E-Learning 3.0 As a New Generation in Tourism Higher Education in Egypt

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Abstract

The main goal of this study is identify the importance of using web 3.0 technologies in learning process and discover factors which affecting the adopting these technologies as social media as a university e-learning (3.0) platform especially Task technology compatibility, student perceived Ease of use, Satisfaction, social interaction, and personal Enjoyment. In addition, it measures the effect of social media adoption on an interactive learning environment to improve learning process. The population of this paper was post-graduate students of Faculty of tourism and Hotels- Fayoum University in Egypt. A questionnaire was used as a research tool to collect essential data from respondents which had been selected randomly. SPSS program as a quantitative data version 23 was used for data analysing. Results indicated that students perceived Ease of use, task-technology compatibility, satisfaction, social interaction and personal Enjoyment affecting more the adopting e learning 3.0 process. Beside, adopting social media is high effectively affecting interactive learning environment.

Keywords: Technology Compatibility – social interaction- e-learning 3.0 – Ease of use – Tourism - higher Education- satisfaction

Introduction

E-learning has been generally utilized in higher education, institutions whether universities or enterprise based education. It consider as an educational tool for cost savings, ease of use, it is capacity to empower students to study anytime, anyplace and learner flexibility.

These days, one of the hottest themes in education is the opportunities that Web 3.0 offers by handling the WWW as the largest information database humans have ever invented. Individuals can get to a lot of data (e.g. news, research etc.) with just a few clicks of the mouse by utilizing automated personally configured search engines without even knowing it.

To get to this point the WWW must be developed from text-based static pages. More specifically the "first version" of the Web (Web 1.0) presented great opportunities in open and distance learning. Basically it was the first time in human's history where the instructor could transfer educational content to the learner by using easy-to-access, visualized methods.

Later, with the change of first generation of web (Web 1.0) to the second generation of web (Web 2.0) the WWW gained a tremendous of new features and soon enough web-sites/applications like wikis, blogs and social networks became a part of most people's lives. In learning process, the real contribution of Web 2.0 lies in the student's capacity to be able to

interact with web content. Therefore it enables the student to add remarks, or even change data which made by his/ her instructor, rather than passively reading it.

From these technologies comes a new version of web and consider the third generation of web (Web 3.0) with great potentials. One of its most important features is the capacity to combine and integrate Web content and services to enhance the end-user experience. Inspired by the technologies that are being used in the Web 3.0, an educational concept was conceived and designed in order to utilize these techniques to accomplish daily learning. The recommended web application will be using tutoring and collaborative techniques in a Web 3.0 environment which will have the features of synchronous, asynchronous and social learning.

Structure of Tourism and hositality in higher Education in Egypt

Similar to the structure of higher education in Egypt and regarding to information centre at Egyptian Ministry of Higher Education Ministry (2016), tourism higher education in Egypt can be separated into several categories as per the nature, ownership, and activities of each category or establishment. There are six categories of tourism higher education institutions in Egypt, including the first category, public faculties of tourism and hotels. There are nine faculties of tourism and hotels located in nine public universities arranged according to the oldest to newest: Helwan, Alexandria, Fayoum, Suez Canal, Minia, Menoufia, Mansoura, South Valley and Beni Souief University. These faculties represented 4.7 % of the government faculties and institutes of higher education in Egypt in 2015.

The second category is private faculties of tourism and hotels. This classification consists of two faculties of tourism and hotels in two private universities: 6th October and Pharos University. The third category is new public (open education) systems. Recently, public faculties of tourism and hotels have started to offer some programs for those who are interested in earning a higher degree on a part-time basis. Currently, there are five programs of open education presented by faculties of tourism in the universities of Helwan, Alexandria, Fayoum, Minia, and Suez Canal. Technical institutes for tourism and hotels in technological colleges is the fourth category. There are four technical institutes located in Cairo, Alexandria, Port Said, and Qena. Private high institutes for tourism and hotels is the fifth category are includes 16 institutes around the country. These institutes are located in Cairo, Alexandria, Luxor, Hurghada, North Saini, Ismailia, Giza, and the Red Sea. These institutes represent about 9% of all private high institutes in Egypt. The last category is a small number of departments of tourism guidance in some faculties.

Regardless of their sort or nature, tourism and hospitality higher education establishments offer three main specialties. They are: tourism studies, hotel management, and tourism guidance. In 2012, the Egyptian tourism and hospitality sector of higher education represented 6.8% of the all force of higher education in terms of number of students enrolled. Each university which have faculty of tourism and hospitality has an E- learning Centre provide learning process by using different technologies and encourage staff members and students to use technologies in learning process to increase the quality of learning process by providing an interactive learning

environment and every faculty of tourism and hotels has an E-learning unit under supervision of this centre.

