Evaluating Children's Websites in Arabic language

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Abstract

The Internet is one of the most successful means of providing a rich learning environment, and children are among the most affected by that interactive atmosphere. The research adopted a descriptive approach using an evaluation card in a checklist form to evaluate general, educational content, and technical elements of Arabic- language children's websites. The evaluation card included (17) domains and (127) items examining (20) Arabic websites for children representing the research sample. In terms of general elements, the research findings confirmed that accessibility and ease of use received the highest rating (93.33%), while continuous timeliness was the lowest (21.25%). In the elements of educational content, the written text was the highest (91.11%), while the interactivity was only (30.77%), and finally the technical elements, the written text at the highest ratings (93%), compared to video, animation and sound at the lowest rating (60.83%). Regarding the availability of key domains in the websites, technical elements received the highest percentage (71%), followed by general elements (62.58%), and the educational content elements were last (53.93%). The research main recommendations involved designing Arabic websites for children with their interests and developmental needs as well as benefiting from websites in the international settings, by avoiding the shortcomings and weaknesses revealed in the research results.

Keywords: websites, children, evaluation, multimedia, Arabic language

1. Introduction

With the tremendous developments taking place in today's world, many of the fundamental concepts governing community relations and interactions with each other have changed. The concept of teaching or learning is perhaps one of the most significant and direct lycées, which have been significantly influenced by the development of advanced information and communication technology (Clements & Sarama, 2003). Education is the foundation of building a human being capable of dealing with modern technology and changes in the international arena in the context of a knowledge society (Fryer, 2009). This network, like any modern technological innovation, has attracted the attention of the entire world, and experts and specialists have been quick to design the latest websites of all types, to achieve the goals they aim to accomplish (Baumgarten, 2003; Stosic & Stosic, 2013). Research evidence has confirmed the advantages of computers and the internet, which encouraged many educators to utilize it in the educational process (Andrew, 2007). A study by (Stone, 2004) emphasized the importance of the internet as a teaching source, because learning can acquire simultaneously and in synchronously without adhering to the limits of time and space, it is not necessary to have computers in schools as learner can use it anywhere, and access the internet many times to check the educational material constantly (Ertmer, 1999 Greenhow, Robelia & Hughes, 2009). Because of its extensive contents and diverse information and knowledge, it is used as a search tool, where it enriches the educational process, increases its effectiveness, and supports building the knowledge base (Bilal, 2005). Also, on-line learning contributes to the development of communication skills and social interaction among learners, which leads to change in the attitudes of learners, towards e-learning (McManis, Simon & Nemeth, 2012). The study of (Andrew, 2007) highlighted the importance of the interaction that occurs between the learner and the content, the learner and the teacher, the interaction of the learner with himself, and the interaction of the learner with another learner, which happens in the virtual world using computer, internet, and websites (Dwyer, 2007).

The worldwide web is one of the most successful means of providing a rich educational environment, and children are among the most vulnerable to the digital age and the information revolution (Resnick, 2002), especially the internet, which has a great capacity to profoundly affect children, as a multi-potential media tool that provides diverse services (Greenfield, 2004; Greenfield & Yan 2006). These services fulfill multiple educational, entertaining and other purposes and a good opportunity for learners to search for information (NAEYC & Fred Rogers Center for Early Learning and Children's Media, 2012). An American organization revealed that nearly two out of five children used a smartphone or

tablet before they could pronounce full sentences (Rideout, 2011).

Besides, (38%) of children under the age of two used a mobile device to play games, watch videos or other purposes, an increase from 10% in 2009 (Kamat & Shinde, 2009). Among these increasing websites are children's websites, which are increasing day by day, it was necessary to codify this quantity, and to consider the material provided to the children through these websites, in order to have an effective role in shaping the culture of the Arab children, with the purpose of dealing carefully with what is offered to as it has a great impact in shaping their mind and conscience (Al-Sunbal et al., 2008; Dhir, Gahwaji & Nyman, 2013).

Websites seek to develop scientific, mathematical, social and linguistic concepts in early childhood (Dynarski et al., 2007), websites have technical characteristics that contribute to enhancing the visual and audio differentiation skills required for learning to read and write through the availability of colors, music, sound and animations (Buckingham, 2002; Rideout & Hamel, 2006). This makes the learning process more enjoyable and contributes to the development of positive attitudes towards learning (Leu et al., 2009).

