Developing a Card to Evaluate the E-Lessons Produced Using the Program, Articulate Storyline3

Prepared by Nasr El-din Mabrouk Mohamed Ahmed Ministry of education Prof Dr. Wafaa Salah Eldin Ibrahim Professor of Instruction Technology Ass. Prof Dr. Mamdouh A. Ibrahim Assistant Professor of Instruction Technology



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Summary of the Research:

e-lessons and their usability and production have become a noticeable place in the thinking of teachers and students because they contribute to providing an interactive, social learning atmosphere that attracts learners if they are prepared in a proper and correct way and are designed as required, as well as for their ability to access them at any time and from anywhere And its absorption of large numbers of students and learners, which cannot be absorbed in the case of relying on traditional education, and The aim of the current research is to develop a card to evaluate the e- lessons produced using the Articulate Storyline3 program. For this purpose, the researchers used the descriptive analytical research method to derive the items of the evaluation card in the light of previous references and studies in this field. The research could develop a card to evaluate the e-lessons to be applicable after being checked by arbitrators of professors and experts in the field of education technology.

Introduction:

e-lessons are of great importance among teachers and educational planners as they contribute in solving many educational problems. Among the factors that encourage the design, production and use of e-lessons: the dramatically increased number of learners, for whom schools cannot accommodate all the time and the individual differences between learners, each according to his speed and ability. In addition, e-lessons are easy to integrate with the normal way of teaching which helps support it. The value of e-lessons is clearly shown if prepared and produced in good quality through the use of modern technology provided by various means and programs.

Several studies have emphasized the necessity of designing and producing electronic lessons, including Ahmed Mohamed Ahmed (2017) study which aimed to identify the skills needed to produce interactive multimedia electronic lessons among students of education technology. The results of this study indicated that the researcher had prepared a list with the necessary skills to produce interactive multi-media e-lesson software. There is also Amr Jalal el-din Allam's study (2016), which aimed to identify the impact of two electronic interaction strategies (peer interaction / multi-group interaction) on developing the skills of producing ecourses for teachers of education schools. The results of this study asserted the effectiveness of the online training program according to the strategy of peer interaction in developing the skills of producing e-courses.

The current research deals with preparing a card to evaluate a product. Therefore, it is necessary to focus on this procedure in the presentation of previous studies. There is no need to present the objectives and results of the study.

Research problem:

The researcher worked as a director of the remote education department at the Ministry of Education, and among his duties were supervision and follow-up during the production of e-lessons for virtual classes (the direct broadcast platform of the Ministry of Education). In this department, teachers and education technology specialists working in broadcast studios in the governorates of the Republic - most of whom are graduates of educational technology departments in the Faculties of Specific Education - designed and produced content and e-lessons that are presented through the virtual classes. The researcher noticed that there are no fixed criteria for them to evaluate these e-lessons, so he became sure of the importance of developing a card to evaluate the electronic lessons produced using Articulate Storyline3 for virtual classes.

There are also recommendations from the conferences, such as the recommendations from the International Conference on E-Learning and Distance Education which came for three consecutive years (2013), (2014) and (2015). This conference emphasized the need to pay attention to developing the skills of designing, producing and using electronic lessons in the educational process. It also recommended that researches of education technology should inevitably prepare teachers and develop their professional competencies to include this new type of requirements for their role in the field of e-learning.

Defining the research problem:

Based on the above, the research problem is identified as the need to develop a card to evaluate the electronic lessons produced using the Articulate Storyline3 program.

Research questions:

The problem of this research could be addressed by answering the following question:

How can I develop a card to evaluate the online lessons produced using the Articulate Storyline3 program?

Research aims:

The aim of this research is to come up with a card to evaluate the electronic lessons produced using the Articulate Storyline3 program.

Research importance:

This research is expected to benefit educational developers and teachers producing their lessons in providing a scorecard for evaluating online lessons.

Search parameters:

This research is limited to extracting specifications from studies, research and related literature that could be obtained and also from

analyzing the work, then presenting it to a group of arbitrators specialized in the field.