E-learning 3.0 in higher tourism Education

The development of internet technologies that are used in e-learning allows to describe it from several perspectives e-learning 1.0, e-learning 2.0 and e-learning 3.0

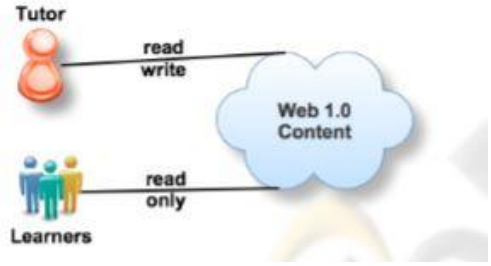
Web 3.0 is the next generation of www standards, aiming precisely at addressing that short comings of web 2.0 and centred around certain fundamental principles: collaborative filtering, cloud computing, big data management, and mobility. The main goal is to create an intelligent web, where users can effectively and quickly be directed to the information that they require, when they require it.

According to (Reynard, 2013 & Amarin, 2015) Web 3.0 and its reflection on e-learning are still evolving and a clear version of E-learning 3.0 is still in the future. Educators have the opportunity to influence emerging web 3.0 technologies by helping to define that vision. There are a huge number of diversity in Web 3.0 technologies available for integration in the educational environment, but considering how to implement these initiatives can be overpower to the educator. The adoption of Web 3.0 technologies is very often simple and it includes more than the Internet and basic word processing skills. A review of Web 3.0 applications, which are cheap (often free), easy to implement, and require limited technology skills, is covered. Web 3.0 items that can be easily implemented by students and/or educators include blogs, wiki, social networking, podcasting, RSS …etc. Web 3.0, which utilizes the Internet as its exchange system can be an effective method of creating a dynamic learning and teaching experience.

Koper, 2011; Anderson & Whitelock, 2013 added that the Semantic Web (web 3.0) has the means to help educators in course development, student support, evaluation , record keeping and document control task. Beside, Web 3.0 offers more intelligent services and in addition to reading and writing content, user's actions can initiate web processes that can be possible with technologies like smart interfaces and intelligent agents.

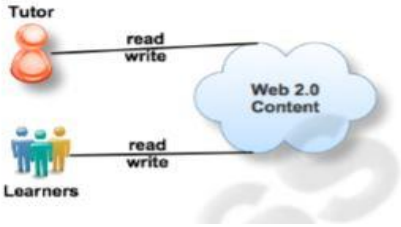
Researcher in higher Education are currently quite freely utilizing the term eLearning 3.0 in different blogs and discussion forums. (Walters, 2013; Moore, 2014, wheeler, 2016) Emergence of cloud computing and availability of new technologies such as collaborative intelligent filtering, increased and reliable data storage capacity, higher screen resolutions, multi gesture devices and 3D touch user interface is leading us into the next generation of eLearning. Teaching effectively online is not just posting traditional classroom materials to a course management system. The workload for online instructors is often more than expected; technology does not reduce an instructor's workload, it just changes the nature of the workload (Devedzic, 2017). Figure (1) indicate the web 1.0 capabilities in tourism education and Figure (2) web 2.0 capabilities in tourism education comparing with web 3.0 technologies in tourism education in figure (3) for both educators and learners.

Figure (1) web 1.0 capabilities in tourismeducation



Source: (Devedzic, 2011)

Figure (2) web 2.0 capabilities in tourism education



Source: (Devedzic, 2011)

Figure (3) web 3.0 capabilities in tourism education

Source: (Devedzic, 2011)

Moreover, Fuchs, C & et.al (2013) defined every generation of web as a medium that they considered web 1.0 as Cognitive medium, web 2.0 as communicative medium and web 3.0 defined as a collaborative medium. But according to content.

Hussain, F. (2018) and Ali (2016) showed the relationship between generation of web and e-learning which indicated in table (1)

Table (1) relationship between generation of web and e-learning

Web		E-learning	
version	**Concept**	**version**	**concept**
Web 1.0	Read only, or write only, web of documents Personal websites	**E-learning 1.0**	Dictated Content management and delivery gather – present- preserve
Web 2.0	Read / Write Social web Wikipedia, wikis, blogs,etc	**E-learning 2.0**	Socially constructed Content authoring and sharing Moderate – Review – Edit-manipulate
Web 3.0	Read/write/request/collaborative big data, linked data. Social media ,smart interface , intelligent agents	**E-learning 3.0**	Socially constructed Contextualy reinvented Semantic content Extract – interpret – analyze -strucure

Source: Hussain, F. (2012) and Ali (2015)

Reasercher can include that:

The web 1.0 and Web 2.0 has enabled the generation of a substantial amount of data, both by users and about users. While this data holds substantial value, it is often severely under-utilized, by simply being stored away or even worse – discarded. We trust that the Web 3.0 will help users to filter and sort this mass of information by using AI. In the area of e-Learning, AI will probably be utilized not only for helping students , as well as for gaining a deeper understanding of the learning process. Figure (4) conclude also e-learning 3.0 technologies as PLEs,Mashups social , Socio -semantic web which enable users to share knowledge , personal agents,Big data, linked data, 3D, gobal database.Dominic, 2014 & Hussain, 2013)