Interaction is one of the advantages of children's websites, and it is noticeable that a site that has a good design at the level of interaction generates a feeling in the child that he/she is an active and positive participant dealing with the interface motivation (Burn & Carr, 2006). It makes the child integrate with the website and may provide the feeling of creativity to control and change colors and shapes of some of its elements (Raspa, McWilliam & Maher, 2001). This process of interactive means that if the level of interaction is good in designing the elements of the interface screens, the child who is dealing with the site is closer to his real-world whenever possible (Large, Nesset, Behesthi & Bowler, 2007). The main criterion when assessing interaction with children's websites is how much a child feels that he/she is the leader of the scenes on the educational website (Attewell, Suazo-Garcia & Battle, 2003).

2. Research Problem

The researcher has noted the increasing number of children in Saudi Arabia using computers, browsing through the internet, and accessing various websites, because of its interaction and many attractive means for the child, as the internet is full of numerous websites child and some are in the Arabic language too (Habash, 2014). As websites have become a major source of information for many children, and the importance of the educational role they play in the learning process, the researcher has browsed children's websites in popular search engines and noted the discrepancy of websites in their organizational, technical and information structure.

To study more about the scopes of the problem, the researcher conducted a pilot study with the aim of identifying the websites used by children at the kindergarten stage, where a survey was distributed to (30) kindergartens in the north of Jeddah, Saudi Arabia, in order to determine the computer and internet use at kindergarten's premises, thus limiting the list of websites in Arabic used by children. The researcher concluded from the results of the survey that most kindergartens do not provide Arabic websites to children, where most of the websites were used by teachers only for teaching support material. Another outcome was most websites used by children or teachers were in languages other than Arabic, and most were in English. Therefore, the only two websites that were mentioned in the responses that correspond to the study objective were included in the sample, namely MBC 3 and Bareaum (translated website).

From the results of the pilot study, the need to evaluate websites in the Arabic language for children, in view of a set of educational criteria that must be considered when designing these websites were crucial (Morrison, Ross, Kemp & Kalman, 2010). Also, the limited research that deals with the evaluation of children's websites in general and in Arabic in particular, though, most research studies evaluate websites of children's libraries. In addition, the evaluation of websites as a specialized scientific field came in response to rapid changes and in response to the urgent need to assess the availability of the elements of children's websites in the Arabic language and to reveal their suitability for the needs of the learner at early years.

Research Questions:

The research questions are as follow:

1. What is the level of **general elements** in Arabic websites for children?
2. What is the level of **educational content** on Arabic websites for children?
3. What is the level of **technical elements** in Arabic websites for children?

3. Methodology

In light of the nature of the research and the objectives it seeks to achieve, the researcher used the descriptive approach, which, as illustrated by (Silverman, 2018) seeks to determine the current situation of a particular phenomenon, and therefore describes it, and therefore, it depends on the study of reality or phenomenon as it actually exists, and addresses the "what" question. It does not answer questions about how/when/why the characteristics occurred.

Sampling

The sample of the research has been intentionally selected thru browsing search engines in December (2018). children's websites were detected on Google and Yahoo search engines, Google resulted in (91,000,000) websites, while Yahoo resulted in (2,330,000) websites. Out of these results, some Arabic websites for children have appeared such as (Al Radadi, Faraj Guide to Websites, Amman Children's Network, Website Guide, Best Websites for Children, Saudi links, Sinbad, Nesnas, Fayez, Where, Comprehensive Arab Guide....). Some websites were excluded, for instance, websites that no longer exist, or are inactive, and websites in languages other than Arabic.

To detect the Arabic websites during browsing, I used some keywords that were in accordance to age groups, starting from the general word "children" to specific age group in the research (3-8 years) and the keywords were Educational Arabic websites for….

- children, search results were (1,980,000).

- children (3) years, search results were (789,000).

- kindergarteners (3-5) years, search results were (398,000)

- children (3-8) years, search results were (186,000), the results showed a very large number of websites for this age group compared to the other age groups.