Research Methodology:

The researcher used the descriptive and analytical research method, The current research follows a systematic design from the designs of descriptive studies: it is the analysis of the content of documents, which is a requirement in the design and development processes whenever educational materials and learning resources are a field for this design and development as a scientific requirement to reveal, beginning with the properties of these materials, describing them and revealing the basis for their development and evaluation (Muhammad Abd al-Hamid 2013, p. 261) when the foundations for developing these materials are derived and evaluated through writings and specialized scientific research.

Research steps:

This research is conducted through the following steps:

- Conducting an analytical survey of the literature and studies related to the research topic for the purpose of developing a card to evaluate the electronic lessons produced using the Articulate Storyline3 program.
- Preparing the initial format for the card list to evaluate the electronic lessons produced using the Articulate Storyline3 program
- Presenting the evaluation card in its initial form to a group of educational technology professors and experts who use the program, then amending it in light of their opinions, observations and suggestions, to make it in its final form.
- Arriving at the final image of the evaluation card.

Search terms:

e-lessons:

The researcher defined it procedurally as "an electronic educational program produced by the Articulate Storyline3 program. These lessons include multiple means of text, graphics, images, sounds and video clips, as well as feedback and evaluation, as well as tools for navigating the lessons."

Theoretical framework and previous studies:

The concept of E-lessons:

E-lessons are defined as: "Lessons whose design uses educational activities and materials that depend on computers and information networks in providing content rich in interactive multimedia components that achieve learner positivity and participation" (Ibrahim Abdel-Wakil Al-Far, Suad Ahmed Shaheen, 40, 2001-41). Helmy Abul-Fotouh Ammar (19,2007) The e-lesson is described as "an educational program that focuses on high and multi-media which uses the features and resources of the web in order to provide meaningful learning, as it accelerates and supports learning."

e-lesson production software:

There are many programs that can be used in the production of electronic lessons and courses, including: PowerPoint, Lecture Maker, Adobe Captivate, Rapitvity, I spring, Articulate Storyline Easy Generator, and the researcher has used Articulate Storyline3 because of the characteristics of the program that distinguish it from Tools for authoring and publishing lessons and other electronic courses, such as:

- An easy user interface.
- Provides many ready-made templates that can be used in building electronic tests- Allows flexibility in designing electronic tests.

- It provides a variety of personalities integrated into the program, which can be used to explain the lessons and e-courses.
- The ability to import content from other projects and applications.
- Captures the screenshot from the desktop screen.
- Ease of interaction via triggers, variables, timeline, and segment layers.
- Records videos directly without the need for other tools and software.
- The program supports the Arabic language.
- Shares interactive templates and easily add interactive drag and drop features.
- The ability to publish lessons in multiple formats.

The role of the educational technology specialist in using elessons:

The specialist of education technology at the school or the educational institution is fully responsible for the production of electronic lessons. Fatah al-Bab Abdel Halim Sayed (1998, 18) emphasizes the importance of the role that the education technology specialist plays in educational institutions. Sayed explains that he is responsible for connecting the school life to everything that is new or modern in the field of education, with ability to use the computer and its programs and employ them to serve the educational process.

Just as each teacher and learner has roles and tasks in light of electronic lessons, the education technology specialist in light of electronic lessons has his roles and tasks that are no less important than the roles and tasks of both the teacher and the learner, and among the roles and tasks of the education technology specialist in light of the electronic lessons:

- Preparing and designing multimedia e-lessons and courses.

- Creating websites, designing and disseminating electronic lessons through various publishing methods.
- Employing teaching and learning theories when designing and producing e-lessons.
- He works within the team of production, development, follow-up and evaluation of e-lessons.
- Familiarity with technological innovations (hardware and software) and ways to employ them in light of e-learning.
- Helping, directing and training the teacher and the learner to benefit from the information network in teaching and learning (Muhammad Atiyah Khamis, 2009, 98), (Zainab Muhammad Amin, 2008, 18), (Muhammad Atiyah Khamis, 2001, 257).

