Evaluation of Public and Private Schools Physical Environment Standardized Features in Kirkuk City

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ABSTRACT

Background and aim: In the case of Kirkuk City and Iraq as a whole, the previous study concerns and guidelines become even more pressing , given that this Middle Eastern country has been subjected to years of neglect, damage, and deterioration, exacerbated and compounded by a series of wars. In fact, Iraqi researches state that prior to 1990, education was a thriving sector in Iraq. However, after two decades of war and deprivation, the quality and availability of learning deteriorated dramatically. Therefore, the present study conducted in order to evaluate the public and private schools physical environment Standardized features in Kirkuk City and to compare between them.

Materials and method: A descriptive comparative design is employed through the present study from April 1st 2012 to May 20th 2013. An instrument of (141) item is constructed for the purpose of the study. A purposive (non probability) sample is selected for the study which includes (44) school; (22) private and (22) public of Kirkuk Education Directorate. Data are analyzed through the application the approaches of descriptive statistical data analysis and inferential statistical data analysis ones.

Results: The findings of the study present that the overall evaluation depicts significant difference between public and private schools' physical environment standardized features.

Conclusion: The overall evaluation presents significant difference between public and private schools' physical environment standardized features.

Key words: public and private Schools, physical environment, Kirkuk city

INTRODUCTION

In the case of Kirkuk City and Iraq as a whole, (Lyons', 2007) concerns and guidelines become even more pressing , given that this Middle Eastern country has been subjected to years of neglect, damage, and deterioration, exacerbated and compounded by a series of wars. In fact, as a group of Iraqi researcher's state, "prior to 1990, education was a thriving sector in Iraq. But after two decades of war and deprivation, the quality and availability of learning deteriorated dramatically." (Ghazi et al., 2012). Thus, not only has much damage been inflicted on the actual physical infrastructure of elementary schools in Kirkuk City and the rest of Iraq, but primary and secondary student education overall has been adversely affected by poor and harmful environmental conditions. In the end, if the school environment is to be considered essential in determining students' learning, one could say without a doubt that the conditions in the last thirty years have been nothing less than detrimental to the educational wellbeing of primary level Iraqi students.

The physical damage of school infrastructure and subsequent neglect seems to have gone hand in hand with the scant research conducted on the relationship between learning and the physical school environment in Iraq. In the case of Kirkuk City, the actual location of this study, even less research was done on this subject, given the city's somewhat remote emplacement, and its loose ties to the centralized government in Baghdad. Only recently have studies of these problems been made, and only in the last few years has attention been focused on this acute problem by the Iraqi government. In fact, both the Ministry of Education and the Directorate of Education in Kirkuk have made the study of the standardized features of school settings and environment a top priority. In other words, the studies that have emerged underscore the need for a better understanding of the problems faced by educators and health officials in Iraq. This literature suggests that without a safe, clean, and healthy environment, learning is impeded, and the ensuing generations of Iraqi schoolchildren will continue to suffer the consequences of this neglect. It goes without saying that unhealthy children with a poor educational background will be ill-prepared to build a healthy and prosperous Iraq.

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Along the same lines, an unsafe school environment may predispose the students to illness, injury, infection, and the worsening of allergies. Thus, this study seeks to address a high priority faced by the Iraqi Ministries of Health and of Education. For the record, this research was planned by the Ministry of Health in 2012. In other words, given the state of schools in Kirkuk City, a well-designed and in-depth inquiry into the bearing of school environment on student learning is more than overdue. Yet equally important, is an overall and exhaustive evaluation of the actual physical environment in both the private and public primary schools of Kirkuk City.

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. 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). In other words, creating and sustaining a healthy school environment requires receiving a commitment from everyone. 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 problems, 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 (AASA), 2007).

MATERIALS AND METHOD

A descriptive methodological design is carried throughout the present study from April 1st 2012 to May 20th 2013 to construct the school physical environment standardized features tool. An instrument of (141) item is constructed for the purpose of the study. A purposive sample of (44) school; (22) public and (22) private ones is selected. Content Validity of the instrument is determined through the use of panel of (11) expert who are specialists in Community Health Nursing and Community Medicine. Internal consistency reliability, using the split-half technique, is employed through the computation of Cronbach alpha correlation coefficient of (0.93) for internal scale. Data are collected through the use of the instrument and the schools' visits as means of data collection. Data are analyzed through the application of the inferential statistical data analysis procedure of simple Pearson's correlation coefficient and factor analysis(principle component) method.