The first websites to appear, and the most frequent websites in search engine results in December (2018), were selected and subjected to several specifications:

- The website should include educational content, such as: (activities, games.......).

- The website should serve the target age group of children (3-8 years).

- Arabic should be the language used throughout the website.

- The researcher should be able to browse all the sub-links on the website to evaluate it.

- The website should appear in at least three search engines as evidence of the spread of the website.

- The website should be active during the time of the research.

The sample included (18) websites which met the above specifications in addition to the two websites that were selected from the pilot study.

Research Tool

The research adopted an evaluation card for websites in the form of a checklist, that was designed to identify the availability of elements in the Arabic websites for children. The evaluation card consisted of three components: 1) general elements containing (5) domains and (33) items, 2) content elements containing (7) domains and (56) items, and technical elements containing (5) domains and (35) items.

Research Procedures

To achieve the research objectives, the following procedures were followed:

- Reviewing previous research studies on websites evaluation generally, and websites for children,

- Writing the research theoretical background,

- Structuring the research tool (evaluation card), presenting it to experts in the fields of early childhood education and educational technology for face validity, and piloting it to a comparable sample to assess reliability and content validity,

- Finalizing the structure of the evaluation card,

- And analyzing and interpreting the findings from the application of the evaluation card.

4. Results & Analysis

The research has concentrated on three main components that determine the actual appearance of the website through the results of the evaluation (general elements, educational content, and technical elements). The analysis outcomes are presented as follow:

General elements

In the first component of the evaluation card, the researcher rated the availability of domains of general elements of the sample of websites as an answer for question (1): What is the level of general elements in Arabic websites for children? The responses are documented in histogram 1.
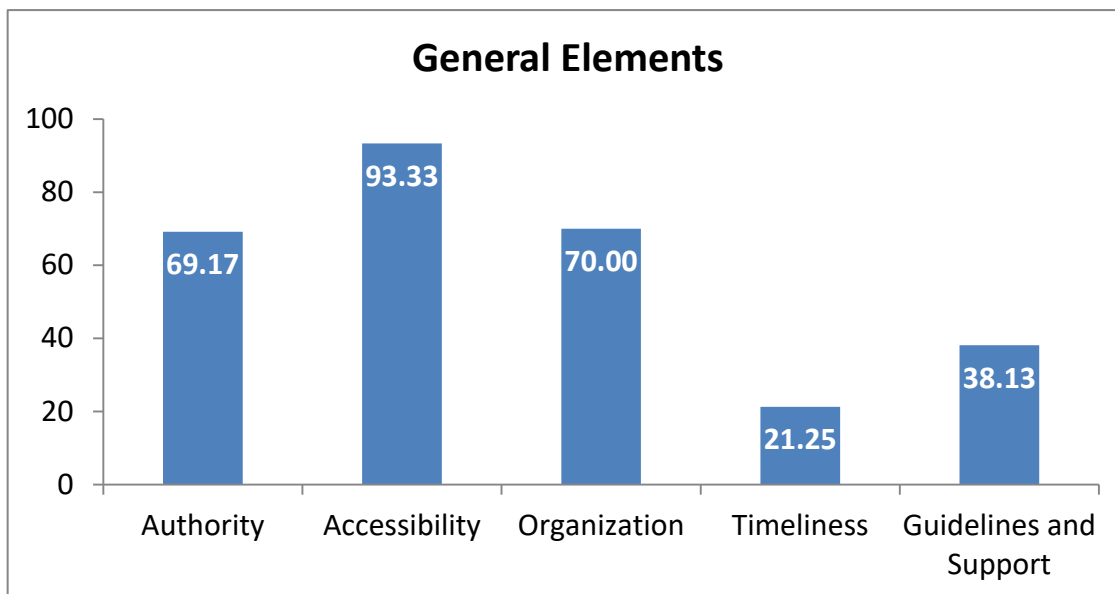
Histogram 1. The percentages of the general elements

The "Yooyaland" website has the highest percentage (84.85%) in terms of the availability of all general elements, as the "kindergarten" website received the lowest percentage (33.33%). Accessibility and ease of use received the highest ratings (93.33%) while the timeliness domain received the lowest rating (21.25%). There are clear absences of the authority domain in most websites, especially in terms of presenting enough information about the supervisory authority such as name, job, specialization, and address (Bilal, 2000) emphasized in his research. Another important factor that was missing throughout all websites is the relevance of the website's supervisor body experience, and background in the field of early years.