Stages of producing e-lessons:

Al-Saeed Abdel-Razek (44,2011) identified some of the stages and steps that we can follow when designing multimedia electronic lessons as follows:

- The planning stage for the creation of the electronic lesson and includes: the description of the lesson (its purpose, the materials used in it, the procedures, the desired results of it), the determination of the characteristics of the students who benefit from the lesson, the review of models for electronic lessons, the planning of the content to be dealt with, and the identification of the resources used in preparing the lesson (Textbooks, references, websites), determining the multimedia to be included in each unit of study, specifying the basic questions for each unit and the final questions for the content.
- The lesson slides design stage includes: inserting slides from a presentation file into the current file and configuring the presentation program before dealing with it (quick

launch of the program, customizing toolbars and menus), creating an outline to explain the lesson, creating a template for the lesson, and inserting text from a Word file into The online lesson.

- Slide format stage includes controlling color schemes, formatting texts, inserting a layout and graphic shapes, filling the background shapes, slide background effects, rotating and wrapping shapes, selecting objects and shapes, arranging and aligning shapes in the slide.
- The multimedia addition phase includes inserting video clips or audio files, inserting a movie, adding a piece of music, adding a voice recording, inserting pictures and forms from the Internet, inserting line drawings and graphs.
- The saving, printing and publishing stages of the presentation and includes saving the presentation as a web page, printing the presentation slides, reviewing the presentation, setting the timing of the presentation, preparing a self-running presentation, and saving the presentation.

Types of e- lessons:

Zainab Muhammad Amin (9, 2008) believes that the types of elessons can be classified into supported e-lessons, integrated elessons, and direct e-lessons, each of which differs from the other in terms of the comprehensiveness of the contents, activities, the educational theories on which it is based, and the level of interaction. In the direct e-lessons, the learner receives his education merely via the Internet, followed by the integrated electronic lessons that depend on the ratio of e-learning to traditional education at the rate of (25% and 75%), and finally the supportive e-lessons that include traditional lectures (face-to-face teaching in the classroom, laboratory, or the workshop) as determined by the course teacher. The supported and integrated lessons are supplementary lessons for what learners receive in the usual way.

Characteristics of e-lessons:

The production of e-lessons requires designing them in a way that suits the characteristics of students and the nature of the subject, so that they are formulated in an appropriate and easy manner taking into account the clarity of instructions. Ibrahim Abdel-Wakeel Al-Far (323, 2012) Muhammad Atiyah Khamis (268, 2009) presented the general characteristics of good software noticing that the electronic lessons employ multimedia in presenting the content of the lessons - through the following points:

- 1. To be appropriate to the needs of learners and teachers.
- 2. To be clear, educational and comprehensive of the objectives to be achieved.
- 3. To be easy to use by students, as it contains instructions to facilitate the process of moving between training exercises, and the clarity of how to exit them is easy.
- 4. To be integrated with teaching activities and practices so that they are an integral part of the course.
- 5. To be suitable for the lesson time and class.
- 6. To present the material from the beginning and designing it in a way that takes advantage of the technical capabilities of the computer (color, movement,); Which increases the effectiveness of the educational material.
- 7. To be designed in a way that helps develop the investigative skills of learners and in an appropriate manner that attracts the learner and attracts his attention to the presented educational material and encourages them to think about what they are learning.
- 8. Its software should provide the learner with the opportunity to participate and interact positively.

- 9. To provide the student with appropriate and immediate feedback and to stimulate appropriate and immediate activity and motivation.
- 10. Its screen should not be crowded with information, so that it can be easy for the student to follow, and it should be free from negative effects that lose its educational value.
- 11. To have a variety of exercises and applications in the programming, and to write in a sound language and an interesting style, and to contain a timer to measure the student's learning speed.
- 12. Its screen should be designed in a good, clear, educational and comprehensive way. It should achieve the objectives to be achieved and be easy to deal with in order to attract the learner's attention to the presented educational material.
- 13. The educational material should be presented in an interesting and enjoyable way with self-learning opportunities provided to the student as well as appropriate and immediate feedback.

