

Usability of Children's Educational Websites (Case study on External Educational Books Websites in Egypt)

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Abstract:

Usability testing is very important tool used to determine the success of the educational website, and how the website meet the children's educational needs. Recently, children become one of the biggest technology users that led to interest in apply usability testing with them as test participants. The need to include children in the design process of most children's computer applications. This study evaluates the usability and acceptance of two educational websites in Egypt named as (Al Adwaa educational website and Selah Eltelmeez educational website). These websites are the e-learning complemented method for most popular external books designed for children in primary, preparatory and secondary stage to learn. This study employed usability test approach which involved observation, and interview questionnaires based on five acceptance test elements. The objective was to collect qualitative and quantitative data to determine: if children are able to complete specified tasks successfully ; and children's satisfaction with the two websites. Twenty four children at the age between (9 to 12 years) old, they was studied on three primary grades (fourth, fifth and sixth-grade) in three different types of Egyptian schools (Arabic governmental school, Experimental Language Schools, and private Language schools) on three different governorates have been selected to participate in this test. Children were arranged in four groups according their age and educational type from (A) to (D). Results indicate that; all children in the groups of age and educational type from (A) to (D) agreed that Eladwaa CEW has the best design, layout, user interface, and navigation followed by Selaheltelmeez CEW. This shows that Selaheltelmeez CEW needs some improvement, and Eladwaa CEW is the most user-friendly. Selaheltelmeez CEW also needs to add some educational games which can aid the learning process.

Keywords:

Usability, Usability testing, Children's Educational Websites (CEW), External Educational Books, Primary stage students.

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1- 1. Introduction

Education is the main challenge in building a society. This is why it is essential to achieve the economic and social development of any country. It is also the centre of measurement of development. In view of the influential role of the International Information Network in education, some Egyptian publishing Foundations provided their educational websites for students, teachers and parents. These websites aimed to spread the culture of e-learning and to provide a concept of e-learning by establishing an educational society that contains information, self-evaluation, and psychological and educational care through fixed doors that achieve communication with the student.

Information Technology (IT) has the potential to enhance the educational process quality and efficiency in the primary stage 1. Educational websites can provide a key support in education and help children develop new important skills [Rajia, S. , Mahmuda, M., & Abubakrb, A., 2013].

Since an increasing number of children in Egypt own a computer and have Internet access in their homes, many children explore the web from a young age and use the Internet in education and learning. They using it as part of their daily activity. Not every time there are parents around them to provide helping.

The Egyptian educational system is highly centralized, and is divided into three stages. In this research, the focus was on the first stage (Primary Stage for six years).

Educational Websites is used in Egypt as a medium to enhance Educational operation to the pupil through better design and intense delivery of content. These Websites are good sources of reference for several education subjects in primary stage and thus can be used to empower children to learn more about many educational subjects (such as Languages, Math., science, social studies and religious) in primary stage. It is an important source of e-learning by explaining multimedia lessons from videos and audio recordings with a wide range of top-level questions and tests. These

sites also offer motivational activities for students to enjoy and play to encourage site follow-up.

The Interface of children educational websites should be usable and compatible with the cognitive skills of children in order to provide an effective learning experience. Usability is a key quality attributes to measure the usefulness of website [Tahir, R., and Arif, F., 2015].

The usability criterion is one of the criteria for evaluating websites, Millions of children use the internet. Many websites specifically target children with educational or entertainment content. Despite this growth in users and services, little is known about how children actually use websites or how to design sites that will be easy for them to use. Website design for children is typically based purely on folklore about how children supposedly behave — or, at best, on insights gleaned when designers observe their own children, who hardly represent average children, typical internet skills, or common knowledge about the web [Nelsen, J., 2010].

A number of design challenges are involved in developing educational websites for children. The interface should be child friendly and also compatible with cognitive skills of children [Tafreshi, Soltani, F., and Miri, T., 2010].

2- Statement of the Problem

There is a problem for school children's governmental books in Egypt, so the majority of Egyptian students are using external educational books to add and support their learning process. In recent years, Egyptian external educational books' publishers became more interested in employing information technology (IT) to serve the educational process, prompting them to develop their websites as an educational tool and to integrate the printed external book with the educational website. These websites provides educational and enjoyable services for children, parents and teachers in different Educational stages. Due to the importance of these websites and the lack of studies which have researched school children attitudes with using educational websites in learning, the usability of these websites has been evaluated.

