

# Adoption Of Web Technologies In The Jordan Education System; A Tool For Educational Development.

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## **Abstract**

*Web technologies has shown a tremendous improvement in past years, with a significant effect on education causing development of the educational across the globe in several ways. It has also made Jordanian government to formulate policies on IT. Accordingly the study was carried out to assess the adoption of web technologies on educational development with reference to senior secondary schools in Amman. Jordanian government through its policies intends to integrate and streamline the country to the main stream of global IT. The process includes the integration of schools and students to enable them meet the required minimum standard in the IT age. The study inquired about the students' knowledge of the web technologies, its usage, and how it affects their academic activities and performance. The study used Primary source of data, while quantitative instrument was used to present and analyses the data. Technological determinism theory was used to guide the study. Among the study findings was that, both urban and rural students are virtually the same in terms of knowledge and usage of web technology, whereby, more than 80% of them have the knowledge and are using it. The study recommends among others that, „A careful plan should be made by the state ministry of education in collaboration with the schools' authorities to systematically devise a means of guidance and control of students' attitude towards web technologies. This is to make their inclination to it more productive to their academic and attitudinal aspects. This can be done by introducing certain changes and innovations in the schools' curriculum that can be attractive and easy to comprehend by the students, that is capable of satisfying their desire for fun and at the same time will enhance their academic capabilities and their mind-set.*

**Keywords:** *integration, formulate policies, academic activities*

## **1.Introduction**

Over the years, education has been termed as a facilitator to economic and social dynamism. It is a process that has continue to shape and modify individuals behaviour for adequate adjustment in the society. Akube & Okolo (2008) noted that education is an acculturation process by which assistance is given to a person for sustainable development of his/her potentials, and optimize activities when important so as to achieve self-fulfillment. The essence of education is certain for all individuals of different works of life because it is a process of self-enlightenment, which gives us the knowledge and awareness about global activities, for career goal attainment, character building, solid base of a developed nation and vital to the general development of a person and the society as a whole (Whawo, 1997; Itedjare, 1997). To this research, education is an undisputable feature of life, socially and personally. Thus, the extent of unequal access and quality education remains the key problems that needs to be solved.

As time past and as a result of the dynamic and ever-changing society, the world system began to readjust to demand for more sophisticated and potent educational system, prior to technological advancement and innovation. This caused a high expectation in the education sector; among policy makers, governments and

relevant institutions. According to Raja & Nagasubramani (2018), the 21<sup>st</sup> century era is referred to as the technological-based era, characterized by advance technologies (software and hardware) that is applicable to all sectors and effective functioning. Technology today plays a crucial and imminent role in our daily activities, fostering productivity and leading to development of nations (Raja & Nagasubramani, 2018).

Recent development in technology has resulted in tremendous progress in the area of communication and information dissemination, which contributed in making the world more interactive. This made transactions to develop between people who may never meet. Also, the technology is inexpensive and accessible easily throughout the globe. Certainly, this permits instantaneous personal dialogue and communication between people around the world (Clark-Kasimu, 2015). Education is central in the survival and growth of human being as individual and as society, each with its own ways and means of educating and socialising its members, as dictated by the societal culture. Every culture has a mechanism that adjusts and accommodates new developments happening within and outside the society which ensures continuity and effective transmission of the societal culture from generation to generation and guaranteed and safeguard the survival and development of the society. Mishandling of changes happening within and outside the society may cause significant effect on the culture of the society. The effects may cause retrogression, confusion, acculturation, or even extinction of the society in totality. In this context, each society develops and designs its educational system based on its tradition, culture, norms and values, to suit its environment and generation, and to cater for its immediate and future developmental needs and aspirations. Consequently, as a result of development in technology, diverse ideas and cultures interact and interwoven, as such, new knowledge, ideas, cultures and values, are transferred from one place to another (Kasimu, 2015). Technological influence can be seen in all possible field, sector and environment, and one of such is the education.

According to Nimitinbo-Ofori (2014), for counties to achieve its aims and objectives in the educational sector, it must try to adopt other relevant teaching and learning modes. The Web-based technology as an instructional method of learning and teaching is regard as a measure for attaining the educational needs of each individual if it's being integrated by educational institutions at all levels in a country. According to Khan (1997), the teaching and learning instructions via web-based technology is a hypermedia-based instructional program that makes use of features and contents of the World Wide Web to develop a reasonable environment for learning where learning is facilitated and supported. It uses the computer via the aid of the internet, making is possible for quick updating, distribution and dissemination of information (Rosenberg, 2001).