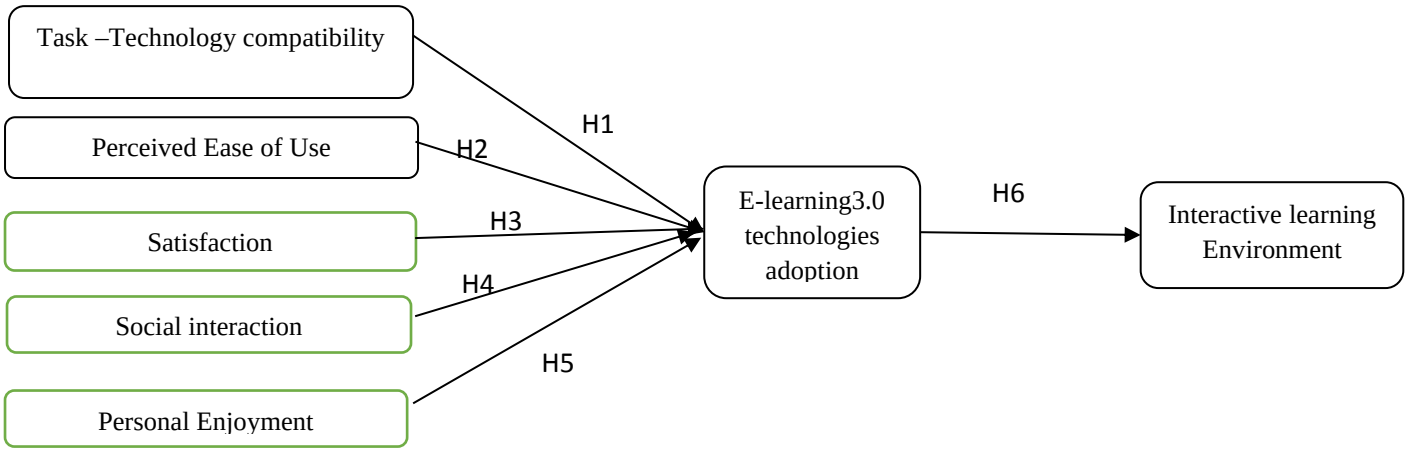
Figure (4) Technologies in e-learning 3.0

Source: Dominic, et.al (2014)

Research framework and hypotheses development

The e-learning is not always a successful project (Essam & Ammary 2013) and off course not all of them are a failure projects. Hence, to achieve a high success level in adopting e-learning as a new learning approach, factors impacting the e-learning should be identified and maintained.beside, during the last years eLearning 3.0 brought new web based technologies into eLearning environments (Hazi & Sandulache, 2015). Academic institutions utilize social media to enhance the interactive learning strategies in their education processes. This paper fuses seven constructs in a research model to investigate the impact of students' Task technology compatibility, student perceived Ease of use, Satisfaction, social interaction, and personal Enjoyment to adopt E-learning 3.0 technologies as a tool of an effective learning process. The outcome of adoption is an effective learning environment (Figure 1).

Figure 1. Research Model and H=hypothesis



Based on the research model illustrated in Figure (1), six hypotheses were developed:

H1. Higher Students' Task technology compatibility from web 3.0 technologies at Faculty of tourism and hotels in Fayoum affects their e learning 3.0 adoption .

H2.Higher Students perceived Ease of Use from web 3.0 technologies at Faculty of tourism and hotels in Fayoum affects their e learning 3.0 adoption.

H3.Higher Student satisfaction for e-learning 3.0 technologies at faculty of tourism and hotels in fayoum affects therir aoption.

H4. Higher Social interaction affects students adoption for e-learning 3.0

H5.Personal Enjoyment affects students adoption for e-learning

H6. Adopting e learning 3.0 technologies has a positive impact on an effective interactive learning

Research Method

This study used a quantitative research design based on a survey to collect responses from university students. The survey is designed as 5 Point liker Scale (1 strongly disagree; 5 strongly agree). The survey was designed based on literature review and include seven main constructs: students' Task technology compatibility, student perceived Ease of use, Satisfaction, social interaction, and personal Enjoyment to adopt e learning 3.0 and effective interactive learning environment (Table 2).

The questionnaire was designed and piloted to check its validity and reliability. It was distributed to 20 students and analysed using SPSS version 20. Corrected-item-total correlations have proved the validity of the constructs, while having Cronbach's alpha values greater than 0.70 leads to acceptable reliable scale.

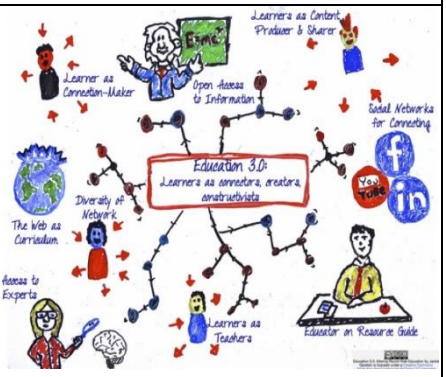
According to (Hussain, F. 2013, Pelet, J. 2015 und Ali, I. 2016) some of prior studies shows various challenges and dimensions may arise due to prevalence and adoption of e-Learning 3.0 technologies and had a significant effect on adoption e-learning 3.0 technologies. Some of which are: Task technology compatibility, student perceived Ease of use, Readiness, Perceived usefulness, perceived risk, Satisfaction, social interaction, and personal Enjoyment. Table (2) indicate some of these challenges which study concentrate on as a research model constructs.