3- Objective

The aim of this study is to evaluate the usability of two Children's Educational Websites of external educational books in Egypt, by usability testing to determine:

- If these educational websites are easy to use without any difficulties.
- Children's satisfaction with these websites.

4- Literature review

In an age of multimedia and IT, it is important to

consider that there are no different between education and entertainment with children. so the educational websites have many parts for playing and entertainment.

4.1. Usability and Usability testing

ISO 9241- part 11 defines usability as the “extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use” [ISO, 1998]. ISO explains how to identify the information which is necessary to take into account when specifying or evaluating usability of a visual display terminal in terms of measures of user performance and satisfaction. Guidance is given on how to describe the context of use of the product (hardware, software or service) and the relevant measures of usability in an explicit way [Jabar, M., Usman A. & Awal, A., 2013].

The usability of the product was measured thru three main quality criterions with the use of this standard. Firstly, effectiveness that was the measurement of how well the user was able to use the product to accomplish the aim. Secondly, efficiency, which was related to how fast a user could complete a task. Finally, satisfaction, which was a subjective measurement of how pleasant it was to use the system [Sharp et al., 2007].

Nielsen (1994) mentioned that usability had five attributes [Nielsen, J., 1994]:

- Learnability: how users learn easily and use rapidly.
- Efficiency: productivity level after user has learnt to use the system.
- Memorability: user is able to use system after a period inactivity and without having to relearn everything.
- Errors: the number of errors when using the system.
- Satisfaction: whether user was satisfied during use of system.

WAMMI (Website Analysis and Measure Ment Inventory) proposes five factors to assess the usability of websites. Brief explanations for the WAMMI factors are as follows (Claridge, N., Kirakowski, J., 2016):

- **Attractiveness:** An Attractive site is visually pleasant, and also offers much of direct interest to the users, whether it is functionality or information.
- **Controllability:** Controllable site means that the users of the site most probably feel they can navigate around it with ease and do the things they want to do.

- **Efficiency:** Website is efficient if the users feel they can quickly locate and do what is of interest to them in an effective and economical manner. They feel that the web site responds (possibly, the pages load) at a reasonable speed.
- **Helpfulness:** A website which is high on helpfulness corresponds with the users' expectations about its content and structure. A site with a low level of helpfulness can be misleading about its layout and content.

Learnability: When users feel they are able to start using the site with the minimum of introductions and everything is easy to understand from the start, then the site is said to be learnable.

4.2. Educational technology

There are some definitions describe educational technology as a complex topic including many different forms and uses. Such as; define of Januszewski and Molenda (2008), "the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources" [Januszewski, A., & Molenda, M., 2008].Also Czerniewicz (2008) describes educational technology as a term that encompasses the activities and knowledge domain where education and technology intersect. [Czerniewicz, L., 2008].

Table 1. Usability Testing Evaluation Criteria*

Usability Themes	Accessibility Themes	Availability Themes
Visibility	Simplicity	Availability: 24hours/day, 7days/week, 365 days /year
Learnability	Easy location of Address	
Navigation	Memorability	
Flexibility and Efficiency		
Aesthetic		
Recovery from error		
Help and Documentation		

*Adapted from Nielsen [Nielsen, J., 2008]

4.3. Children's Websites

Many of the basic rules for usable Web design are the same for children and adults, though often with differences in degree. For example, People get annoyed when they have to look for navigation in several different places. This redundant linking often forces adult users to waste time clicking on the "same" link several times, causing navigational disorientation. Although too much navigation is annoying and confusing for adults, it can be devastating for children [Nielsen, J., 2010].