Streibel (1989) posited that the application and development of web technology in education and training environment has resulted to the development of innovative learning theories and philosophies. Similarly, Bartolome (2008) cited in the work of Tyagi (2012) was of the opinion that the adoption of web 2.0 tools i.e. blogs, RSS feed, wikis, podcast and social networks can foster innovative methods of teaching, which is related to constructs like syndicated content, communities practices, peer to peer learning, creative activity, non-formal education and personal learning.

In Jordan, the general education principle is basically gotten from the Arabic Islamic civilization (Al Jabery & Zumberg, 2008). Prior to the vision of His Majesty King Abdullah II to make Jordan a well-recognized center of international technology in the region, the Ministry of Education launched a vision for education in Jordan. The vision will be accomplished through creating an all-inclusive planning strategy, which adopt an international best practice, scientific method, an efficient and effective use of technology and social participation expansion (Al Jabery & Zumberg, 2008). Being a developing country, Jordan is becoming the Arab world leading country through the utilization of technology in all sector, specifically in all educational levels, where as noted by Al-Zaidiyeen, Mei & Fook (2010), Jordan is believed to have one of the best in the Arab world. Thus, the integration of the internet in developing countries is basically reliant not just on the infrastructural provision of telecommunication industry, but also on the development of the educational system (Deichmann et al., 2006). This is becoming more problematic, as a result of cost-ineffectiveness of

technology for supporting the educational systems and the technological training among staffs is also a challenge (Fei Yang, 2006). Furthermore, the adoption of educational technology in the developing countries does not for certain result in direct proportional increase in the learning outcomes of students, so it is bent on knowing the essential factors in order to maximize outcome (Muller et al., 2007; Fei Yang, 2006). As a result, it gave birth to the present study, which aim at investigating the adoption of Web technology for educational development in Jordan. The study was guided with the following objectives;

- i. Compare the rate of knowledge and usage of web technologies between public senior secondary schools' students in the urban areas and their counterparts in Amman rural areas
- ii. Study the effects of web technologies on the Academic activities of public senior secondary schools' students in Amman
- iii. Study the Relationship between web technologies and Academic Performance of public senior secondary schools' students in Amman

### **Study Hypothesis**

**Ho1;** There are significant variations in terms of knowledge and usage of Web technologies between senior secondary schools' students in urban areas and their counterparts in the rural areas of Amman

**Ho2;** There is significant relationship between web technologies and the performance of senior secondary schools' students in Amman.

## **2.LITERATURE REVIEW; Conceptual and Theoretical Review**

### **Concept of Web Technologies**

In recent times, technology have played a pivotal role in our day to day activities which spans from domestic, corporate and government activities. Students of all categories are not exception from this rule. Prior to this, educational policy makers, school owners, teachers and students are turning more and more to web-based educational activities to give students another way to become engaged in learning. The Web possessed the ability to thoroughly change the initial convention about teaching and learning methods, and this presents to us an important question of; What deserves to be change about our curriculum when most student have the ability to reach audiences far beyond our classroom walls. According to Almpanis et al (2011) there are numerous web-based tools for educational purposes which can be used effectively to improve communication. These web-based tool include; content management, web conferencing systems, simulation, online survey, weblog, wikis, learning management system, podcast.

### **Concept of Utilization of Web-based tools**

The web-based tools for learning ensures an integrated environment of different technologies to help the needs of several educators and learners through the usage of the internet. The aim of the tools is to improve direct instruction and to render courses that are distant learning related. Similar components are offer by each of these tools, these include assignment submission, posting, communication features and quizzes. The main rationale for development of these tools is to make easy the little knowledge of instructors on HTML and web navigation to put course materials on the internet (Evans, and Haase, 2001). Thus, despite its simplicity, it possesses a significant drawback for first time users. For instance, the system forces course administrators and instructors to utilize predisposed navigation course formats and models. These obstacles may impact negatively on their usability and flexibility for teachers, students and administrators.