Table 2. Research model constructs

Task technology Compatibility The educational compatibility refers to the consistency of e-learning systems with the special leaning expectancies of learners, is integrated with the Unified Theory of Acceptance and Use of Technology(UTAUT) to form a new theoretical model for e-learning acceptance Perceived task-technology compatibility with the need of the learners seems to be an important factor affecting adopting e-learning, especially e-learning 3.0, but the relationship between perceived compatibility of technology with the need of users has not be tested by a lot of researchers in e-learning. Nevertheless, Bernardin, 2011 has proposed that the compatibility of technology with the needs of the learners is a valid predictor of adopting e-learning platform. Finally, An empirical study by Chen (2011) by total of 626 valid samples were collected from the users of an e-learning system. The findings show that both technological expectancy and educational technology compatibility are important determinants of e-learning acceptance. However, educational compatibility reveals a greater total effect on e-learning acceptance than does technological expectancy.
Student perceived Ease of Use Ease of use refers to the degree to which a learner believes that utilizing a particular system would be free of effort, that the applications perceived to be easier to use than another is more likely to be accepted by users. Seif, et.al, 2012, Teo, 2011, Browen, 2002, Abdennadher 2006 and Ngai, 2007 found a positive and direct correlation and impact between perceived ease of use and attitude towards use in context acceptance of e-learning and factors that affect teachers and learners to use technology. In addition, Sun et.al (2008) & Wu et.al (2010) added that perceived ease of use of e-learning is directly related to learner's adoption when perceived ease of use increase, learner adoption increase.
Student Satisfaction The Satisfaction of e-learner is defined as an emotional response which differs from intensity due to e-learning activities and which is stimulated by various dimensions such as online content, learner interface, learning communities and personalization, and Delone & Mclean (2013) argued that satisfaction is an important factor because it is difficult to see the success of a system that users are not satisfied. Moreover, according to (Anthony & Artino, 2010,

Essam & Ammary, 2013) Satisfaction is broadly acknowledged as an attractive result of any product or service experience, and is an important indicator of Success. Many studies showed that user satisfaction is the key predecessor to predict a user behaviour of utilizing such technology and consider an important outcome in online setting. In E-learning some studies have investigated the role of learner's satisfaction and e learning success and adoption, that Pelet, 2015 noted that measures of successful e-learning implementation are learner's satisfaction and continuance of usage.

Social interaction



Social interaction is an essential component of electronic educational activity. The social media level represents the highest degree of social interaction. (Wang, 2015).
Social e-Learning is a process where connections are made among like-minded learners, so they can achieve learning goals via communication and interaction with each other by sharing knowledge, skills, abilities and materials, beside, Since social interaction appears to be significant for group maintenance and beneficial for students' online learning, many instructors use explicit or implicit strategies to foster this kind of communication in their online instruction as called e-learning 3.0 which referred to using web 3.0 technologies in learning process.(Staubitz,et.al 2016).

Personal Enjoyment

Personal Enjoyment is one the most frequently reported positive emotions in the learning process. Students 'enjoyment was observed to be related to effort and performance and was found to predict self-regulation skills and academic achievements. According to the control-value theory of achievement emotions, enjoyment is a positive activating emotion and can affect whether students will engage and reengage with the enjoyable content. In this way, enjoyment might not only accompany interest development but may also have a positive influence on it. Self-concept has been identified as an important predictor of students 'enjoyment. Another valuable factor for the development of students 'academic enjoyment may be the solving of demanding, authentic problems or cooperation during the learning process. (Schukajlow, 2016).

Interactive learning Environment

Interactive learning is a pedagogical approach that incorporates web technologies and urban computing into course design and delivery, and Interactive learning environments have the purpose to facilitate teaching and support learning by taking advantage of the capabilities of computers. Kalyuga (2007). He says that a good developed e-learning environment will return results in the form of efficient learning, and also reduce the learning time and the mental stress of the learner.
Many studies found that web 3.0 technologies especially social media have an impact on the effectiveness of learning and teaching in general. For example, social media have been

showed in many studies have found a positive effect on learning and teaching foreign languages as they can enhance and improve students' written and oral language skills (Harrison, et.al, 2015). Recently, many universities are providing access to social networking to be used as e-learning tools to help students to access contents, course materials, and work together with partners and also with educators (Al-ammary, et.al, 2014).

Population and sample

The empirical data were collected using a questionnaire survey administrated over a period of one Semester from October to January 2018 .Using 120 sample of the study was post graduate students at Faulty of tourism and Hotels- Fayoum University. The form was randomly distributed to students to collect their responses on the measured constructs. Only 90 complete forms were valid and free of missing data were returned. Data have been analyzed using SPSS version 20 and linear multiple regression was used to test the research model hypotheses, beside another descriptive statistics.