Jakob Nelsen summarized some observed in children's behavior when using websites as shown in the following table (2) [Nelsen, J., 2010]:

Table 2. Children's behavior when using websites

Children's behavior	
Goal in visiting websites	Entertainment
First reactions	Quick to judge site (and to leave if no good)
Willingness to wait	Want instant gratification
Following UI conventions	Preferred

User control	Preferred
Exploratory behavior	Like to try many options , Mine-sweeping the screen
Multiple/redundant navigation	Very confusing
Back button	Not used (young children) , Relied on (older children)
Reading	Not at all (youngest children), Tentative (young children) Scanning (older children)
Readability level	Each user's grade level
Real-life metaphors e.g., spatial navigation	Very helpful for pre-readers
Font size	14 point (young children) , 12 point (older children)
Physical limitations	Slow typists , Poor mouse control
Scrolling	Avoid (young children) , Some (older children)
Animation and sound	Liked
Advertising and promotions	Can't distinguish from real content
Disclosing private info	Usually aware of issues: hesitant to enter info



Age-targeted design	Crucial, with very fine-grained distinctions between age groups
Search	Bigger reliance on bookmarks than search, but older children do search

4.4. Children and the usability test

There are some Characteristics of children that may affect the process of usability testing, they are (Markopoulos, P. & Bekker, M., 2002):

- Different degrees of extroversion skills may have a direct impact on the outcome of the usability test.
- Children can concentrate for about 30 minutes, so they have developing capability to concentrate to a single activity and to pursue tasks.
- Children which own Prior experience with computing demonstrate more positive attitudes, more enthusiasm and report more self-confidence and ease when using computers than those who do not.
- Children are reported to be very honest but sometimes the reliability of reported data is questionable (Hanna et al. 1999).
- Gender differences develop and change as children become older.

5- Methodology

5.1. Study Design

This research used usability testing which based on [observational study at individual sessions for each child followed by a questionnaire], carried by a group of volunteers from postgraduate students to carry out the test with the children and to reports the results. It conducted usability of two different Egyptian Children's Educational Websites. Usability test was applied among three primary grades (fourth, fifth and sixth-grade) in three different types of Egyptian schools (Arabic governmental school, Experimental Language Schools, and private Language schools) on three different governorates (Cairo, Giza, and El Qaliubiya). The students were divided into four groups ranging from A to D according to their age (from 9 to 12 years), each group consisted of six children with equal ratio of males and females. They perform testing by the given task sets (Children were asked to complete a set of pre-specified tasks using the selected educational websites). Students with prior experience with these sites were excluded to avoid variation influenced by past

experience, and all Children were informed of the nature of the research. Children's parents were accepted to apply the usability test .Each child reviewed the both website.

Studies took place in schools' computer lab, children's homes and in the sporting clubs. One laptop with internet USB was used to standardize computer using and Internet Speed. We encouraged children to think out loud while they were using the sites. We told the children that they were the experts, and that we wanted them to teach us how children use and think about websites. We then explained that, in order for us to learn, they had to explain what they were thinking at all times [Nielsen, J., 2010]. A snack with a dessert were served.

After applying usability test, each child was asked of his opinion on the site through a simple questionnaire to gather data about the selected websites.

- The study was conducted on February 12, 2017 - April 30, 2017. Responses were obtained within two-month period. Parents approved the children's participation in the usability study before applying sessions of usability test. The test session for each educational website took 90 minutes on average, including usability tests and applying the questionnaire, between each session children had a break for an hour.

5.2 Samples

5.2.1. The selected sample of children educational websites (CEW)

The most important and oldest two educational websites of non-school (external) books published in Egypt were selected by reviewing educational books that having a website. These websites have extremely different designs.

The selected educational websites are:

1. Selaheltelmeez educational website: (<http://www.selaheltelmeez.com/selahindex.aspx>), fig. (1)
2. Al Adwaa educational website: (<http://www.aladwaa.com>), fig. (2).

5.2.2. Users

A sample of primary stage students as users was involved in the Usability testing sessions. Children's demographics data are shown in Table (3) below, and Time spent online and experience in in dealing with the computer and Internet for children Participants are shown in Table (4).