Components of e-lessons:

Despite the multiplicity of interactive means and their differences, they all share a set of general components and features, identified by Muhammad Atiyah Khamis (221,2009), which are: introduction, control, screen design, user interface, display of information elements and forms, providing assistance, and ending the lesson. Take each ingredient with some clarification as follows:

- **First** Introduction: It includes three components:
- 1. Title page: where the lesson begins with the title page explaining the objectives of the lesson and its topic. It should attract attention and raise motivation, clarify the author and publisher and allow exit from the lesson.

- 2. Instructions page: It includes simple directions for its use, for the instructions to be clear and the level of detail of the information in it is appropriate, and to allow them to be skipped in the event of a repeat presentation, and for the user to be able to access the instructions page from anywhere in the program when needed and be the last thing on the page Is how to run the program.
- 3. User identification: As some programs require the username and other data and may require a password to enter the program to ensure its use by the specified individuals.
- **Second** Learner Control in the Program: The program is controlled by the learner or the computer, and in fact any computer program includes some kind of control to one degree or another.
- **Third** Screen design and interface: The following aspects must be taken into account when designing screens, namely:
- 1. Place the title at the top of the page
- 2. Instructions, directions and control buttons are placed in a fixed location at the bottom of the screen.
- 3. Put the content in the middle.
- 4. Determine a fixed place to write the learner's answer.
- 5. Using the same keys and buttons in all screens except for the front and end screen, as they contain special keys.
- 6. Screen numbering mode.
- **Fourth** Forms and Elements of Information in Electronic Lessons:

Hassan Al-Batea Muhammad and Mr. Abdul-Mawla Abu Khotwa (2012-244) identified; Muhammad Atiyah Khamis (225,2009) The elements that make up the educational content of the e-lesson, which are: written texts, sounds, pictures, static and animated graphics, and video.

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- **Fifthly** providing assistance:

The learner always needs to obtain assistance and he must be able to obtain it at any time, and there are two types of assistance that the learner needs, namely: procedural assistance: it means assistance to operate the program and control it, knowing the icons, and informational assistance: it means providing contentspecific assistance for details or Additional examples or word explanation.

- **Sixth**- ending the program:

There are two types of termination of the program, namely:

- 1. Temporary termination of the program: so that the learner stops at a certain point and then returns to complete the program later.
- 2. Complete termination: It means the learner's exit from the program after completing the study of all of its required parts.

Research procedures:

The researchers prepared a card to evaluate the electronic lessons, and the card was built and adjusted according to the following steps:

- Sourcing the Score Card Building: The score card is based on the Articulate Storyline3 Skills List developed.
- Determining the purpose of the card: The purpose of the card is to evaluate the online lessons produced using the Articulate Storyline3 program.
- Determining the items of the card: The researcher prepared the evaluation card in light of the list of attained skills, objectives and educational content, and these items were formulated in short phrases describing one behavior, so that each statement corresponds to a measure of performance with five levels (1, 2, 3, 4, 5) It expresses the availability of

the standard at a level: low, medium, good, very good, excellent.

- The card consisted of (42) sub-items falling under (9) main items.
- Setting the rating card: The rating card was set according to the following steps:

Validate the card:

To verify the validity of the evaluation card for an electronic lesson, it was presented to seven specialists in the field of educational technology and e-learning, in order to express an opinion on the extent to which the items of the evaluation card meet the objectives set forth with its clauses, and the extent to which the items of the evaluation card are scientifically formulated. Items, and one sub-item was added, and the expressions that received 75% or more of the total opinions of the experts were selected, and the percentage of experts' opinions on the card's phrases ranged between (75%: 100%); this indicates the validity of the card and its suitability for application to the exploratory group students. Figure (1) shows the evaluation card arbitration form:

Figure (1) Evaluation card arbitration form

ltem	Evaluation items	Meet the objectives of the card	Scientifically formulating clauses

After the researcher received the experts' comments, the researcher modified the wording of some of the articles, and the following are the amendments that were made to the evaluation card in light of the opinions of the arbitrators as shown in Table(1):

 Table (1)

