools to the prerogative of the various proprietors (Ogaji *et. al.*, 2012).

CONCLUSIONS

The study concludes that the number of material and human resources appear severely limited given the number of students and class sizes. Serious deficiencies are noted in standardized environmental features which are critical and necessary for school safety, such as lack of any functional fire extinguishers. Lack of essential first aid material's and pharmaceuticals. A high proportion or absence of adequate sanitary conditions that predispose the children to infection, illness, and may aggravate asthma and allergies in children. Examples include inadequate sewage systems, unclean water supplies, and no disinfectants. Deficiencies in physical environmental standards create for a less than optimum learning environment subjecting the school children to unclean, crowded, inadequately lit classrooms and surroundings that lack the necessary prevention programs. The deficiencies for cafeteria standards reveal that food being served come from sources that are either unknown or lack standards rendering the meals not only unhealthy but unsafe to consume, in cafeteria settings that do not meet meal distribution standards. Both public and private schools had major deficiencies identified in environmental standards. However, public schools had a much higher proportions of deficiencies and are in most urgent need of actions. Private schools are also in need of remediation of deficiencies.

RECOMMENDATIONS

The study recommends that further study with a large randomly selected sample of schools to confirm the findings of this study and allow for greater generalizability. Advancement, in the measurement of standardized deficiencies, can take place to advance the present study to the next level of rigor by eliminating redundant items and improving the reliability and validity of the questionnaire. Evaluation of the improvement in deficiencies overtime using a longitudinal study design. The Ministry of Education and the Ministry of Health may take a collaborative action to implement and evaluate the school environment with periodic implementation of the standardized features.

REFERENCES

American Association of School Administrators(AASA). (2007). Schoolhouse in the Red: An Administrator's Guide to Improving America's School. *Journal of School Health*. 77(8). P.p. 5-11

Axelrad, R. (2006). *Safe and Healthy School Environments*. New York: Oxford University Press. P.p.123-132.

Basit, A. (2005). *Classroom Management Techniques at Secondary Level and Developing a Model for Urban Schools for District Peshawar*. M.Phil Thesis, Faculty of Education, Allama Iqbal Open University Islamabad. P.p. 16-17

Hussain, I.; Ahmad, M.; Ahmad, S.; Suleman, Q.; Din, M. Q.; and Khalid, N. (2012). A Study to Investigate the Availability of Educational Facilities at Secondary School Level in District Karak. *Language in India, Strength for Today and Bright Hope for Tomorrow, India.* 12 (10). P.p. 234-250

Kisioglu, A.; Demirel, R. and Ozturk, M. (2005). Assessing the Indoor Environment of Primary Schools in the Southwest of Turkey. *Indoor Built Environ*. 14(2). P.p. 141–145.

Ogaji, D.; and Okokon, E. (2012). Appraising the Physical Environment of Secondary Schools in Calabar, Nigeria. *Journal of*

Environmental Science, Toxicology and Food Technology. 1(1). P.p. 42-48.

Savage, T. V. (1999). *Teaching self-control through management and discipline*. Boston: Allyn and Bacon.

Schneider, M.(2002). *Do School Facilities Affect Academic Outcomes?*. Washington, DC: National Clearinghouse for Educational Facilities. P.p.18-23.

Taras, F. and Polts-Datema, H. (2007). Creating a Healthier School Environment. Alberta Teachers' Association *ATA News: Pro-Quest Education Journals*.41(14).P.p. 3.

United Nations International Children's Emergency Fund (UNICEF). (2003). *School Sanitation for Primary Schools*. P.p. 1-39.

United Nations International Children's Emergency Fund (UNICEF). (2003). *School Sanitation for Primary Schools*. P.p. 1-39.

WHO. (1997). *Primary School Physical Environment and Health*. Geneva.

World Health Organization (WHO). (2000). *The Physical School Environment: An Essential Component of a Health-Promoting School*. Geneva: Switzerland. P.p.1-46.

World Health Organization (WHO). (2000). *The Physical School Environment: An Essential Component of a Health-Promoting School*. Geneva: Switzerland. P.p.1-46.

World Health Organization (WHO). (2005). *Information Series on School Health: Document 2. The Physical School Environment an Essential Component of a Health- Promoting School*. Geneva. P.p. 40.

World Health Organization (WHO). (2005). *Sun Protection: an Essential Element of a Health-Promoting School*. Geneva. P.p. 78-84. en.wikipedia. org/wiki/cross-sectional-study.

World Health Organization (WHO). (2015). *Information Series on School Health: Document 2. The Physical School Environment an Essential Component of a Health- Promoting School*. Geneva. P.p. 30.

World Health Organization(WHO).(2003b). *Healthy Environments for Children: Initiating an Alliance for Action*. Geneva. P.p. 23-27.

World Health Organization.(2002). *WHO's advice for developing national or regional dietary guidelines for children.* Available at: http://www.who.int/hpr/ nutrition. Current advice is based on the Report of the Joint WHO / Food and Agricultural Organization Expert Consultation on Diet, Nutrition and the Prevention of Chronic Diseases.