Fig. 1. Snapshot of the homepage of Selaheltemeez educational website

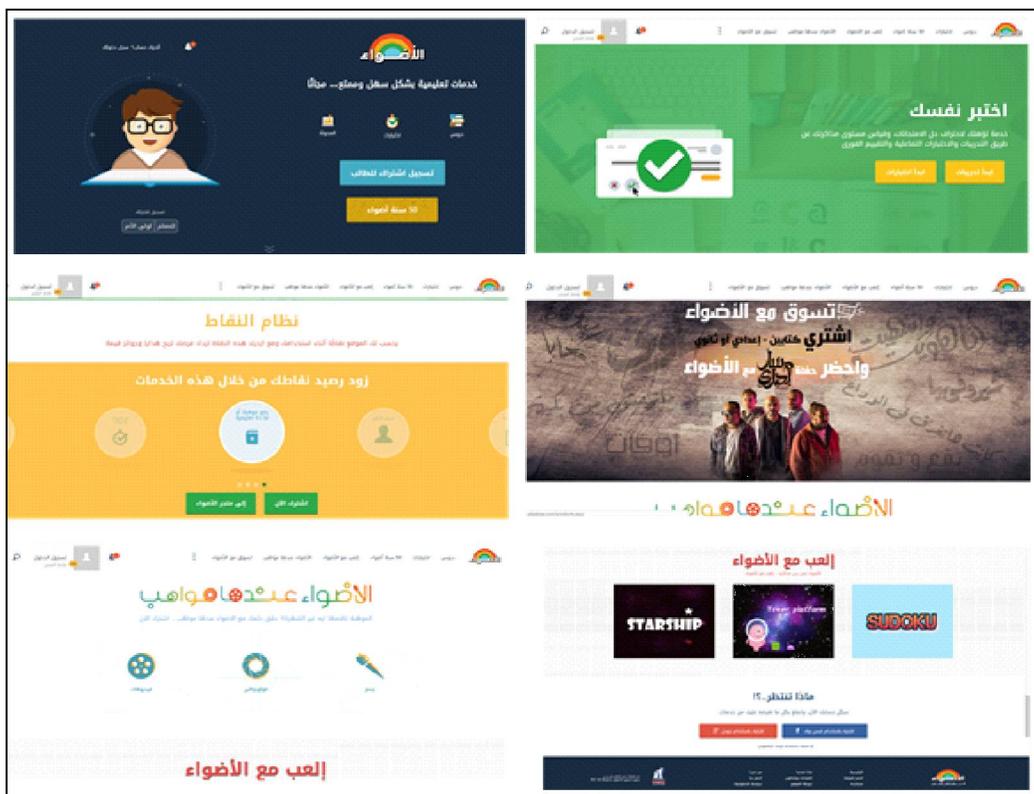


Fig. 2 Snapshot of the homepage of Al Adwaa educational website

Table 3. Demographics of children Student Participants

Groups	Age by years	Gender				Primary grade						School's type	Governorate
		Male		Female		Grade 4		Grade 5		Grade 6			
		n	%	n	%	n	%	n	%	n	%		
A	9	3	12.5	3	12.5	4	16.6	2	8.3	0	0	Arabic government Experimental Language private Language	From (Cairo , Giza& Qaliubiya) equally in each group
B	10	3	12.5	3	12.5	1	20.8	5	20.8	0	0		
C	11	3	12.5	3	12.5	0	0	4	16.6	2	8.3		
D	12	3	12.5	3	12.5	0	0	1	4.1	5	20.8		
Total		12	50	12	50	5	20.8	12	50	7	29.1	3	3

A demographic characteristics of the children indicated that; Their primary grades were (20.83 % fourth grade, 50% Fifth grade, and 29.16 % Sixth grade).The children were drawn mainly from an Arabic government schools 50 %

approximately, while 25% were from an Experimental Language Schools and 25% were from private Language schools.

Table 4. Time spent online and experience in in dealing with the computer and Internet for children Participants

Factors	Categories	Number of children	Percentage%
Time spent online	15 – 30 minutes	1	4.16
	30 – 45 minutes	3	12.5
	45 – 1 hour	4	16.66
	1 – 2 hours	6	25
	>2 hours	10	41.66
Experience in dealing with the computer and Internet	Low level	1	4.16
	Medium level	5	20.83
	High level	4	16.66
	Very high level	14	58.33
Total		24	100

According to data in table (4); the children's experience in dealing with the computer and Internet were (58.33% Very highly level) due to the children spend more than 2 hours a day with their (computer /tablet or smartphone).