Research theory

There is four main theories in learning process namely as Behaviorism, Cognitivism, Constructivism and Connectivism. In Behaviorism data is perceived as facts that can be transferred from instructor to learner and this related to e-learning 1.0, but Cognitivism theory opens up the box of the mind, estimate the learner as a data processor while Constructivism suggests that learners create knowledge as they try to make meaning of their experiences. Finally, Connectivism, considered to be the learning theory of the online learning or digital age, according to Siemens (2004) is, "a successor to behaviorism, cognitivism, and constructivism." and these related to e-learning 2.0 and e-learning 3.0. These theories of learning are briefly described in Table (3) as follow:

Table (3) Main four learning theories

Aspect	Behaviorism	Cognitivism	Constructivism	Connectivism
Learning theorists person	Skinner, Pavlov	Bruner, Kohler, Piaget	Bandura, Vygotsky	Seimens, Downes
View of the Learning process	Change in behavior	Internal mental processes	Construction of meaning from experience	Connecting specialized information sets
Locus of learning	Stimuli in external environment	Internal cognitive structuring	Internal construction of reality by individual	Draw information outside of our primary knowledge

Purpose of Education	Produce behavioral change in desired direction	Develop capacity and skills to learn better	Construct knowledge	Ability to synthesize and recognize connections

Source: Ashworth et.al, 2004 and Seimens, 2004)

The simple approach taken in this paper is to analyze the important standards of the connectivist theory of learning as expressed by Siemens (2004) and then look at the new technologies which will be presented as a result of the advancements in the web technologies, thus compare and relate which technological shift may be supported by the principles of the connectionist learning theory. So this study subtracts that the cutting edge technologies to be a part of e-Learning 3.0 are adequately supported by the principles of the learning theory of connectivism. Hence a call for a new learning theory for e-Learning 3.0 is probably not justified.

Table (4) Web 3.0 technologies supported by basic principles of connectivism

Web 3.0 technologies used in e-learning 3.0	Basic principles of connectivism
Social media and social semantic networks, openness and interoperability	Learning and knowledge rests in diversity of opinions.
Big data or global data repository, linked data, cloud computing, extended smart mobile technology.	Learning in a process of connecting specialized nodes or information sources. Currency of knowledge is important.
Machine learning, artificial intelligence, personal avatars, 3D visualization and interaction.	Learning may reside in non-human appliances.
Semantic web, control of information	Capacity to know more is more critical than what is currently known.
Semantic web, collaborative intelligent filtering	Ability to see connections between fields, ideas, and concepts is a core skill.
Semantic web, collaborative intelligent filtering	Nurturing and maintaining connections is needed to facilitate continual learning.

Source: Amarin, N. (2015). & Hussain, F (2013)

Research Findings

Descriptive statistics

A total forms of students were 90 valid from120 forms collected from post graduate students, 37 forms were collected from tourism studies students, 20 from hotel studies students, and 33 forms were collected from tourist guidance students. 60 % of respondents were females versus 40 are males. Table (5) shows the descriptive statistics for each construct as follows.

Table. (5) Descriptive statistics of Task technology compatibility constructs

Items of Task technology compatibility	SD%	D%	N%	A%	SA%	Mean	Std.dev.
Using e-learning 3.0 technologies is compatible with the way you learn.	2.9	2.7	5.9	46.5	56	4.18	.511
Using e-learning 3.0 technologies fits well with the way you learn.	3	5	6.8	19.7	22.4	3.95	.604
Using e-learning 3.0 technologies fits with the way you like to learn	0	4	6	39.5	47.8	4.11	.825
overall						**4.08**	

Table. (6) Descriptive statistics of student perceived Ease of use construct

Items of student perceived Ease of use	SD%	D%	N%	A%	SA%	Mean	Std.dev.
The text on e-learning 3.0 technologies is easy to read	2	1	1.5	24	80	4.60	.574
The text/labels/menu items on e-learning 3.0 technologies are easy to understand	4	3	6.4	23	59	4.51	.847
Learning to operate E-learning 3.0technologies is easy for you	3	1	2	33	70	4.67	.477
It would be easy for you to become skilful at using e-learning 3.0 technologies.	0	6	7	41	51	4.70	.661
You find e-learning 3.0 technologies tools easy to use	1	6	4.5	35	65	4.59	.599
Overall						**4.61**	

Table. (7) Descriptive statistics of student satisfaction construct

Items of Satisfaction	SD%	D%	N%	A%	SA%	Mean	Std.dev.
You are more satisfied with course contents due to e-learning 3.0 technologies tools use in your learning.	0	1	2	27	75	4.95	.570
You are more satisfied with your course delivery due to web 3.0 tools use in learning	1	2	8	29	66	4.80	.870
You are more satisfied with student-to-student interaction due to web 3.0 tools use in learning.	2	1	1	39	63	4.50	.480
You are more satisfied with student-to-faculty interaction due to web 3.0 tools use in teaching.	2	7	6	44	60	4.59	.654
Overall						**4.71**	

Table. (8) Descriptive statistics of student social interaction construct

Items of social interaction	SD%	D%	N%	A%	SA%	Mean	Std.dev.
You express yourself freely during using e-learning 3.0 technologies.	2	1	1.3	27	76	4.73	.399
You get more points of views by using e-learning 3.0 technologies.	1	3	6.5	29	63	4.54	.644
You meet old and new students by using e-learning 3.0 technologies.	1	1	2	37	46	4.64	.495