Several studies and framework have been made on analyzing these tools for institutional and pedagogical perspective (Pantel, 2007). Pantel further noted that frameworks that provide guidance on what nuggets to acknowledge and how they are been used when administrators and educators consider adopting the web-based instructional tools. According to Morss and Fleming (1998) Web-based tools from the perspective of a students using a questionnaire will not impose a needless burden on the students in terms of learning how

the tool is being used. Nielsen (2010) argued that the concept of usability entails such features as efficiency, learnability, memorability, user satisfaction and handling of user errors. According to Shneiderman (2011), if sound principles is the base for which the user interface is designed, then it will feature natural dialogue between the user and the system, which is vividly expressed in a nontechnical term. Furthermore, the interface features will be consistent, and a minimized memory load on the user.

### **Web Technologies and Education**

The centrality of education which is the survival and development of every society can never be overemphasized (Imam, 2015). Any influence on education in any given society can tantamount to significant consequences on that society. It is a fundamental yardstick for measuring development of societies; hence, it is an area of concern to every society. More, so, to the developing countries who are trying to catch up with their developed counterparts. In recent year, where the world became opened for unfettered competition under the concept of liberalization and other related concepts, education has become key tool that enables societies properly compete and yield positive result out of the competition. At present, web technology has become central in educational development throughout the globe, therefore, the ability or lack of it of any society to incorporate web technologies and pursue its proper utilization by the citizenry will largely determine the success and growth of that society or otherwise. Siqueira, Braz & Melo (2003), asserts that the internet has ensure a huge number of information to be easily accessible and readily available; thus, leading to promotion of several changes around the world inclusion of the education system. Furthermore, there is a great amount of educational and training system, which gives varying functions regarding specific pedagogical, administrative and technological progress. Similarly, Bonk (2012) maintained that web-based technology has opened up education around the world to the position where anyone can learn anything from anyone else at any time and place. According to UNESCO (2013) posited that the utilization of internet in educational system is seen as the application of internet technologies to proffer solutions to tasks in educational environment, which include, learning, teaching and management of educational process. Abdullahi, Ransom & Kardam (2014) was of the opinion that the Internet technologies usage in education has improved drastically, with the recent online courses and long distance learning; thus, may or may not give room for student-teachers interaction, but, it is known as the most recent form of attaining qualitative education. Courville (2011) argued opined that technology can help is achieving set educational goals and objectives via the removing physical obstacle to effective learning and creating transition focus from knowledge retention to it application.

### **Concept of Educational Development**

Scholars viewed educational development from various view points, while some viewed it from a broader perspective; some viewed it from a narrower perspective. According to Taylor, Frenay, and Clement, (2008), “The term was broader than faculty development, in that it encompassed instructional, curriculum, organizational, and some aspects of faculty development. In another sense, the term was narrower in that it focused on the teaching domain, as opposed to all aspects of academic career development” (Taylor, Frenay, and Clement, (2008). According to (Knight and Wilcox, 1998) cited in (Taylor et al 2008), educational development entails “all the work that is done systematically to help faculty members to do their best to foster student learning”. In this sense, educational development involves policy, administrative as well as ad hoc decisions concerning education. Each and every stakeholder is expected to play a distinguishing role towards achieving educational development.

### **Adoption of Technology in Jordanian Educational System**

The government of Jordan have always been aware of the essence of Science and Technology to socio-economic development of the country. Seamless effort has been made in developing the capacity of infrastructure and human resource needed to harvest the benefit of Science and Technology (Elshuraydeh et al., 2006). Since the 60s, Jordan began the exploration of a more convenient and efficient use of Science

and Technology in its development plan, this prompted the creation of the Scientific Research Council in 1961. The council objectives entail promoting, financing and planning research, promoting a scientifically research culture, identification of research priorities of the country and improving Science and Technology cooperation with other countries. Using the National Centre for Human Resources Development (NCHRD), the government of Jordan has uniquely position and implement a regulatory framework that manages the activities in it reform (Education Reform for the Knowledge Economy), which ran through 2009-2015. This reform has caused a drastic development of technology in both basic and secondary levels in Jordanian educational system (UNESCO, 2013).

