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Quality of Websites of Palestinian Schools in Gaza

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ABSTRACT

A website serves as a gateway that provides useful content and links to various sites and their features through the Internet. Accordingly, a school website serves as an effective platform on which to publicize activities implemented for students, teachers, and other interested parties within the academe. An excellent school website can be built through cooperation between the school administrator and the webmaster; such cooperation facilitates the effective communication of information to students and other visitors of the website. This study aims to describe the quality of websites maintained by 40 secondary schools in the Gaza (Palestine) region. This study employs a descriptive survey that uses questionnaires that cover aspects of quality in the construction of a school website. The questionnaires are distributed to webmasters in secondary schools in Gaza through e-mail or post (for school websites that do not disclose their e-mail addresses). The websites used in this study are only those accessible to the public. All findings are collected and summarized to clearly describe the quality of the websites of Gaza schools.

Keywords: *School website management, Distance learning, website quality*.

1. INTRODUCTION

Web-based learning, a form of distance learning enabled and supported by information technology, eliminates the traditional limitations of classic classrooms (Hanbay, 2013). This technological platform is the basis for the construction of school websites, which serve as effective channels for publicizing activities implemented for students, teachers, and other interested parties. Therefore, school websites should be so designed that information is clearly communicated to students and other website visitors. Students and parents visit high-quality websites through various devices and expect equally high quality school-to-home communication (Piper, 2012). School websites are expected to have five components, namely, global best practices, basic principles, basic or mandatory features, additional features, and site security measures. Site construction requirements for school websites were released by the Information and Communications Technology (ICT) Division of the Ministry of Higher Education (MOHE) of Palestine in 2008. Meanwhile, frequently updating website content is a global best practice in site management. School websites should always contain new material and present the latest educational information, ideas, and techniques.

Marcus (2000) observed that consumers are uninterested in browsing outdated websites. Because the school website serves as a channel of official information about the school, "the content of a school web site should help students find information in the shortest time and in the most convenient way." Designing this feature is a global best practice in site management. Websites with a .gov top-level domain have a

statistically significant association with high-quality websites, whereas those offering a product or service or promoting non-evidence-based practices have a statistically significant association with poor-quality websites (Reichow, Halpern, Steinhoff, Naples, and Volkmar, 2012). An important component of the assurance of the quality of the school website is the webmaster, who should have a background on the field of education. With the support of a professional web design, school websites attract the attention of parents and support outreach and engagement both on campus and in the community (Piper, 2012).

2. METHODS

This study focuses on secondary schools with websites registered in the Gaza Strip. Only 40 schools in the Gaza Strip have functioning websites. (The Internet was first used in Gaza in 1987 through Computer Palestinian Networks. The early users of the Internet in the region were the faculty and students of the Islamic University of Gaza.) Several other schools have websites, but are under construction or inaccessible. Therefore, the total population of this study is 40 school site supervisors. The study is conducted in Gaza secondary schools with accessible websites, including those with websites accessible only within the school. Questionnaires are distributed to the site supervisors of these schools to collect data.

This study guides schools in identifying the needs and gaps in using ICT, especially websites, and describes the effective management of school websites and their compliance with standard requirements.

This study aims to serve students as the center of the learning process by enhancing their interest in the entire process and to serve teachers by providing features that facilitate the learning of their students.

3. RESULTS

Compliance with Requirements for Site Construction

The construction of the site of each organization or agency should comply with rules, laws, standards, and societal expectations to ensure honesty, integrity, accountability, and transparency in the sharing of information. Such compliance covers global best practices, principles, mandatory basic features, extra features, and web security measures.

i.   Global Best Practices

Global best practices cover customer interaction, customer-friendliness, customer service, and customer support (ICT Division, 2008). Because school websites are high-quality and effective support mechanisms for the learning process (Chambers, Threlfall, and Roper, 2012), their compliance with global best practices is analyzed in the present study by using descriptive statistics (Table 1).

Table 1: Descriptive Analysis of Global Best Practices

No.	Variables	Yes (%)	No (%)
1	School information	38 (95.0)	2 (5.0)
2	Search feature	27 (67.5)	13 (32.5)
3	Customer feedback	31 (77.5)	9 (22.5)
4	School calendar	23 (57.5)	17 (42.5)
5	Customer support (help)	14 (35.0)	26 (65.0)
6	Customer support (problem solving)	6 (15.0)	34 (85.0)
7	Customer support (navigation)	18 (45.0)	22 (55.0)

($n = 40$)

Most of the components in Table 1 indicate medium-level global best practices. These components facilitate the access of learners, teachers, and other interested parties to school information (MOHE ICT, 2008). School information is an important component of global best practices in secondary school websites in the state. Klein, Myhill, Hansen, Asby, Michaelson, and Blanck (2003) suggested that users

continually visit a website with useful information. Therefore, information in all websites should be well organized.