RESULTS

Table (1): Summary Statistics for the Compact Responding of Questionnaire's Sub and Main Parts for Studying and Evaluation Standardized Features for Schools' Physical Environment in Kirkuk City

The Studied Parts	Number	Mean	Standard Deviation	Evaluation
Part I :The Surrounding Environment	44	80.93	14.50	Very Good
Part II : The School	44	54.26	15.99	Pass
a - School Building	44	62.09	32.65	Intermediate
b - Nature of the School Building	44	62.12	22.26	Intermediate
c - School Area	44	63.64	46.21	Intermediate
d - School Fence	44	53.79	28.04	Pass
e - School Cleanliness	44	47.59	22.48	Failure
f - School Garden	44	36.36	37.92	Failure
Part III :The School Yard	44	53.98	22.68	Pass
Part IV : Fire Extinguishers	44	54.54	17.74	Pass
Part V : Classroom	44	59.94	27.57	Pass
Part VI : Water Cycle	44	56.64	24.54	Pass

Part VII : Source of Water	44	57.79	18.25	Pass
Part VIII : First aid Kit and Pharmacy	44	40.91	18.75	Failure
Part IX : Service Staff	44	39.95	27.94	Failure
Part X : Antiseptics and Disinfectants in School	44	38.95	14.85	Failure
Part XI : School Shop (cafeteria)	44	39.60	15.68	Failure
Part XII : Classroom Furniture	44	49.62	14.39	Failure
a - Students' seats	44	45.45	28.16	Failure
b – Blackboard	44	63.64	16.04	Intermediate
c - Instructor Platform	44	39.77	23.08	Failure
Part XIII : Safe Water to Drink (drinking water)	44	69.66	21.17	Intermediate
Part XIV : Sewage Disposal Network	44	56.59	19.04	Pass
Part XV : Accidents Prevention	44	37.39	15.38	Failure

(*) **Cutoff point at the relative Sufficiency (50%).**

Table (2): Summary Statistics for compact responding of Questionnaire's Sub and Main parts for studying and evaluating Standardized Features for Schools' Physical Environment in Kirkuk City distributed according to the school's levels and types

The Studied Parts	School's levels and stages	No.	GMS	S.D.	Evaluation
Part I :The Surrounding Environment	Public- Primary	9	67.90	13.55	Intermediate
	Private – Primary	9	81.48	17.57	Very Good
	Public – Secondary	13	82.05	11.37	Very Good
	Private – Secondary	13	88.46	10.26	Very Good
Part II : The School	Public- Primary	9	55.63	12.97	Pass
	Private – Primary	9	57.67	22.67	Pass
	Public – Secondary	13	49.92	9.90	Failure
	Private – Secondary	13	55.31	18.21	Pass
Part III :The School Yard	Public- Primary	9	69.44	16.67	Intermediate
	Private – Primary	9	45.83	25.77	Failure
	Public – Secondary	13	56.73	14.98	Pass
	Private – Secondary	13	46.15	26.21	Failure
Part IV : Fire Extinguishers	Public- Primary	9	49.99	22.04	Failure
	Private – Primary	9	62.96	20.02	Intermediate
	Public – Secondary	13	48.71	15.91	Failure
	Private – Secondary	13	57.69	12.93	Pass
Part V : Classroom	Public- Primary	9	47.22	13.66	Failure
	Private – Primary	9	86.11	13.18	Very Good
	Public – Secondary	13	31.73	16.63	Failure
	Private – Secondary	13	78.85	17.96	Good
Part VI : Water cycle	Public- Primary	9	34.21	15.43	Failure
	Private – Primary	9	74.33	12.77	Good
	Public – Secondary	13	44.38	24.74	Failure
	Private – Secondary	13	72.18	15.54	Good
Part VII : Source of water	Public- Primary	9	59.44	14.82	Pass
	Private – Primary	9	59.51	14.86	Pass
	Public – Secondary	13	48.87	26.00	Failure
	Private – Secondary	13	64.36	9.33	Intermediate
Part VIII : First aid kit and pharmacy	Public- Primary	9	44.44	16.67	Failure
	Private – Primary	9	44.44	24.30	Failure
	Public – Secondary	13	38.46	12.97	Failure
	Private – Secondary	13	38.46	21.93	Failure