According to UNESCO (2013) report, Jordan is listed as one of the Arab nations that have shown commitment is integration of ICT in education. Aside developing a suitable policy and plan for ICT integration into education, it has also developed a regulatory provisions and institutions that oversees and ensure ICT-assisted educational reform is strictly adhere. Jordan was slated to be one of two Arab countries thar adopted the Open Educational Resource (OER) in 2002, despite it overall poor adoption by the Arab nations. The OER was planned by UNESCO'S 2002 Forum on Open Courseware and assign "teaching, learning and research materials in any medium, technology or something else, that dwell in the public space or have been discharged under an open permit that allows no-cost access, utilization, adjustment and redistribution by others with no or constrained limitations (OECD, 2007; UNESCO, 2002; 2012b).The integration of ICT in education has increase, and the involvement and rate of transition to higher levels of education has increase; children and adults are increasingly demanding to attain varying forms of digital literacy more than the conventional computers skills to get involves in different spectrum of lives (UNESCO, 2013). The adoption of technology in educational curricula has been take seriously by the Jordanian government. The table below shows the distribution of the integration of ICT in different levels of education in 5 Arab countries including Jordan.

		Mathematics		Sciences		Written Communication (Languages)		Second Languages		Arts	
		Every grade	At least one grade	Every grade	At least one grade	Every grade	At least one grade	Every grade	At least one grade	Every grade	At least one grade
Egypt	Primary				√						
	Lower secondary				√				√		
	Upper secondary				√				√		
Jordan	Primary	√		√		√		√		√	
	Lower secondary	√		√		√		√		√	
	Upper secondary	√		√		√		√		√	
Oman	Primary	√		√		√		√			√
	Lower secondary	√		√		√		√			√
	Upper secondary	√		√		√		√			√
Palestine	Primary		√		√		√	√			√
	Lower secondary		√		√		√	√			√
	Upper secondary		√		√		√	√			√
Qatar	Primary	√		√		√		√		√	
	Lower secondary	√		√		√		√		√	
	Upper secondary	√		√		√		√		√	

Source; UNESCO, 2013.

Hinnawi (2011) posit that the e-learning demand in Jordan is expect rise in upcoming years following the dynamic nature of the environment and the quest for innovation and the sharp growth experienced in the

level of internet usage outside the educational system. Despite these welcome and increasing usage of web technologies, it has been limited by several obstacles. Alomari (2009) asserts that infrastructure often limits the full integration of web technology in most schools in Jordan. In a study conducted by Alkhaldeh & Menchaca (2014), twelve factors were identified to have affect the utilization of web technologies in Jordan, these include but a few; conventional outcome and affect toward use, social norms, habit and facilitating conditions.

## Theoretical Framework

### Theory of Technological Determinism

Marshall McLuhan in his theory; Technological Determinism, opine that the world has consistently been constructed more by the media nature with which communication is made by instigated by people based on contents. The proposition of this theory is that, the message is the medium. According to Adesemoye “this comment could be seen as a reason why youth use the internet and sign up for a social network account. In reality, varying youths do not really have a precise motive of surfing the net, but they took it as an issue of competition or fashion, that since a friend is hooked on the internet, it is a shame on them not to be online also. Similarly, Meyrowitz (1985) authenticate the submission of McLuhan by positing that”... the theory suggest that a broad, seemingly chaotic spectrum of social change may be, in part, an orderly and comprehensible adjustment in behaviour patterns to match the new social situations created by electronic media (Meyrowitz, 1985).

The propositions of this theory have shade light on the basis upon which most youths fasten themselves to the web technologies. The motive in most cases is not for a specific transaction or interaction that will, in the long run yield positive result for them in terms of knowledge or economic prosperity. In addition, it is obvious that, these web technologies systems is creating a new 50 form of behaviour pattern that contends local cultures and values, while those affected do not give much heed to whether or not their new acquired cultures are inimical to their growth and development.

### 3.Methodology

The city of Amman is situated on an oscillating plateau that makes up the north-west of Jordan. Originally, the site of the city contains seven (7) jabals (hills) around the Wadi ‘Ras el Ain which flows north-east from the plateau towards the River Zarqa basin (Potter et al, 2007). The city is regarded as the largest and most populated city in Jordan, which makes it the right choice for the current study. The research was an exploratory one; whereby, it studied: knowledge and usage of web technologies among selected public senior secondary schools’ students in Amman. Secondly, the research was a descriptive one in which, an attempt was made to describe the nature of usage of web technologies by the senior secondary school students in public schools in Amman.

According to the Jordanian Ministry of Education (2015), Amman has a total of seven hundred and eighty-three (783) public school in its 13 districts and a total of 2060 senior secondary school students. Four schools were selected randomly using convenient sampling technique to represent the total amount of public schools in Amman. The diagram below illustrates the sample of the study according to location and gender.