In terms of the accessibility domain, it was noted that access to all websites within the sample is very direct using well-known search engines with the ability to browse the website through more than one program. As the results displayed the ability to browse websites on smart devices, where the speed of download time for the home page and the directory of the site web content do not exceed (20) seconds per page. Another feature includes continuous and permanent access to websites, allowing printing any information page.

In terms of the organization domain, the results revealed that the layout of the websites lack a map for easy browsing since children are in specific need for this feature greatly. This domain supports a trend in the websites called "responsive design" which gives the best of viewing practice as it provides a device-based layout for users (Joyce, 2003; Kafai, 2003).

When evaluating the timeliness or currency of the websites also pertains to whether the site is up-to-date, and the information is being maintained, unfortunately, the results revealed that most sites are outdated. Most links are in-active and information sound out-of-date while the "last updated date" is missing. It was apparent the information is abandoned by the owner. Websites have been noted for the site's up-date process in terms of setting the date of construction, showing the date of the last update, not specifying the update periods, and the scarcity of the novelty of the topics displayed on the websites.

In terms of the guidance and support domain, the results confirmed that there was a lack of instructions on the websites for the operation of websites and tools. The scarcity of voice messages used for instructions, and the inappropriate tone of sound used for the instructions for children were missing in most websites. It became clear through these results that the way the instructions are presented to the child is diverse and changing if repeated more than once. Also, the lack of animation for instructions was absent in most of websites.

Educational content elements

In the second component of the evaluation card, the researcher rated the availability of domains of educational content elements of the sample of websites as an answer for question (2): What is the level of **educational content** in Arabic websites for children? The responses are documented in histogram 2.

Educational Content Elements
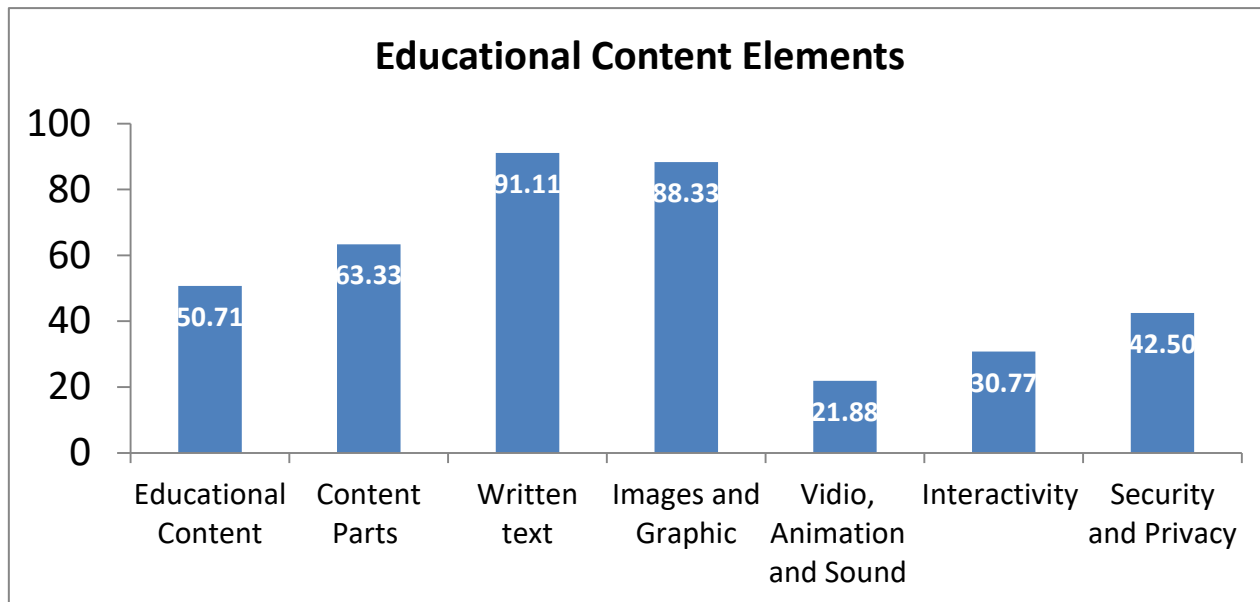
Histogram 2. The percentages of the educational content elements