Part IX : Service Staff	Public- Primary	9	16.89	15.45	Failure
	Private – Primary	9	66.78	10.78	Intermediate
	Public – Secondary	13	18.46	16.68	Failure
	Private – Secondary	13	58.85	21.37	Pass
Part X : Antiseptics and disinfectants in school	Public- Primary	9	42.56	14.77	Failure
	Private – Primary	9	35.00	9.99	Failure
	Public – Secondary	13	41.08	18.83	Failure
	Private – Secondary	13	37.08	13.90	Failure
Part XI : School cafeteria	Public- Primary	9	39.74	20.97	Failure
	Private – Primary	9	45.74	8.26	Failure
	Public – Secondary	13	33.15	18.14	Failure
	Private – Secondary	13	41.72	11.62	Failure
Part XII : Classroom Furniture	Public- Primary	9	40.81	12.10	Failure
	Private – Primary	9	52.89	8.11	Pass
	Public – Secondary	13	41.44	15.36	Failure
	Private – Secondary	13	61.64	8.33	Intermediate
Part XIII : Safe water to drink (drinking water)	Public- Primary	9	67.22	20.33	Intermediate
	Private – Primary	9	80.00	9.35	Very Good
	Public – Secondary	13	53.08	25.86	Pass
	Private – Secondary	13	80.77	9.32	Very Good
Part XIV : Sewage Disposal Network	Public- Primary	9	44.44	21.28	Failure
	Private – Primary	9	67.78	23.33	Intermediate
	Public – Secondary	13	51.54	12.81	Pass
	Private – Secondary	13	62.31	14.23	Intermediate
Part XV :Accidents Prevention	Public- Primary	9	36.67	21.21	Failure
	Private – Primary	9	40.00	15.00	Failure
	Public – Secondary	13	35.38	16.13	Failure
	Private – Secondary	13	38.08	11.28	Failure

No.: Number, GMS: Grand Mean of Scores, S.D.: Standard Deviation

Table (3): Summary Statistics for overall responding of Questionnaire's main parts for studying and evaluating Standardized Features for Schools' Physical Environment in Kirkuk City distributed according to the school's types and stages

The Studied Parts	school's types and stages	No.	GMS	S.D.	Evaluation
Overall Evaluation	Public- Primary	9	47.78	3.41	Failure
	Private – Primary	9	60.04	7.18	Intermediate
	Public – Secondary	13	45.00	7.79	Failure
	Private – Secondary	13	58.79	6.94	Pass

No.: Number, GMS: Grand Mean of Scores, S.D.: Standard Deviation.

Table (4) : Summary Statistics for the compact responding of Questionnaire's main parts for studying and evaluation of Standardized Features for Schools' Physical Environment in Kirkuk City distributed according to the school's types

The Studied Parts	Type of School	No.	GMS	SD	Evaluation
Part I :The Surrounding Environment	Public	22	76.26	13.95	Good
	Private	22	85.61	13.78	Very Good
Part II : The School	Public	22	52.25	11.33	Pass
	Private	22	56.27	19.66	Pass
Part III :The School Yard	Public	22	61.93	16.58	Intermediate
	Private	22	46.02	25.41	Failure

Part IV : Fire Extinguishers	Public	22	49.23	18.17	Failure
	Private	22	59.85	15.98	Pass
Part V : Classroom	Public	22	38.07	17.02	Failure
	Private	22	81.82	16.24	Very Good
Part VI : Water Cycle	Public	22	40.22	21.60	Failure
	Private	22	73.06	14.19	Good
Part VII : Source of water	Public	22	53.20	22.32	Pass
	Private	22	62.38	11.83	Intermediate
Part VIII : First aid kit and pharmacy	Public	22	40.91	14.53	Failure
	Private	22	40.91	22.55	Failure
Part IX : Service Staff	Public	22	17.82	15.83	Failure
	Private	22	62.09	17.92	Intermediate
Part X : Antiseptics and disinfectants in School	Public	22	41.68	16.92	Failure
	Private	22	36.23	12.23	Failure
Part XI : School Shop (cafeteria)	Public	22	35.85	19.15	Failure
	Private	22	43.36	10.36	Failure
Part XII : Classroom Furniture	Public	22	41.18	13.81	Failure
	Private	22	58.06	9.17	Pass
Part XIII : Safe water to drink (drinking water)	Public	22	58.86	24.30	Pass
	Private	22	80.45	9.12	Very Good
Part XIV : Sewage Disposal Network	Public	22	48.64	16.70	Failure
	Private	22	64.55	18.19	Intermediate
Part XV : Accidents Prevention	Public	22	35.91	17.90	Failure
	Private	22	38.86	12.62	Failure

No.: Number, GMS: Grand Mean of Scores, SD: Standard Deviation.