You fit in a group of students and learners that share the same interests	0	7	9	50	59	4.54	.734
E-learning 3.0 technologies is a Place to socialize	2	6	4	44	66	4.55	.617
E-learning 3.0 technologies tools provide reliable means for communication	1	2	5	27	58	4.57	.497
You cooperative with your colleagues in learning process	2	1	3.4	39	57	4.10	.539
Overall						**4.51**	

Table. (9) Descriptive statistics of personal Enjoyment construct

Items of personal Enjoyment	**SD%**	**D%**	**N%**	**A%**	**SA%**	**Mean**	**Std.dev.**
E-learning 3.0 technologies tools attract your attention	0	1	1.6	27	65.1	4.90	.399
E-learning 3.0 technologies give you a sense of satisfaction	1	2.7	8.6	29	66	4.64	.844
E-learning 3.0 technologies are worth spending time tools.	2	0	2	34.1	66.8	4.80	.389
E-learning 3.0 tools keep you also at leisure	1	6	7	53.4	53.4	4.95	.566
E-learning 3.0 tools are attractive	0	7	3.4	42	72.8	4.88	.617
E-learning 3.0 tools are flexible	1	1	4	36.5	49.4	4.60	.568
E-learning 3.0 tools are stylish	2	1	3	35.6	61	4.74	.554
E-learning 3.0 tools keep you active	2	1	3	29.9	62	4.69	.580
You enjoy time when using e-learning 3.0 tools	2	3	2.6	39.3	69	4.61	.643
Overall						**4.75**	

Table (10) Descriptive statistics of Interactive learning environment construct

Adopting E-learning 3.0 technologies	SD%	D%	N%	A%	SA%	**Mean**	Std. dev.
By using social networking application as a main platform of e-learning, you will be able to personalize your own learning.	1	1	7.3	29.5	90.3	**4.72**	.741

Hypotheses testing

Hypotheses testing in this paper was used by multiple linear regression model. Table (11) shows that the correlation between the adoption construct and students' task technology compatibility, student perceived ease of use, Satisfaction, social interaction, and personal Enjoyment towards e-learning 3.0 technologies adoption, are required to adopt e-learning 3.0 technologies is .763. All constructs are significantly affecting the adoption of e-learning technologies and interpreting 56.9% of variance in e-learning 3.0 adoption. (R2=0.569)

Table (11). Correlation and R-square for the regression model

R	R Square
.763	.569

F- Test is shown in table (12) that indicate that students' task technology compatibility, student perceived ease of use, Satisfaction, social interaction, and personal Enjoyment have a significant effect on e-learning 3.0 technologies where F value is 19.698and $p<0.01$ and null-hypothesis is rejected.

Table (12) F-test for regression

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.849	5	18.384	19.698	.000b
	Residual	243.143	231	.736		
	Total	150.769	160			

Looking at Table (13), Beta values of and students' task technology compatibility, student perceived ease of use, Satisfaction, social interaction, and personal Enjoyment towards e-learning 3.0 technologies (social media) are significant. It is found that the constant= -496, $p<0.05$, β for task technology compatibility = 0.399, $p<0.05$, and β for perceived ease of use =3.055 and $p<0.05$., β for satisfaction = 1.143, $p<0.05$, β for social interaction = 2.322, $p<0.05$, and finally β for personal Enjoyment = 0.377, $p<0.05$, and Therefore, E-learning 3.0 technologies adoption= -4965+ 0.399 task-technology compatibility + 3.055 perceived ease of use + 1.143 satisfaction+ 2.322 social interaction+ .377 personal Enjoyment.

Table (13) Regression coefficient for constructs of e-learning 3.0 technologies adoption

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-4.965	1.243		-4.292	.017
students' task technology compatibility	.399	.239	.400	1.228	.041
students' perceived ease of use	3.055	.269	.345	3.824	.008
students' Satisfaction	1.143	.233	.511	3.689	.003
students 'social interaction	2.322	1.125	.312	1.453	.043
students 'personal Enjoyment	.377	.421	.474	2.871	0.37

To test the causal relationship between the adoption of e-learning 3.0 technologies and effective interactive learning environment, liner regression model was used. It is found that adopting e-learning 3.0 technologies interpreting 42.6 % of variance in effective interactive learning ($R2=0.426$). F value is 33.022, and $P<0.05$ referring to a significant effect of e-learning 3.0 technologies adoption on the effectiveness of interactive learning Environment. From Table 14, it is found that β for e-learning 3.0 technologies adoption=0.423 of interactive learning effectiveness.