S/N	School	Total No. Of Student		Sample picked				Total % picked from the total population of each school
		M	F	M		F		
				%	f	%	F	
1	Public School 1(Urban)	580	0	19.31	112	0	0	19.31

2	Public Schoo2(Urban)	0	513	0	0	19.49	100	19.49
3	Public School 3(Rural)	346	248	11.28	67	8.08	48	19.39
4	Public School 4(Rural)	217	156	11.26	42	8.04	30	19.30
Total		2060					399	

The study uses primary and secondary sources of data, while the instrument used in data collection is the questionnaire. The hypothesis was tested with the student t-test.

#### 4. Result

##### Test of hypothesis

**Fig. 2: Knowledge of Internet among Respondents**

	Paired Samples Test							
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
Lower	Upper							
Pair 1 VAR00001 - VAR00002	6.84500	29.49944	14.74972	-40.09519	53.78519	.464	3	.674

According to Fig. 2, the critical value is higher than the calculated value. Hence, the statement of the alternate hypothesis; “There are significant variations in terms of knowledge and usage of web technology between senior secondary schools” students in urban areas and their counterparts in the rural areas of Amman” should be discarded.

**Fig. 3: Usage of Internet among Respondents**

##### T-Test

	Paired Samples Test				
	Paired Differences			t	df
	Mean	Std. Deviation	Std. Error Mean		

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1 VAR00001 - VAR00002	-6.26000E0	18.24614	9.12307	-35.29368	22.77368	-.686	3	.542

According to Fig. 3, the critical value is higher than the computed value. Hence, the statement of the alternate hypothesis; “There are significant variations in terms of knowledge and usage of web technology between senior secondary schools” students in urban areas and their counterparts in the rural areas of Amman” should be discarded.

**Fig. 4: Knowledge of International Satellite Media among Respondents**

#### T-Test

##### Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1 VAR00005 - VAR00006	-1.76500E0	18.79115	9.39558	-31.66592	28.13592	-.188	3	.863

According to Fig. 4, the critical value is higher than the calculated value. Hence, the statement of the alternate hypothesis; “There are significant variations in terms of knowledge and usage of web technology between senior secondary schools” students in urban areas and their counterparts in the rural areas of Amman” should be discarded.

**Fig. 5: Usage of International Satellite Media among Respondents**

#### T-Test

##### Paired Samples Test

	Paired Differences	t	df	

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1 VAR00005 - VAR00006	4.19250E0	21.07482	10.53741	-37.72724	29.34224	-.398	3	.717

According to Fig. 5, the critical value is higher than the calculated value. Hence, the statement of the alternate hypothesis; “There are significant variations in terms of knowledge and usage of web technology between senior secondary schools” students in urban areas and their counterparts in the rural areas of Amman” should be discarded.

**Fig. 6: Performance of the Students of School 1, before and after the advent of Internet and International Satellite Media**

#### T-Test

	Paired Samples Test							
	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1 VAR00001 - VAR00002	1.53500E1	8.46800	3.45705	-24.23662	-6.46338	-4.440	5	.007

According to Fig. 6, the critical value is higher than the calculated value. Hence, the statement of the alternate hypothesis; “There is significant relationship between web technology and the performance of senior secondary schools” students in Amman” should be discarded.

**Fig. 7: Performance of the Students of School 2, before and after the advent of Internet and International Satellite Media**

#### T-Test

	Paired Samples Test			
	Paired Differences		t	df

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pair 1 VAR00001 - VAR00002	-1.47493E1	9.81840	5.28515	-23.20312	-4.91038	-3.614	5	.007

According to Fig. 7 the critical value is higher than the calculated value. Hence, the statement of the alternative hypothesis “There is significant relationship between web technology and the performance of senior secondary schools” students in Amman” should be discarded.

**Fig. 8: Performance of the Students of School 3, before and after the advent of Internet and International Satellite Media**

#### T-Test

##### Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1 VAR00001 - VAR00002	-3.33333E0	33.15495	13.53545	-38.12732	31.46065	-.246	5	.815

According to Fig. 8 the critical value is higher than the calculated value. Hence, the statement of alternate hypothesis; “There is significant relationship between web technology and senior secondary schools” students’ performance in Amman” should be discarded.