DISCUSSION

The Schools' Physical Environment Standardized Features

Analysis for the evaluation of such features reveals that some of the schools' physical environment standardized feature is qualified for this evaluation which include the surrounding environment, the school fence, school yard, fire extinguishers, classroom, water cycle, source of water, and sewage disposal network. In contrast, the unqualified features have presented that of school cleanliness, school garden, first-aid kit and pharmacy, service staff, antiseptics and disinfectants in school, school shop (cafeteria), classroom furniture, and accidents prevention. The remaining features, that present fair level of evaluation as being compared with the standardized ones, include school building, nature or condition of the school building, school area, blackboard, and drinking water (Table1). With respect to the early reported findings, we can mention that almost one third of the schools' physical environment features unfortunately can meet the standardized ones in Kirkuk City. This can tell that some of the school physical environment features need a plan of change and modification for the sake of better and safe learning environment.

School environment including physical factors had been reported to have significant impact on the health and wellbeing of those who work and study within it, and on their ability to carry out their mandated tasks (WHO, 2003a).

The school environment should be one in which every student feels safe. In addition, the presence of security in schools gives students a sense of safety and security. So the primary environmental policy and management objectives of every school facilities should be taken whatever steps are necessary to create a "sense of well-being. It is stated that students and teachers' comfort is indicated as the most important aspect of any school environment. If the students are comfortable then learning becomes much easier. Being comfortable is a combination of several different factors; adequate usable space, noise control, lighting, temperature, climate control, sanitation, water supplies and environmental hazards. More over the classroom is the most important area of a school, because where students and teachers spend most of

their times and where the learning process takes place. Environment is more vital to students success that anything else (UNICEF, 2003).

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).

Class size reduction changes numerous features of the classroom situation. There are fewer students to distract each other. Each student in a reduced size class gets more attention on average from the teacher, and more time to speak while the others listen. Reduced class size also reduces the level of noise in a class. One theory offered to explain the positive effects of class size reduction on student achievement simply argues that in smaller classes each student receives a larger portion of the educational resources represented by the teacher's instructional time, and consequently, learns more. Smaller classes are more likely to be "friendlier" places, where students develop better relationships with their classmates and with the teacher, encouraging students to become more engaged in classroom learning activities (Fetro, 2004).

The smaller the class, the harder it is to escape the positive influence of the classroom educational experience. smaller classes are especially beneficial in the early grades may derive from the fact that in the early grades children are learning how to be students in classrooms where the number of people is larger than the number of people in their families and students are learning a new routine. This socialization is also consistent that the largest increase in student achievement occurs in the first year of a student's experience in a smaller class (Direksen, 2004).

There is little debate in the research community over the contributions to student learning of smaller elementary school class sizes. Research on the matter is voluminous and continuing to grow at a fast rate. This body of evidence includes individual empirical studies, as well as good quality reviews of research. Class size research suggests that reductions from a typical 30 to 22 student class, to an approximately 15 student class have the potential to significantly increase student achievement, provided that suitable changes are made in teacher practices which take advantage of fewer students. Evidence about class size effects not only identifies optimum sizes, it also suggests that the greatest benefits of reducing class size are found in the first two years of schooling when accompanied by appropriate adaptations to instruction (Lewin, 1997).

These benefits are most beneficial for students who are socially and economically disadvantaged. The effects realized by smaller classes in the primary grades appear to be maintained even three or four years later among the explanations for small class effects are improved teacher morale, more time spent by teachers on individual instruction and less on classroom management, along with fewer disruptions and fewer discipline problem(Marzano, 2003).

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, 2003b).

The cleanliness of school is an important aspect of school environments. Clean schools not only lower the threat of the spread of illness, but also convey a caring message to the students and teachers, Cleaning and maintenance of schools are vitally important and is often underemphasized and underperformed. Students feel better going to clean classes and sitting in clean desks &surroundings (Tortolero, et. al., 2002).