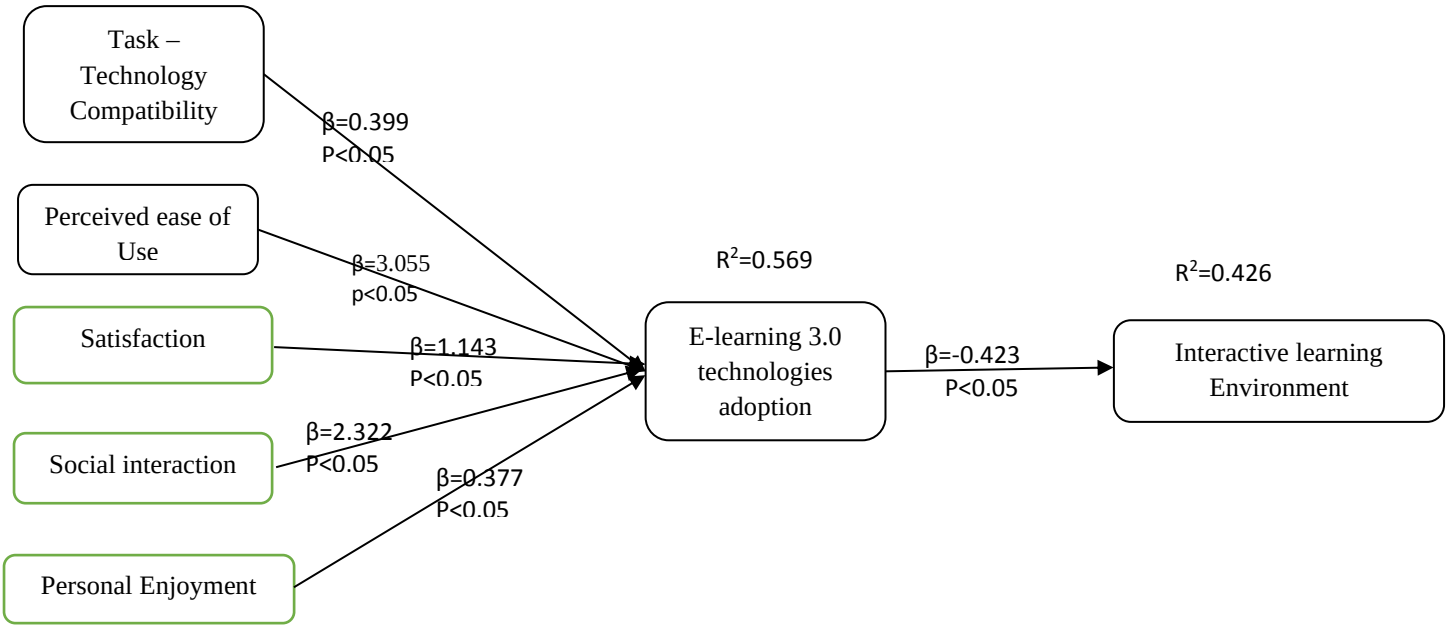
Table (14) Regression model for interactive learning Environment

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.468	.137		34.12	.001

E-learning 3.0 technologies adoption	.423	.025	.565	7.153	.000

Figure 2 summarizes the findings of regression model. From the results illustrated on the model, the six hypotheses were supported.

Figure 2. Statistics of Research Model



Discussion of Finding

Results showed in tables (5, 6,7,8,9 and 10) the study revealed that post graduate students at faculty of tourism and Hotels –Fayoum University have indicated the high impact of Task-technology compatibility with mean 4.08, Ease of use with mean 4.61, satisfaction with mean 4.71, Social interaction with mean 4.51 and personal enjoyment with mean 4.75 towards adopting e-learning 3.0 technologies as an interactive e learning tools The collaborative and interactive learning environment that provided by e-learning 3.0 tools led to students belief that these tools are the suitable tools for the contemporary learning environment in the university.

By using e-learning 3.0 technologies tools, students feel and believe that using e-learning 3.0 technologies is compatible with the way they learn, fits well with the way they learn, and fits with the way they like to learn. Besides, the text on e-learning 3.0 technologies is easy to read, understand, learning to operate E-learning 3.0 technologies is easy for them, easy for them to become skilful at using e-learning 3.0 technologies, and they find e-learning 3.0 technologies tools easy to use. Moreover, they are more satisfied with course contents due to e-learning 3.0 technologies tools use in their learning, more satisfied with their course delivery due to web 3.0 tools use in learning, more satisfied with student-to-student interaction due to web 3.0 tools use in learning, and more satisfied with student-to-faculty interaction due to web 3.0 tools use in teaching. In addition, They can express themself freely during using e-learning 3.0

technologies, get more points of views., meet old and new students, fit in a group of students and learners that share the same interests, E-learning 3.0 technologies is a Place to socialize, provide reliable means for communication and cooperative with your colleagues in learning process. Finally, E-learning 3.0 technologies tools attract their attention, give them a sense of satisfaction, and keep them also at leisure, E-learning 3.0 technologies are worth spending time tools, attractive, flexible, stylish, keep them active, and they enjoy time when using e-learning 3.0 tools

Web 3.0 technologies tools interactivity features make it different from other websites. Therefore, students believe that social networking tools provide a reliable means of communication. Students also support statement that social networking tools increase students' creativity and interactivity and facilitate knowledge sharing. Additionally, social networking tools affect interaction positively between students-teacher and students-students where it also provides students with opportunity to choose the best tool for interaction as a solution to the limitations of social communication tools and personal profile tools, most of which are related with learning management systems.

These findings also indicated students' tendency to create and have more control of their learning environment with lecturers' role as a facilitator and adviser and that features provided by social networking tools. Social networking tools meet today's students' demands to have greater control of their own learning and inclusion new technologies that meet their needs and preferences in terms of what are the required compatibility, ease of use, satisfaction, personal enjoyment and the students should have from using those tools, improves their satisfaction with the course from using also these technologies.