**Fig. 9: Performance of the Students of School 4, before and after the advent of Internet and International Satellite Media**

#### T-Test

##### Paired Samples Test

Paired Differences					t	df

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		Sig. (2-tailed)
				Lower	Upper	
Pair 1 VAR00001 - VAR00002	-1.36833E1	10.97569	4.48080	-25.20161	-2.16506	.028

According to Fig. 9 the critical value is higher than the calculated value. Hence, the statement of alternate hypothesis; “There is significant relationship between web technology and the performance of senior secondary schools’ students in Amman” should be discarded.

Accordingly, going by the above presentation, it is clear that web technology has impacted on educational development of public senior secondary schools’ students in Amman. The result corresponds to a study conducted by Josey, Kattayat & Asha (2016), the result shows that the web technologies instruction are preferred by most of the students as a part of teaching and learning process as a result of the flexibility and self-pacing nature. Similarly, the result of this study also aligns with that of Raja & Nagasubramani (2018), where they argued that technology has revolutionized the educational field, with help in solving complex task and easy tool to impart knowledge.

### Summary of Findings

The study revealed that,

Senior Secondary Schools’ Students of urban and rural schools in Amman are virtually the same in terms of knowledge about web technology.

Both urban and rural students are virtually the same in terms of usage of web technology. There are divergent views on the purpose of the web technology usage by the students. While both urban and rural students claimed spend substantial amount of their time on web technology on academic activities, some teachers as well as parents believed that the students are mostly concerned with the funny side of the web technology.

Most urban schools have functional Internet cafés provided either by the government or other bodies and individuals. While most rural schools don’t have Internet cafés which made the students to use any personal device available to them.

Rural students appeared to be more active on academic activities than their urban counterparts.

There was no significant variation in the performance of the students, prior to; and after the advent of the web technology. Their performance continues to fluctuate without stable trend.

### 5. Conclusion and Recommendation

As per the findings of the study, virtually there was a little development recorded on the educational development of the senior secondary schools’ students in Amman which can be attributed to effect on web technology/ICT. Also, there are virtually no significant variations in terms of knowledge and usage of web technology/ICT between students of the urban areas and their counterparts of the rural areas. In addition, performance of the students both in the urban and in the rural areas remains relatively the same, before and after the advent of the web technology/ICT. Their performance continues to fluctuate throughout the period

under study; hence, the web technology has negligible impact on their performance. While in terms of academic activities, the web technology is not retarding their academic activities; more so, most of them says they use web technology for academic purposes. In terms of government intervention, the effort wasn't sufficient to effectively streamline the schools to the main stream of IT world.

### Recommendations

A careful plan should be made by the state ministry of education in collaboration with the schools' authorities to systematically devise a means of guidance and control of students' attitude towards web technology. This is to make their inclination to it more productive to their academic and attitudinal aspects. This can be done by introducing certain changes and innovations in the schools' curriculum that can be attractive and easy to comprehend by the students, which is capable of satisfying their desire for fun and at the same time will enhance their academic capabilities and their mind-set.

A periodic gathering in form of workshop or seminar should be arranged by the district Education Offices across the state, so as to bring together students, the teachers and resource persons from outside, to discuss issues pertaining web technology and web technology as a whole. This will avail the students an opportunity to learn things to benefit from the web technology, and what to aloof from it.

Schools, especially the rural schools should introduce a compulsory extra lessons and tutorials so as to enhance learning among their students. This will complement their patronage of the web technology and will reduce time waste on the funny side of the web technology.

Both at schools' levels and at ministerial level, adequate plan should be made to provide schools with required personnel at the right time and in the right quantity, so as to curtail the incidence of shortage of man power in specific fields e.g. web technology. This will have far reaching impact in the stabilization and enhancement of students' academic performance.

Government as well as individuals and organizations should join hands to facilitate the provision of the required ICT materials to enable effective implementation of the IT policies