Similarly, the "Yooyaland" has the highest percentage of educational content (75%) elements, whereas the "kindergarten" received the lowest percentage (23.21%). In terms of educational content elements, the research revealed a lack of educational goals in the content of the websites, as well as deficiency of cognitive, emotional and psycho-motor objectives. It has been shown that the connectivity and integration between the content of children's websites and the experiences provided by kindergarten programs are not considered, with few reliable sources of information available on the websites. Although all websites contain many fun games and stories for children, it was evident the absence of activities and contests to support learning. Also, the websites lack appropriate practice and drill activities for children's skills development.

In the media (written text) domain, the results confirmed the appearance of short and expressive titles, with the text aligned to the right to determine the point at which the eye begins to read in all websites, this evidence is supported in many studies (Livingstone, 2003; Livingstone & Bober, 2004) that conform to children's needs. In most websites, the validity of texts and clarity of meaning and use of a simple style and familiar words appeared. Most websites used appropriate images and children's drawings to explain texts, focusing on the main components of the web page while appearing in natural colors.

There are limitations in the use of video and animation in most websites, with a lack of text comments and animations in a unified way that conforms to the results of (Patel, 2007).

No evidence of interest in sound in most websites, especially regarding the suitability of sound to a child's age characteristics. The sound types used in the process of positive reinforcement do not differ from the negative ones, with no repetition of comments and sound effects and enough time to reread images and words in accordance to the age group. Weakness has appeared in the interactivity domain, where most websites do not provide different feedback depending on the child's response.

Regarding the security and privacy domain, it is found that there were no specific elements for the security of the processes and services provided by the website. Furthermore, the websites do not preserve the privacy of the child's personal information. In most websites, there was no evidence of appropriate and safe advertising linked to contents and this result is in conflict with recommendations of (Chisamera, 2009) study.

Technical elements:

In the third component of the evaluation card, the researcher rated the availability of domains of technical elements of the sample of websites as an answer for question (2): What is the level of **technical elements** in Arabic websites for children? The responses are documented in histogram 3.
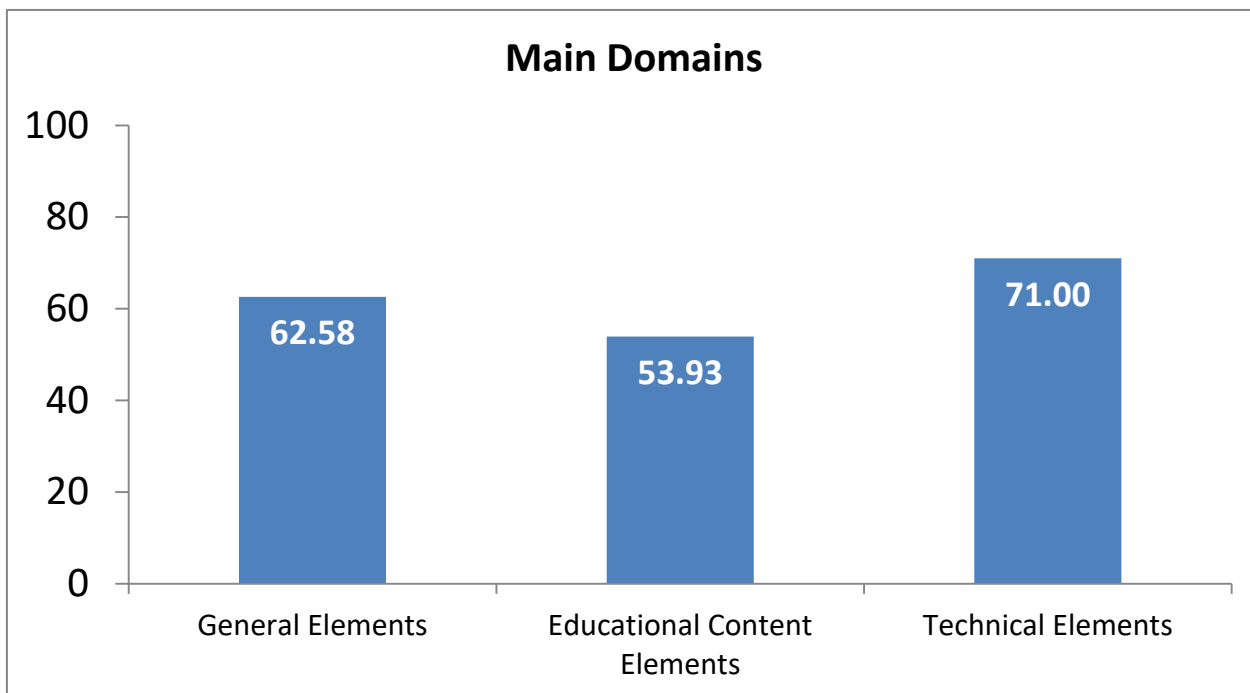
Technical Elements
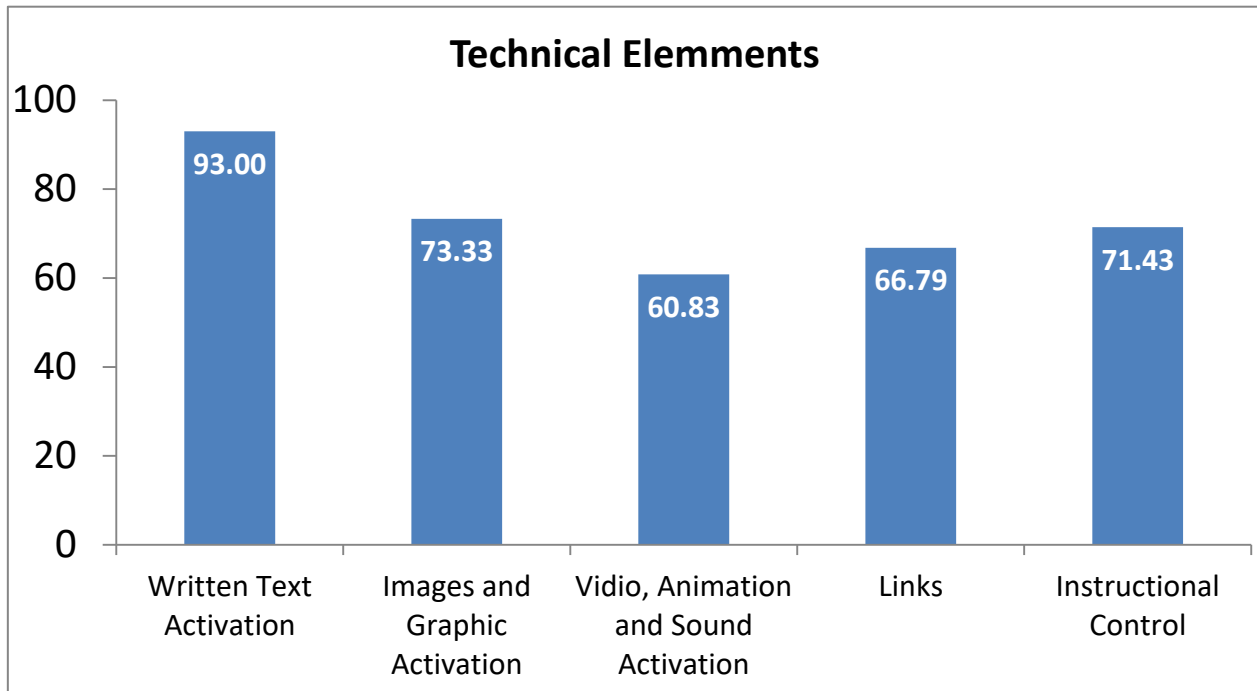
Histogram 3. The percentages of the technical elements

The website "TV C" has the highest percentage in terms of the availability of all technical elements (88.57%), while the website "kindergarten" has the lowest percentage (31.43%). Regarding the domain of written text in technical elements, the results showed that all websites use the standard font types, considering the contrast between the color of the line and the background. Results indicated that most websites have adopted a unified and stable system of headlines and sub-titles with stability in design throughout the different pages of websites which are following the study results by (Bernard, Mills, Frank & McKown, 2001).