ii.   Basic Principles

The ICT Division of MOHE (2008) proposed that the main principle governing any educational website should be the provision of an official channel, comprehensive information, services, continuous updates, a user-friendly interface, and a platform for government promotion. Websites should use academically acceptable language; support electronic government and hardware, software, and network capability; promote cost-effectiveness; and monitor and delete forbidden posts. A relationship exists between the utility of website content and the various outcomes of user interactions with school websites. Such interactions include "perceived information quality, perceived design quality, engagement, trust, and risk" (Hasley, 2010). Data are analyzed on the basis of descriptive statistics to identify the basic principles behind the construction of school websites.

Table 2: Analysis of Means of Basic Principles of School Websites

No.	Variables	Mean (SD)	Level
1	My school website is considered the official channel of the school.	3.64 (0.98)	Medium
2	My school website contains information subject to official government regulations.	2.51 (0.91)	Medium
3	My school website provides online services.	2.85 (0.77)	Medium
4	My school website is maintained on an ongoing basis.	4.08 (0.90)	High
5	My school website is constantly updated.	4.08 (0.90)	High
6	My school website is user-friendly.	4.51 (0.60)	High
7	My school website helps the government in promoting matters related to the government.	1.87 (0.73)	Low
8	My school website explains government-related issues to the public.	2.54 (0.79)	Medium
9	My school website uses correct language.	4.21 (0.69)	High
10	My school website is cost-effective.	3.03 (0.90)	Medium
Total Medium		**3.33 (0.25)**	

($n = 40$)

The mean score of the overall compliance with the basic principles was average, indicating that school websites in Gaza exhibit only average quality. An excellent website is interactive (Zaharim, 2000). A space for feedback to the webmaster, comments, and discussion forums (Jurkowski, 2003) enhance website interactivity and user-friendliness.

iii.   Mandatory basic features of school websites

The ICT Division of MOHE (2008) requires that educational websites have several basic features: the statement "official website,"

the logo of the government, the official logo of the school, an introduction of the school, major policy agencies, charter agencies, information services, contact information, frequently asked questions, disclaimers, privacy policies, security, ease of user feedback, a lapse function, downloads, search engine facilities, language, link to the Ministry of Education, a logo, a site map, domains, and copyright.

This category has 17 items: 11 yes-or-no questions and 6 five-point Likert-scale questions (questions 12 to 17). The data are analyzed on the basis of descriptive statistics to identify the mandatory basic characteristics of school websites (Tables 3 and 4).

Table 3: Descriptive Analysis of Mandatory Basic Features of School Websites

No.	Variables	Yes (%)	No (%)
1	The statement	18	22 (55.0)
2	"official	(45.0)	22 (55.0)
3	website"	18	11 (27.5)
4	Government	(45.0)	18 (45.0)
5	logo	29	21 (52.5)
6	School's	(72.5)	32 (80.0)
7	official logo	22	27 (67.5)
8	Introduction	(55.0)	21 (52.5)
9	of the school	19	18 (45.0)
10	School policy	(47.5)	19 (47.5)
11	Customers	8	23 (57.5)
	charter	(20.0)	
	Site map	13	
	".gov.my"	(32.5)	
	domain	19	
	Copyright of	(47.5)	
	website	22	
	Privacy policy	(55.0)	
	Security	21	
	policy	(52.5)	
		17	
		(42.5)	

($n = 40$)

The school websites exhibited high percentages in most of the components and modest percentages in the rest. Barbour (2008) suggested that the features of a website are the elements that make it appealing and thus can benefit the school. However, not all schools include the basic features on their websites although these features are mandatory..

This category has 6 five-point Likert-scale questions (questions 12 to 17). The data are analyzed on the basis of descriptive statistics to identify the mandatory basic characteristics of school websites (Table 4).

Table 4. Descriptive Analysis of Features: Mandatory Basic Features of School Websites (Part 2)

No.	Variables	Mean (SD)	Level
12	Main services offered	4.26 (0.75)	High
13	Frequently asked questions	3.92 (0.87)	High
14	Disclaimer for any unfavorable experience	2.38 (0.96)	Medium
15	Downloads	4.31 (0.80)	High
16	Website content in at least two languages	1.77 (0.70)	Low
17	Link to government sites	3.21 (1.45)	Medium
	Total	**3.30 (0.36)**	**Medium**

($n = 40$)

The ICT Division of MOHE (2008) indicated that these mandatory features are necessary because they enable teachers to provide notes or reading materials for students. The download feature enables students to obtain a copy of learning materials. The main services are also an important component of a school website because they ensure that the target group of parents or guardians and students is constantly updated with information, such as schedules (Rotem and Levinz, 2007). The website supervisors of the secondary schools in the state provide main services to the target group, but compliance with the mandatory basic features of school websites in Gaza remains at the medium level. Many schools fail to provide website content in at least two languages and consider only the mother tongue as the main language of the school.