### References

1. Abdullahi, S., Ransom, E. N., & Kardam, M. S. (2014). The significant of internet technology to education and students in acquiring quality education. *International Letters of Social and Humanistic Sciences*, 32, 145-153. Available at; <https://doi.org/10.18052/www.scipress.com/ILSHS.32.145>
2. Akubue, F.N., & Okolo, A.N. (2008). *Sociology of education*. Nsukka: Great AP Express Publishers LTD.
3. Al Jabery, M., & Zumberg, M. (2008). General and Special Education Systems in Jordan: Present and Future Perspectives. *International Journal of Special Education*, 23(1), 115-122.
4. Alkhawaldeh, N., & Menchaca, M. (2014). Barriers to utilizing ICT in education in Jordan. *International Journal on E-learning*, 13(2), 127-155.
5. Almpanis, T., Miller, E., Ross, M., Price, D., & James, R. (2011). Evaluating the use of web conferencing software to enhance flexible curriculum delivery. In: *Ireland International Conference on Education - IICE*, Dublin Ireland.
6. Alomari, A.M. (2009). Investigating online learning environments in a web-based math course in Jordan". *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 5(3), pp.19-36.
7. Al-Zaidiyeen, N. J., Mei, L. L., & Fook, F. S. (2010). Teachers' Attitudes and Levels of Technology Use in Classrooms: The Case of Jordan Schools. *International education studies*, 3(2), 211-218. Available at; <https://files.eric.ed.gov/fulltext/EJ1066020.pdf>
8. Bartolomé, A. (2008). Web 2.0 and new learning paradigms. *ELearning papers*, 8, 1-10.

9. Bonk, C.J. (2001). Online teaching in an online world. Retrieved from <http://www.courseshare.com/reports.php>. May 12, 2007
10. Clark-Kasimu, N. (2015). Serving Refugee Students and Unaccompanied Minors: More than Just Learning English. *Voices in Urban Education*, 41, 20-25. Available at; <https://files.eric.ed.gov/fulltext/EJ1074837.pdf>
11. Courville, K. (2011). Technology and Its Use in Education: Present Roles and Future Prospects. Paper Presented at the 2011 Recovery School District Technology Summit (June 6th - 8th 2011, Baton Rouge, Louisiana). Available at; <https://files.eric.ed.gov/fulltext/ED520220.pdf>
12. Deichmann, J., Eshghi, A., Haughton, D., Masnghetti, M., Sayek, S., and Topi, H. (2006). Exploring Break-points and Interaction Effects Among Predictors of the International Digital Divide. *Journal of Global Information Technology Management*, 9(4), 47.
13. Elshuraydeh, K., Mustafa, I., Al Majali, M., Sarraf, F., & Hamarneh, O. (2006). Science and Technology and Innovation Profile of Jordan; A report for Evaluation of Scientific and Technological Capabilities in Mediterranean Countries (ESTIME). Available at; [http://www.idaea.csic.es/sites/default/files/Final\\_report\\_Jordan\\_IM\\_RA.pdf](http://www.idaea.csic.es/sites/default/files/Final_report_Jordan_IM_RA.pdf)
14. Evans, J.R., & Haase, I.M. (2001). Online business education in the twenty-first century: An analysis of potential target markets, internet research: *Networking Applications and Policy*, 11(3), 246-260.
15. Fei Yang, J. (2006). The Discussion of Media Selection and Accessible Equity in Distance Education. *Journal of American Academy of Business*, 10(1), 126-130
16. Hinnawi, I. (2011). Demand for e-learning projected to soar. [online]. Available at; [http://www.menafn.com/qn\\_news\\_story\\_s.asp?storyid=1093461074](http://www.menafn.com/qn_news_story_s.asp?storyid=1093461074)
17. Imam, K.S. (2015). Assessment of the Impact of Information and Communications Technology (ICT) on Educational Development: A study of Selected Senior Secondary Schools in Kaduna State, Nigeria (Unpublished master's thesis). Ahmadu Bello University, Kaduna State, Nigeria.
18. Itedjere, P.O. (1997). History of education. Benin City, Nigeria: Osasu Publication.
19. Josey, S., Kattayat, S., & Asha, J.V. (2016). The influence of web technologies on education. 8<sup>th</sup> International Conference on Education and New Learning Technologies, pp.4370-4380. Available at; <http://dx.doi.org/10.21125/edulearn.2016.2060>
20. Khan, B. (1997). Web-based instruction. Englewood Cliffs, New Jersey: Educational Technology Publications.
21. Meyrowitz, J. (1985). No sense of place: The impact of electronic media on social behavior: New York: Oxford University Press, 2014, [global.oup.com/](http://global.oup.com/), retrieved 2014.
22. Ministry of Education (MoE) (2015). Jordan Nationwide Assessment in Public School for Strategic Planning. Available at; <https://www.alnap.org/system/files/content/resource/files/main/jordannationwideassessmentinpublicschoolsforstrategicplanning.pdf>
23. Morss, D. A., & Fleming, P. A. (1998). WebCT in the Classroom. A Student View. North American Web Developers Conference.
24. Müller, J., Sancho Gil, J., Herna'ndez, F., Giro', X., and Bosco, A. (2007). The socio-economic dimensions of ICT-driven educational change. *Computers and Education*, 49(4), 1175-1188 . Available at; doi: 10.1016/j.compedu.2006.01.006.
25. Nielsen, J. (2010). Usability engineering. Academic Press: Boston.
26. Nimitoinbo-Ofori, J.H. (2014). Availability and Utilization of Web-Based Tools for Effective Delivery of Instruction in Nigerian Universities in South-South Zone. (Unpublished master's thesis). University of Nigeria, Nsukka, Enugu State, Nigeria. Available at; <http://repository.unn.edu.ng/bitstream/handle/123456789/1493/HARRY%20NIMITEINBO-OFORI%20JEREMIAH.pdf?sequence=1&isAllowed=y>