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. But 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 rehabilitation (UNICEF, 2003).

In a descriptive study, environmental health condition of 50 primary school which included schools' buildings, classrooms condition, water supply system, and sanitation system was assessed in Sulaimani Governorate

of Kurdistan, Iraq. The results revealed that 56% of the buildings had unhealthy classroom condition there was no significant statistical association between classrooms' condition at $p< 0.05$, as well as there was no significant statistical association between water supply system at $p< 0.05$ within three geographical locations. In addition, there was no significant statistical association between sanitation systems at $p< 0.05$. The study concluded that the schools' buildings were insufficient; lack of classrooms and whiteboards and any storage area used to store hazardous materials; inappropriate schoolyard design; lack of school cafeteria, drinking fountains; toilets and hand washing facilities; inadequate artificial lighting; insufficient number of disposing garbage and trash containers; and lack of fire extinguishing facilities(Abass, 2011).

Comparison between the Private and Public Schools Relative to the Physical Environment Standardized Features

Analysis of comparison of these features present that public schools are unqualified for the evaluation of the schools' physical environment standardized features relative to classroom, classroom furniture, fire extinguishers, water cycle, source of water "Secondary schools only", first-aid kit and pharmacy, service staff, antiseptics and disinfectants in school, school shop (cafeteria), Sewage disposal network "Primary schools only" , and accidents prevention. On the other hand, the private schools are unqualified for such evaluation with regard to the school yard, first-aid kit and pharmacy, antiseptics and disinfectants in school, school cafeteria, and accidents prevention (Table 2 through 4) These findings provide an evidence that the private schools have shared less limitations in the physical environment features definitely due to certain reasons that include the date of establishment as newly established, the capacity of teachers, students and staff, the availability of the resources.

Comparative differences between public and private schools with respect to physical environment standardized features and the basic information variables reveal that private schools have qualified or met most of the standardized features of the schools' physical environment except those of the school yard, source of water, first-aid kit and pharmacy, antiseptics and disinfectants in school, school cafeteria, and accidents' prevention.

Environmental challenges and opportunities vary among schools around the world, across countries and within communities. World Health Organization had reported that the biggest threats to child health and in fact accounting for more than five million deaths each year in children less than 15 years of age are linked to the environment in which they live, learn and play -their homes, schools and their communities. In a descriptive study, the quality of the physical environment of 42 secondary schools in Calabar, Cross River State in Nigeria was assessed. Results indicated that overcrowding was observed in 52.4% of schools. Mean scores of all dimensions was 42.7 ± 11.4 from a possible maximum of 73. Mission schools with mean of 49.9 ± 9.8 fared better than private (48.8 ± 19.8) and government 35.5 ± 11 respectively. Government owned schools showed consistently lower scores in all study dimensions of site indicators of accessibility, topography, absence of nuisance, general safety and security measures; structure indicators of nature of building materials, walls, roofs and floors of schools; classroom indicators of per capita space, furniture design and sitting comfort, ventilation, lighting and heat control; and amenities indicators of source and location of water supply, method of solid and liquid waste disposal, availability of sporting and recreational facilities where students spend most of their time while in school had the worst ratings. 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 and Okokon, 2012).

CONCLUSION

Public schools are less qualified than private ones relative to the basic information variables of pupils or students' genders, schools' daily work, number of pupils or students in the school, administrators' or teachers' rooms, meeting room, cleaning staff, gardeners, number of teacher, electric generator, and serving meals to the pupils or students. Public schools are less qualified than private ones with respect to the schools' physical environment standardized features of classroom, classroom furniture, fire extinguishers, water cycle, source of water

"Secondary schools only", first-aid kit and pharmacy, service staff, antiseptics and disinfectants in school, school shop (cafeteria), Sewage disposal system "Primary schools only", and accidents prevention. The overall evaluation presents significant difference between public and private schools' physical environment standardized features.

RECOMMENDATIONS

The study recommends that specific attention must be made to all schools regarding the physical environment standardized features in order to maintain safe and risk free learning environment. Collaboration can be initiated between the Ministry of Education and that of health to activate school health department for better inspection, monitoring, and regular evaluation to the schools' physical environment standardized features. In addition, limitations in the schools' physical environment can be considered critical and crucial issues in order to create unique learning environment.

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