 Suggested amendments to the rating card

Item	Item before modification	Item after modification
4	Added time to move between	Change the transition time
	slides.	between slides.
26	Put three websites into the	Three links to websites were
	lesson.	added in the lesson.
38	Insert a slide test result.	Use a slide for the test result.
Т	he following are the percentages of	the arbitrators' agreement on

The following are the percentages of the arbitrators' agreement on the items of the assessment card for the skills of producing an online lesson, as shown in Table (2):

Table (2) The percentages of arbitrators' agreement on the terms of the evaluation card for producing an online lesson

	The	extent of so	cientific validity		Item			ientific validity	
tem No	correc		incorre	ect	No	Corre		incorr	ect
	Repetition	ratio	Repetition	ratio	110	Repetition	ratio	Repetition	ratio
1	7	%100	-	-	22	7	%100	-	-
2	6	%85.7	1	%14.2	23	7	%100	-	-
3	7	%100	-	-	24	7	%100	-	-
4	6	%85.7	1	%14.2	25	7	%100	-	-
5	7	%100	-	-	26	6	%85.7	1	%14.2
6	7	%100	-	-	27	7	%100	-	-
7	7	%100	-	-	28	7	%100	-	-
8	7	%100	-	-	29	7	%100	-	-
9	7	%100	-	-	30	7	%100	-	-
10	7	%100	-	-	31	7	%100	-	-
11	7	%100	-	-	32	7	%100	-	-
12	7	%100	-	-	33	7	%100	-	-
13	7	%100	-	-	34	7	%100	-	-
14	7	%100	-	-	35	7	%100	-	-
15	7	%100	-	-	36	7	%100	-	-
16	7	%100	-	-	37	7	%100	-	-
17	7	%100	-	-	38	6	%85.7	1	%14.2
18	7	%100	-	-	39	7	%100	-	-
19	7	%100	-	-	40	7	%100	-	-
20	7	%100	-	-	41	7	%100	-	-
21	7	%100	-	-	42	7	%100	-	-

Card stability:

The stability of the card was calculated using the evaluator agreement method, where the researcher and two colleagues separately evaluated (10) electronic lessons produced by Articulate Storyline3 program for ten students from the survey sample, and the percentage of agreement between evaluators was calculated for each learner, and the agreement parameter was calculated using the Cooper equation.

Table (3) illustrates that.

Table (3)Agreement coefficient between the three assessors (x, y, z) (n = 10

10	9	8	7	6	5	4	3	2	1	Student ID
88.47	92.15	91.34	88.81	89.13	88.71	86.16	88.34	93.78	91.18	Υ Χ ,
87.19	89.10	90.21	85.12	88.12	92.34	87.18	88.15	85.87	86.14	, Z X
86.91	89.54	95.37	87.10	58.91	89.17	85.17	90.15	94.87	85.81	۲، Σ

students)

It is clear from Table (3) that the correlation coefficients between the three evaluators ranged between (85.17: 95.37), which are statistically significant correlation coefficients. This indicates the stability of the card and its validity for use in evaluating the electronic lessons produced using the Articulate Storyline3 program.

Recommendations:

The researchers recommend making use of the Articulate storyline3 e-lesson evaluation card in the e-course and e-lesson production centers of the universities and institutions concerned for this purpose.

Suggested research:

The researchers suggest developing a card to evaluate the educational scenarios designed to produce e-lessons.

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interactive multimedia electronic lessons among educational technology

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Research Supplements

Appendix (1) A list of the names of the arbitrators

No	Name	Job and business destination
1	Prof. Dr. Mohamed El-	Assistant Professor of Educational Technology,
	Sayed Al-Najjar	Egyptian University for E-Learning.
2	Prof. Dr. Wael Ramadan	Assistant Professor of Educational Technology,
	Abdel Hamid Youssef	Faculty of Education, Helwan University.
3	Prof. Dr. Mamdouh Salem	Assistant Professor of Educational Technology,
	Al-Feki	Graduate School of Education, Cairo University.
4	Prof. Dr. Salwa Mahmoud	Assistant Professor of Educational Technology,
	Al-Masry	Graduate School of Education, Cairo University.
5	Dr. / Rajaa Ali Abdel-Alim	Instructor of Educational Technology - Faculty of Specific Education - Aswan University.
6	Dr. Sherif Ibrahim El- Gamal	Director of Planning and Development Department at the General Administration of E- learning.
7	Dr. Hamza Muhammad Ibrahim Al-Qasabi	Instructor of Instructional Technology, Graduate School of Education - Cairo University