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iv.   Additional Features

The school website must also contain "additional features," which include video clips, access support, permission for cookies, and facilities for persons with disabilities (ICT Division of MOHE, 2008). A multi-dimensional set of criteria aim to help learners and teachers evaluate the quality of learning websites (Zen, Hui, and Jen, 2011). The category has five items. The data are analyzed using descriptive statistics to identify the additional features of school websites.

Table 4: Mean Analysis of Additional Features of School Websites

No.	Variables	Mean (SD)	Level
1	Video clips/audio on matters related to school	3.44 (0.75)	Medium
2	Access support (support link)	3.15 (0.98)	Medium
3	World Wide Web Consortium (W3C) Disability Accessibility of Persons with Disabilities (PWDs), such as people who are blind	1.00 (0.00)	Low
4	W3C Disability Accessibility of PWDs, such as people with hearing impairment	1.00 (0.00)	Low
5	W3C Disability Accessibility of PWDs, such as people who are color-blind	1.00 (0.00)	Low
	Total	**1.91 (0.20)**	**Low**

(*n* = 40)

The mean score of the additional features of Gaza school websites remains low. Nurul Munirah Johari (2011) argued that a good website must meet visual presentation features, such as uniqueness, consistency, and compatibility with a certain concept. Therefore, the construction of school websites can help gain consumers and attract visitors, contrary to the provision of the components of the World Wide Web Consortium for people who are blind, deaf, and color-blind (*Hanafi Atan* Kuan, Yen Shen, Rozhan M Idrus, Zuraidah A Rahman, and Norazam Ariffin, *2004*). Analysis of this component shows that almost none of the schools considered the factors for people who are blind, deaf, and color-blind.

v. Security Measures

Security measures include the availability and security aspects. Security refers to the sensitivity with which information is controlled on a website. The risk of information misuse, theft, and alteration can be avoided through control mechanisms (ICT Division of MOHE, 2008). Most education websites are incomplete, lacking important design, security, and content features (Hill, Tucker, and Hannon, 2011). This category has seven items. The data are analyzed using descriptive statistics to identify the security measures used in the school websites.

Table 5: Analysis of Mean of Security Measures for School Websites

No.	Variables	Mean (SD)	Level
1	Security measure AVAILABILITY.	4.10 (0.85)	High
2	Security measure SECURITY	3.87 (0.83)	High
3	Security measure CERTIFICATION AUTHORITY (Authorization)	3.59 (0.85)	Medium
4	Security measure ACCESS CERTIFICATION (AUTHENTICATION)	3.31 (0.95)	Medium
5	Security measure ENCRYPTION	3.03 (0.90)	Medium
6	Security measure NETWORK SECURITY PROTOCOL	3.05 (0.88)	Medium
7	Security measure TERMINATION OF	3.10 (0.64)	Medium

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SESSION inactive sessions after a period of time.		
Total	**3.43 (0.26)**	**Medium**

(*n* = 40)

The findings on the safety measures of the websites show that most of the components in this category have a mean score at the medium level. According to (Brito, Nevesb, Hyppolitoc, and Alvarezd, 2012), the security measures of a website must cover the aspects of confidentiality, integrity, and availability; all these aspects, must involve the application of information protection and a website/portal that authorizes the update process and steps to enable the portal to provide continuous service to users.

4. CONCLUSION

Based on results obtained from the analysis, Gaza secondary schools are at the intermediate level in terms of compliance with global best practices, that is, the majority of the components are at the moderate level. In terms of compliance with the basic principles of a school website, the mean value is 3.33, which falls under the moderate level. In terms of the two-part mandatory basic characteristics of a school, the schools are at the medium level in the majority of the components under the first part and at the average level with a mean score of 3.30 in the second part. In terms of additional features, the mean value is 1.91, which represents a low level. In terms of security measures, the mean value is 3.43, which falls under the medium level. In sum, the results show that as regards the compliance aspects of constructing websites, the Gaza schools are at moderate levels, but with regard to the extra features of their websites, they are at low levels. The findings of this study show the need for improving research on this topic. Potential areas for further exploration include the provision of courses to school site supervisors, consideration of the backgrounds of the webmasters, and regular monitoring of these websites.

5. RECOMMENDATIONS

Based on the above findings, one recommendation is the regular monitoring of school websites by the Ministry of Higher Education to ensure that these websites are improved and constantly updated. Future studies can also be carried out in primary schools. The findings of such studies can be used to identify the extent to which the primary site supervisor complies with school website construction requirements.

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