Finally, the findings also indicated that there is a high relationship between the constructs: task – technology compatibility, ease of use, satisfaction, social interaction, and personal enjoyment with the adoption of e-learning 3.0 technologies with mean 4.71, F value is 19.698 and $p<0.01$and this accepted and agreed with Bernardin, 2011 who has proposed that the compatibility of technology with the needs of the learners is a valid predictor of adopting e-learning platform. and, Sun et.al (2008) & Wu et.al (2008) added that perceived ease of use of e-learning is directly related to learner's adoption when perceived ease of use increase, learner adoption increase. Beside, Pelet, 2015 who noted that measures of successful e-learning implementation are learner's satisfaction and continuance of usage. Furthermore, Staubitz, et.al 2016 indicated that since social interaction appears to be significant for group maintenance and beneficial for students' online learning, many instructors use explicit or implicit strategies to foster this kind of communication in their online instruction as called e-learning 3.0 which referred to using web 3.0 technologies in learning process. Lastly, Schukajlow, 2016 showed that enjoyment might not only accompany interest development but may also have a positive influence on it. Self-concept has been identified as an important predictor of students 'enjoyment. Another valuable factor for the development of students 'academic enjoyment may be the solving of demanding, authentic problems or cooperation during the learning process. Many studies found that web 3.0 technologies especially social media have an impact on the effectiveness of learning and teaching in general.

Conclusion

The main conclusion of this study is that task-technology compatibility, ease of use, satisfaction, social interaction and personal enjoyment are considered as the key factors in adopting and accepting e-learning 3.0 technologies as social software in e-learning in Egyptian higher education especially faculty of tourism and hotels, Fayoum university . The result of this research shows that these constructs plays an important role in the increasing chances for adoption of e-learning 3.0 technologies in higher education. As hypothesized, firstly, Higher Students' Task technology compatibility from web 3.0 technologies at Faculty of tourism and hotels in Fayoum affects their e learning 3.0 adoption , secondly, Higher Students perceived Ease of Use from web 3.0 technologies at Faculty of tourism and hotels in Fayoum affects their e learning 3.0 adoption, thirdly, Higher Student satisfaction for e-learning 3.0 technologies at faculty of tourism and hotels in fayoum affects therir aoption, fourthly, Higher Social interaction affects students adoption for e-learning 3.0 , fifthly,Personal Enjoyment affects students adoption for e-learning , and lastly Adopting e learning 3.0 technologies has a positive impact on an effective interactive learning

Hence, when the e-learning 3.0 technologies is simple and easy to use, individual who feels that social media is more useful will have more intention to use e-learning technology for learning in Egypt.

Many researchers have indicated the constructs in this study as the keys factors for a adoption e-learning 3.0 as Bernardin, 2011 identified the compatibility of technology with the needs of the learners is a valid predictor of adopting e-learning platform. and, Sun et.al (2008) & Wu et.al (2008) added that perceived ease of use of e-learning is directly related to learner's adoption when perceived ease of use increase, learner adoption increase. Beside, Pelet, 2015 who noted that measures of successful e-learning implementation are learner's satisfaction and continuance of usage. Furthermore, Staubitz, et.al 2016 indicated that since social interaction appears to be significant for group maintenance and beneficial for students' online learning, many instructors use explicit or implicit strategies to foster this kind of communication in their online instruction as called e-learning 3.0 which referred to using web 3.0 technologies in learning process. Lastly, Schukajlow, 2016 showed that enjoyment might not only accompany interest development but may also have a positive influence on it. Self-concept has been identified as an important predictor of students 'enjoyment. Another valuable factor for the development of students 'academic enjoyment may be the solving of demanding, authentic problems or cooperation during the learning process. Many studies found that web 3.0 technologies especially social media have an impact on the effectiveness of learning and teaching in general

It is obvious that e-learning 3.0 technologies tools have the ability to be the preferable tool for students' communication and interaction in higher Education. Overall, it was evident that the students need more interactive learning environment that allows them to have greater chances to manage and control their online learning environment. The lecturers' role based in these findings is to guide students and to be their consultant and advisor throughout their learning process. Additionally, it is important for universities to be aware of students' current needs and interest related to their learning environment for better knowledge acquisition and academic achievement. Finally, this paper proves a positive corrected of six hypotheses **H1**. Higher Students' Task technology compatibility from web 3.0 technologies at Faculty of tourism and hotels in Fayoum affects their e learning 3.0 adoption , **H2**.Higher Students perceived Ease of Use from web 3.0 technologies at Faculty of tourism and hotels in Fayoum affects their e

learning 3.0 adoption, **H3**.Higher Student satisfaction for e-learning 3.0 technologies at faculty of tourism and hotels in fayoum affects therir aoption, **H4**. Higher Social interaction affects students adoption for e-learning 3.0, **H5**.Personal Enjoyment affects students adoption for e-learning,and **H6**. Adopting e learning 3.0 technologies has a positive impact on an effective interactive learning

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