5.3. Techniques, Devices and Tools

5.3.1. Techniques included:

- Children's Performance was measured by direct observations using: counting the time spent to complete tasks, looking at the number of clicks and scrolls, and number of errors).
- Subjective child preferences (attitude toward content) by using questioner.

5.3.2. Devices:

The usability testing was conducted by using one computer laptop its operating system was (Microsoft Windows 7), and used internet USB

modem with web browser (Google chrome).To provide the Internet with an appropriate speed. In addition to the use of volunteers' mobile cameras to record the behaviour of each child during the test and stopwatch to calculate tasks duration.

5.3.3. Tools:

- *Analysis cards of Usability Test:* Five tasks prepared for each website, they were selected as being representative of common activities in the use of the two selected Educational Websites. All children were exposed to the same usability tasks. These tasks are shown in table (5) below, the order of assessment of selected websites by the children are shown in table (6) below, and the usability test card is shown in table (7) below:

Table 5. Tasks of usability

Task 1 Accessibility task	Task 2 Learnability task	Task3 Navigation task	Task 4 interactive task	Task 5 Flexibility task
Create an account for you on the website	Find exercises on the third lesson of second unit in social studies subject for your stage and answer it	Go back to the website's home page	Watch the video about first lesson on Arabic subject for your grade	Search for the English Questions Bank for your grade

Table 6. Order of assessment of selected websites by the children

Test day	Group A	Group B	Group C	Group D
First session:	Al Adwaa website	Selaheltelmeez website	Al Adwaa website	Selaheltelmeez website
Second session:	Selaheltelmeez website	Al Adwaa website	Selaheltelmeez website	Al Adwaa website

Table 7. Usability Test card shown

Participant No. (...)	
Card No. (...) Analysis of task no. (...)	
Number of attempts (clicks and scrolls):	
Number of errors:	
Task duration :	
Comments:	
1.	
2.	
3.	

▪ **Questionnaire:**

It used a questionnaire based on the five factors of usability defined by WAMMI (Website Analysis and Measurement Inventory): attractiveness, controllability, helpfulness, efficiency and learnability [Jabar, M., Usman

A. & Awal, A., 2013] shown in table (8) below. To evaluate these factors, it used five statement options from (a five-point Likert scale) include; 'strongly disagree = 1', 'disagree = 2', 'neutral = 3', 'agree = 4' and 'strongly agree = 5'.

Table 8. Questions of usability questionnaire's factors

Factors	Q. no.	Questions
Attractiveness	Q1.	Do you find the Educational Website attractive?
Controllability	Q2.	Can you handle the Educational Website easily?
Helpfulness	Q3.	Does the Educational Website provide the help you need?
Efficiency	Q4.	Is the site offers you the information in an interesting way?
Learnability	Q5.	Do you think the Educational Website offers a good educational service?

6- Results

6.1. Results of usability test

It was calculated the number of clicks or scrolls, and the number of errors, then finally the time

spent to complete tasks (Duration) for each task of five usability tasks of each groups which shown at figures No. (2,3and 4) below:

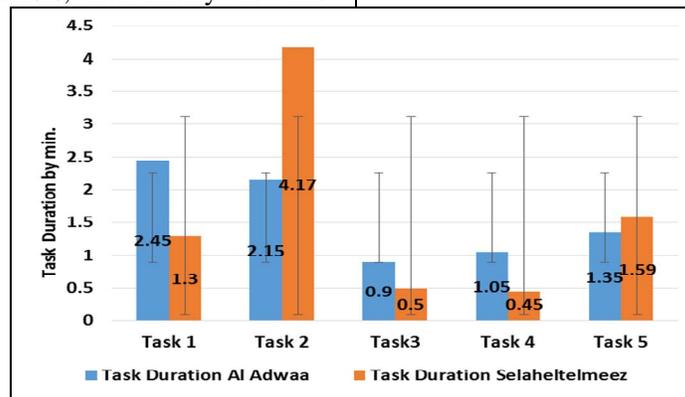


Fig. 3. Duration of each task

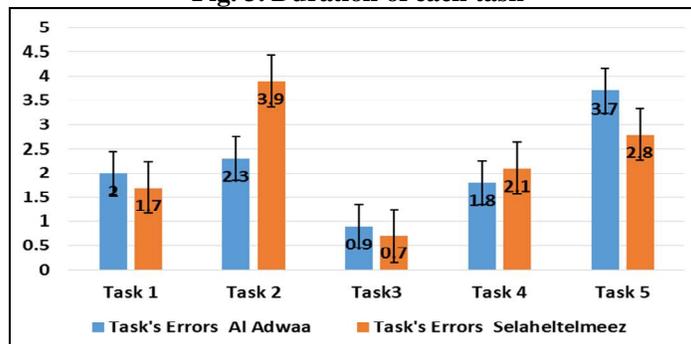


Fig. 4. Number of errors in each task

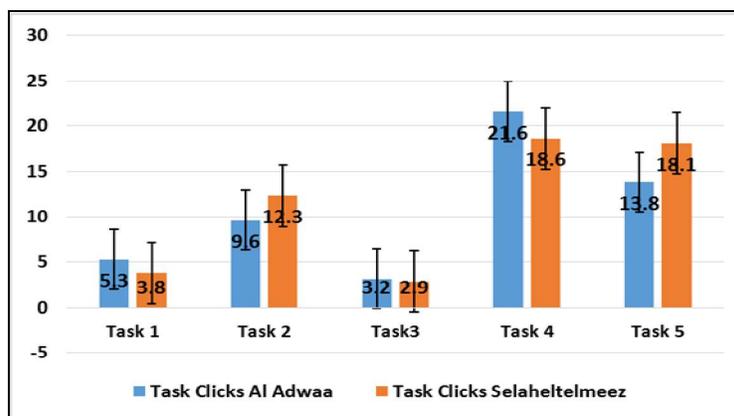


Fig. 5. Number of clicks in each task

▪ *From previous figures; it was found that:*

Task 1: Create an account for you on the website.

Result: Most of the children were able to create an account for themselves on both websites easily. The average time of finishing the task was faster on *Selaheltelmeez* website than *Al Adwaa* website, and therefore the number of clicks and errors was less *Selaheltelmeez* website than *Al Adwaa* website.

Observation: 18 out of 24 children were able to create an account for themselves on the two websites easily while other children faced difficulties to create an account for themselves easily.

The vast majority of students from different ages, education styles and governorate of residence have been able to create accounts for them on both study sites with ease, although there are some slight differences in the time of completion of the task and the number of clicks and errors.

Task 2: Find exercises on the third lesson of second unit in social studies subject for your stage and answer it.

Result: All children participants were able to perform this task successfully. The average time to finish the task on *Al Adwaa* website was (2.15 min.), it was faster than the average time of completion of the task on *Selaheltelmeez* website (4.17 min.). While the average of number of clicks on *Al Adwaa* was (9.6 clicks), on *Selaheltelmeez* was (12.3 clicks) respectively. The average of error in accomplishing the task on *Al Adwaa* was (2.3 errors), on *Selaheltelmeez* was (3.9 errors).

Observation: This task was affected by the individual children differences in reading speed and age. *Al Adwaa* website had more organized selection list of tests, where it was assembled in one window only, while the task required entered

on more than one window on *Selaheltelmeez* website to reach the required test.

Task 3: Go back to the website's home page.

Result: The vast majority of children can be able to go back to the website's home page very fast. The average time to finish the task on *Selaheltelmeez* website was the fastest (0.5 min.), while the average time on *Al Adwaa* website was (0.9 min.). The average of number of clicks on *Selaheltelmeez* was (2.9 clicks), on *Al Adwaa* was (3.2 clicks) respectively. The average of error in accomplishing the task on *Selaheltelmeez* was (2.3 errors), on *Al Adwaa* was (3.9 errors).

Observation: *Selaheltelmeez* website Placed the word of (Home page) in the top right of the web pages, while *Al Adwaa* website placed it on the bottom of the pages. That making children perform the task faster on the *Selaheltelmeez* website. 20 children of 24 participants didn't realize that the logo icon of (*Al Adwaa*) at the top of all the pages refers to the (Home page).

Task 4: Watch the video about first lesson on Arabic subject for your grade.