Evaluation results indicated the failure of video, animation and sound appearance in most websites, especially working video files, with little control over the video presentations over the control bar.

The study also revealed the presence of accurate programming links, with a clear written text address for the home page and main links. All internal links appeared with clicks by moving them to the right place, and the use of icons and images as links in most websites. In most of websites, there is an apparent failure to provide external links to serve the website, with no link to an internal search engine that supports accessibility.

The study confirmed the ease of controlling all keys in the websites, and the non-requirement of using the keyboard when a child is writing as a valued option. The researcher noted the infrequency of the appearance of change when the link button was pressed before, with little choice to exit any link of the website at any moment.

Main Domains

Histogram 4. The rankings of the availability of elements in the websites

As shown in histogram 4, the results demonstrated that technical elements received the highest percentage of all elements (71%), followed by general elements (62.58%), while educational content elements received the lowest (53.93%) in all websites.

The ranking of websites according to the availability of all domains and elements revealed that "Yooyaland" has obtained the highest percentage (79.03%), and "Kindergarten" was down the list (28.23%). The rest of the research sample of websites rankings ranged from (37.10% to 74.19%).

Limitations and Ethical considerations:

The present research identifies a number of limitations such as this research was time specific. Data were collected from a sample of 20 websites within a specific time, which was the browsing period. This makes it difficult to generalize the findings of this research to other websites at different timings. The design of the research could be replicated, but the results may not be the same, because this research focused on evaluating websites according to the elements of the checklist, and at a specific point in time. However, the sample is representative of the Arabic websites for children.

As for the ethical considerations, the criteria for websites selections were clearly set out and explained. Permission to brose each website was not needed since all websites under stud were active and they do need authorization to access the website links. The researcher endeavored to report the findings with fairness and accuracy.

5. Conclusion

By answering the questions of this research, the researcher concluded that images and drawings are important technical components in children's websites since they strength various concepts and attract children's attention to specific learning concepts, given that in most websites they must use bright and attractive colors to the child's view. The study of (Calvert, Strong, Jacobs & Conger, 2007) proved that these features usually help to keep the child's attention, in addition to highlighting the information and details more clearly. As stated by (Wartella, Blackwell, Lauricella & Robb, 2013) functional images should be utilized in children's websites, to communicate certain information, direct a learning skill or forming an attitude to children.

The results of the (Large, Beheshti& Rahman, 2002; Large, Nesset, Beheshti & Bowler, 2004) studies recommended that these images must be realistic in order to give the child the opportunity to connect them with the written text, with the recommendation of using simple and not many details pictures to eliminate distraction, so that children can read them and interpret them properly (Nielsen, 2002). While the study of (Gutnick, Robb, Takeuchi & Kotler, 2011) advised using animations, since children love them and they can interact with them in a friendly way especially if combined by verbal comments, and to be placed within a framework so that children understand them as one unit. Finally, the research

confirms that the children's website should offer some activities for the new visitor without the registration process, while it is required signing in to take advantage of all services and participate in activities of a certain website. Therefore, the researcher considered the importance of applying this approach to children's websites.

6. Contributions and Recommendations

The research results may contribute to developing websites in the Arabic language following children's age group and growth developmental skills. These websites should be created by specialists in the field of early childhood education and educational technology and supervised and updated constantly by a team of specialists.

Also, the research highlights the need to replicate children's websites in the developed countries and other languages to benefit from their experiences. Finally, since most of the researches concerning evaluation websites has been directed towards all categories of users except for Arabic ones, this research will enrich the findings of the evaluation of children's websites in the Arabic language.

The research recommendations for children's web designers can be summarized in designing easy to open and browse websites for children considering the use of appropriate visual and audio guidance and support. Another recommendation includes paying attention to the written text of the website content to be transcribed in Arabic not a translation from a foreign website since translation most of the time is not accurate.

The alternative recommendation involves establishing unified and controlled standards for evaluating Arabic websites for children. Finally, the research endorses several recommendations to early years provision where schools should utilize website's contents to enhance learning literacy, math, and other skills for children considering the proper animation, digital images, sound, and colors. Furthermore, introducing available websites for children to teachers and train them to integrate websites into the learning environment.

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