27. Organization for Economic Co-operation and Development (OECD) (2007). Giving Knowledge for Free: The Emergence of Open Educational Resources. Paris: Organisation for Economic Co-operation and Development.
28. Pantel, C. (2007). A Framework for comparing web-based learning environments. Master's thesis, School of Computing Science, Simon Fraser University, Canada.
29. Potter, R. B., Darmame, K., Barham, N., Nortcliff, S., & Mannion, A. M. (2007). An introduction to the urban geography of Amman, Jordan. Reading Geographical Papers, 182, 1-29.
30. Raja, R., & Nagasubramani, P. C. (2018). Impact of modern technology in education. Journal of Applied and Advanced Research, 3(1), 33-35. Available at; <https://dx.doi.org/10.21839/jaar.2018.v3S1.165>
31. Rosenberg, M.J. (2001). e-Learning: Strategies for delivering knowledge in the digital age. New York: McGraw Hill.
32. Shneiderman, B. (2011). Designing the user interface: Strategies for effective human-computer interactions, (3rd ed). Addison-Wesley.
33. Siqueira, S. W., BRaz, M. H. L. B., & Melo, R. N. (2003). Web technology for education and training. In 14th International Workshop on Database and Expert Systems Applications, 2003. Proceedings. Available at; DOI: 10.1109/DEXA.2003.1232045
34. Streibel, M.J. (1989). Instructional Plans and Situated Learning: The Challenge of Suchman's Theory of Situated Action for Instructional Designers and Instructional Systems, Journal of Visual Literacy, 9:2, 8-34, DOI: [10.1080/23796529.1989.11674442](https://doi.org/10.1080/23796529.1989.11674442)
35. Taylor K. L., Frenay, and Clement (2008), Educational Development: Redefining the Scope and Meaning of Faculty Development ICED Conference 2008.
36. Tyagi, S. (2012). Adoption of Web 2.0 technology in higher education; A case study of Universities in National Capital Region, India. International Journal of Education and Development using Information and Communication Technology, 8(2), pp.28-48. Available at; <https://files.eric.ed.gov/fulltext/EJ1084132.pdf>
37. United Nations Educational, Scientific and Cultural Organization (UNESCO) (2002). Forum on the Impact of Open Courseware for Higher Education in Developing Countries, Final report. Paris, 1-3 July 2002.
38. United Nations Educational, Scientific and Cultural Organization (UNESCO) (2003). Internet in Education; support Materials for Educators. UNESCO. Available at; <https://iite.unesco.org/pics/publications/en/files/3214612.pdf>
39. United Nations Educational, Scientific and Cultural Organization UNESCO (UNESCO) (2012b). 2012 Paris OER Declaration. [http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration\\_01.pdf](http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/Events/Paris%20OER%20Declaration_01.pdf)
40. United Nations Educational, Scientific and Cultural Organization (UNESCO) (2013). Information and Communication Technology (ICT) in Education in Five Arab States. UNESCO Institute for Statistics, Canada, Available at; [http://uis.unesco.org/sites/default/files/documents/information-and-communication-technology-ict-in-education-in-five-arab-states-a-comparative-analysis-of-ict-integration-and-e-readiness-in-schools-en\\_0.pdf](http://uis.unesco.org/sites/default/files/documents/information-and-communication-technology-ict-in-education-in-five-arab-states-a-comparative-analysis-of-ict-integration-and-e-readiness-in-schools-en_0.pdf)
41. Whawo, D.D. (1997). An introduction to the study of education (2nd ed.). Benin City: World of Books Publication