Result: The participants were able to complete this task on *Selaheltelmeez* website at an average time of (0.45 min.) faster than on *Al Adwaa* website in the average time (1.05 min.). The task was done with an average number of clicks (18.6 clicks) on *Selaheltelmeez* website in contrast (21.6 clicks) on *Al Adwaa* website. However the average error in completing the task on *Al Adwaa* website (1.8) was less than the average on *Selaheltelmeez* website (2.1).

Observation: The number of errors on *Al Adwaa* website decreased in the implementation of the task because the child was carrying out each step from a specific list that did not contain many options to choose the desired video, unlike *Selaheltelmeez* website, which includes all contents of subject's Lessons in one menu, which

led to confusion about 14 children from the whole participants.

Task 5: Search for the English Questions Bank for your grade.

Result: The average number of clicks was less on *Al Adwaa* website (1.35 min.) compared to (1.59 min.) on *Selaheltelmeez* website. The average number of clicks was less on *Al Adwaa* website (13.8clicks) versus (18.1clicks) on *Selaheltelmeez* website. While the average number of errors was greater on *Al Adwaa* website (3.7) versus (2.8) on *Selaheltelmeez* website.

Observation: The number of errors is greater on *Al Adwaa* website because there is no specific option for (Question Banks). There are three options for the kind of questions - more gradual in education and evaluation than those on *Selaheltelmeez* website - and students were assisted in selecting the most expressive icon.

▪ **General results of usability test revealed that;**

- No one of the twenty-four students used the narrow search option; they were searched by navigating through parts of the site and observing illustrations and icons which express about the subject.
- It found some gender differences; where, girls take shorter time to complete tasks than boys in same age. But as a total; gender has no influence on the usability of educational children websites.
- There were some differences between the age groups represented in the speed of completion of the tasks. Where, the number of clicks

increased with the older children (11 and 12 years).In the other side the younger children (10 years) needed more time.

- There were some minor differences between the students of public governmental schools and experimental and private language schools, where the study sites did not use language other than Arabic and there was no need to understand or translate sentences in a foreign language.
- Children behavior on the educational website was generally affected by the children's experience in dealing with the computer and Internet and the Time which they spend usually online.
- Some Children couldn't able to carry out some tasks only after giving the opportunity to try again.

6.2. Results of children's questioner

The data analysis of Likert scale questionnaire was done according to the interval measurement scale, Likert scale items was created by calculating (Central Tendency) a composite score (mean) from five Likert-type items [Boone, Harry N., 2012]. Accordingly; the mean of points for each question was recorded and the mean value for each factor was considered as its usability point, so the overall website usability point was the mean value of usability points for the five factors and usability level is determined by its usability points .

The summary of the usability evaluation of the educational website is shown in Table (9) and in Figure (6).

Table 9. Usability evaluation results of the two educational website

Factors	Al Adwaa educational website		Selaheltelmeez educational website	
	Mean of Points	Usability Level	Mean of Points	Usability Level
Attractiveness	4.36	Excellent	2.6	Bad
Controllability	3.68	Very good	3.16	good
Helpfulness	3.88	Excellent	3.68	Very good
Efficiency	4.24	Excellent	2.96	good
Learnability	4.32	Excellent	4.16	Excellent
Overall Usability	4.096	Excellent	3.312	good