Appendix (2) Final e-lesson evaluation card

	First - skills of dealing with Three scenes are produced within the online lesson, with each scene including: - Three sub-slides. - Name each scene with a different name.	1 n slid	2 es:	3	4	5
	Three scenes are produced within the online lesson, with each scene including: - Three sub-slides. - Name each scene with a	n slid	es:			
	online lesson, with each scene including: - Three sub-slides. - Name each scene with a					
	including: - Three sub-slides. - Name each scene with a					
j	Three sub-slides.Name each scene with a					
	- Name each scene with a					
	different name.					
	- Label each slide with a					
	different name.					
2	Uses the function of custom slide					
	design.					
3	Adds three slide transitions.					
4	It changes the time between slides.					
	Second - Skills of dealing wi	th te	exts:			
5	Simplified Arabic is used for					
]]	headlines and Transparent Arabic for					
5	subtitles and descriptions.					
6 '	The proportionality between the text					
5	sizes for headings, font 24,					
	subheading 18, and paragraphs 16 is					
1	taken into account.					
7	White color is used for text font and					
1	blue color for background.					
	Uses alignment in text (Right,					
	Center, North).					
	Adds bullets and numbers to the text.					
10	Uses a gray background for the text					
	box.					
11	Adds three different animations to					
	the text.					
ļ	Third - skills of dealing with image	s an	d gra	phic	s:	
12	Uses images that express the content					

	of the e-lesson.			
13	Take into account the size and			
	distribution of the images and			
	graphics, along with the rest of the			
	other elements on the screen.			
14	Frame works for photos and			
	graphics.			
15	Uses different effects for photos and			
	graphics.			
16	Uses three different Characters			
	within the lesson.			

No	The axes	Pe	erfor	man	ce lev	vel	
		1	2	3	4	5	
	Fourth - Skills of dealing with audio) and	l vid	eo cli	ps:		
17	It includes three convenient audio						
	files within the lesson.						
18	Records three convenient audio clips						
	within the lesson.						
19	It includes three convenient video						
	files within the lesson.						
20	Record three Record Webcam						
	videos relevant to the lesson content.						
21	Uses sounds for positive and						
	negative reinforcement in feedback.						
	Fifth - skills of dealing with ex	ternal files:					
22	Uses three hyperlinks within the						
	lesson.						
23	Uses three slide buttons (Previous -						
	Home - Next).						
24	It includes three PowerPoint files						
	within the lesson.						
25	Adds three links to websites within						
	the lesson.						
Siz	xth - Skills of dealing with interactive	sha	pes a	nd o	bject	s:	
26	The lesson contains three different						
	shapes.						
27	The lesson contains three interactive						
	objects.						
28	Triggers are used within the lesson.						
29	Add Markers to slides.						
30	Adds three Hot-spots within the						
	lesson.						

=

No	The axes	P	erfor	man	ce lev	vel
		1	2	3	4	5
	Seventh - exam preparatio	n sk	ills:			
31	Is a question of the type choose the					
	correct answer.					
32	It is an arrangement question.					
33	It is a delivery question.					
34	Determines the time to answer the					
	question.					
35	Counts the number of attempts to					
	answer a question.					
36	Appropriate feedback is guaranteed					
	in case of right and wrong.					
37	A slide is used for the test result.					
	Eighth - Presentation Settin	igs S	kills:			
38	Uses the timing feature in					
	slideshow.					
39	Selects a logo for the e-lesson					
	product.					
40	Adds a pdf file within Resources.					
	IX – E-Publishing Ski	ills:			-	-
41	The online lesson is published in					
	SCORM format.					
42	The online lesson is published in					
	Word format.					