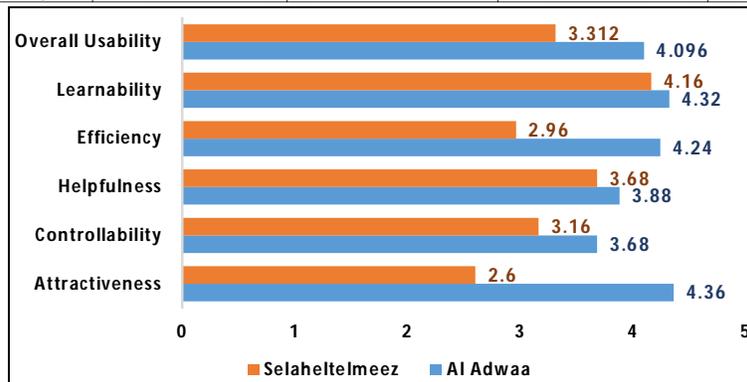


Fig. 6. Usability evaluation results of the two educational website

The majority of Children (62.5%) Strongly agree that *Al Adwaa educational website* was attractive, but (50%) found *Selaheltelmeez educational website* not attractive. Most of Children (50%) agree that *Al Adwaa educational website* was handled easily, but (25%) found *Selaheltelmeez educational website* was handled easily. Most of Children (45.8%) Strongly agree that *Al Adwaa educational website* was helpfulness, on other hand (37.5%) found *Selaheltelmeez educational website* not helpfulness. The majority of Children (54.16%) Strongly agree that *Al Adwaa educational website* was offered the information in an interesting way, but (25%) found *Selaheltelmeez*

educational website wasn't offered the information in an interesting way. The majority of Children (58.3%) Strongly agree that *Al Adwaa educational website* was offered a good educational service, and (54.16%) found *Selaheltelmeez educational website* was offered a good educational service also.

- The following table summarizes the main differences between the two educational websites according to evaluation criteria's (design, interactive and technical criteria's); which based on the comments of students participating in the usability test and the questionnaire:

Table 10. Main differences between the two educational websites

Evaluation Criteria's		El Adwaa CEW	Selaheltelmeez CEW
Design Criteria's	layout	Attractive layout.	Ugly layout.
	Images	Has pleasing images.	Has poor images.
	Icons	Use icons that are recognizable and appropriate to the children.	Use icons that children can recognize, but they aren't pleasing, because they only take the same form as the printed book.
	Color Scheme	Has a pleasing and attractive color scheme.	Has a poor (not attractive) color scheme.
	Content Readability	Medium content readability; There are some difficulties in reading the font type.	High content readability.
	Font Size	Always uses medium font size	Always uses large font size.
Interactive Criteria's	Uploading Videos	Allows to upload educational videos easily.	Allows to upload educational videos easily.
	Entertainment	A groups of educational and entertainment games to break the boredom of children and enhance the educational process.	Doesn't include any kinds of entertainment items.
	Animation and Sound	Animation elements are available but no accompanying sound effects.	Animation elements are available but no accompanying sound effects.
Technical Criteria's	Efficiency	Very efficient and useful	Fairly effective and helpful
	User Interface	Has a friendly and simple user interface.	Has an unfriendly user interface.
	Navigation	Easy to navigate.	Easy to navigate. Allow the child to return to homepage from every screen.

7. Conclusion and Discussion

This study examined the usability of two children's educational websites, these websites represent the major external school books in Egypt. The children participants were primary stage's students from three different Egyptian governorates (representing rural and urban areas), they have high computer and Internet experience. Their age were from (9 to 12 years), also they were studied in primary (4, 5, and 6 grades) from three types of Egyptian schools (Arabic governmental school, Experimental Language Schools, and private Language schools). The usability of children's educational websites has been evaluated through

five tasks of Usability Test :(Accessibility, Learnability, Navigation, interactive, and Flexibility tasks), Followed by a questionnaire based on the five factors of usability defined by WAMMI: (attractiveness, controllability, helpfulness, efficiency and learnability).The results of the usability tests and questioner indicate that;

- All children in the groups of age and educational type from (A) to (D) agreed that Eladwaa CEW has the best design, layout, user interface, and navigation followed by Selaheltelmeez CEW. This shows that Selaheltelmeez CEW needs some

improvement, and Eladwaa CEW is the most user-friendly. Selaheltmeez CEW also needs to add some educational games which can aid the learning process.

- Although, El Adwa CEW was most favorable, there were some good design elements for Selah Eltelmez CEW. And there are some design elements left children feeling confused in both study websites.
- Age, computer and internet experience can affect the degree of children educational website usability.
- Only Al Adwa dedicates a part of the site to teachers and parents.

7- Recommendations:

- Children's educational websites should be designed in an attractive user interface, colors, backgrounds and easy navigation; to improve the educational process and always prompts children to use these websites more than once.
- Children's educational sites should be supported by more educational stimuli (such as apps for math skills, vocabulary, memory games, drawing etc.) to encourage them to learn.

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