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**Médiations numériques et enseignement des Sciences Sociales dans le
contexte éducatif Égyptien**

**Digital mediations and education of Social Science in the context of Egyptian
education**

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Abstract

The purpose of this study was to focus on inclusion legal culture and civics within the Egyptian educational curricula, as accompanying activities of social studies for the first and second phase of the Egyptian secondary schools. through digital mediations in teaching and integrating information and communication technology (ICT) into curriculum, with the aim of establishing how effective e-learning and integration of ICT can be supported. E-learning was perceived by education stakeholders in Egypt as an effective way to enhance teaching and learning. The researcher designed and produced legal culture program (Application) for Self-learning. The research instruments for the study were also developed; two pre/post achievement tests and legal attitudes test were used to collect data. The sample used in the study consisted of 90 students to form only one sample because there is no approach of the legal culture taught to the same phase. The findings of the post-test highlighted the following points: (A) Digital mediation plays an important role in the educational process as an instructional technology tool, and Human mediation plays an important new role where the role of teachers changed from lecturer to a facilitator, guide and mentor in the educational process. (B) there is a significant difference between the main score of students in the post-test and pre-test in favor of post-test in the achievement and legal attitudes test (D) The estimation of the effect sizes indication of the level of difference between the pre/ post-test scores of the samples revealed that, the effect size was large for all achievement and legal attitudes tests.

In conclusion, the legal culture program (the application) provided a considerable support for students in the first and second stages of the Egyptian secondary schools and helped them to improve their conceptual understanding of the legal concepts, and learn about legal system of the State, in addition know about their Constitutional rights and duties.

Keywords: Digital mediations, E-Learning, ICT, Integration, Computers, human mediation, Legal education, Civics, Learning, Social studies.

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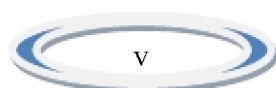
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Chapter one: Introduction and explanation the context

1.1. Introduction

The human is characterized as a social creature who can't live alone, it must have a society which is governed by rules, laws and customs as a general framework so that everyone can move and interact together through it. Hence, it is difficult for a nation to prosper or to live a moral upright life without such laws and regulations, which help to specify the relationships between individuals and institutions, and clarify the rights and duties of these in society.

It's very important for a citizen to have the awareness of the law and the legal culture, especially his own individual benefits and duties. It is essential for each person to learn the law and realize the legal consequences of acts and behavior prohibited by these laws so the individual can avoid them. With this knowledge he can understand the benefits due to him, and how to receive them. The curriculums can play an important role in the education of students concerning these laws, their meaning and their importance. How the legal system is established, reading the articles of law, the rights and duties of society

Therefore; these curriculums can improve their knowledge of the laws and how to obey them according to the level of their maturity and recognition ⁽¹⁾.

Thus the legal culture is a necessary requirement to form a good citizen within the community, teaching him from his early childhood to respect both the legal requirements of his culture, and the rules, through teaching and training from his childhood to adulthood. So that from a very young age, he will have learnt obedience to laws, and rules established within the family setting thus enabling him to be aware of the legal requirements within society from his time in school throughout his life, including his personal, social and economic life, and also within the political fields.

(1) Curriculum Development Centre and educational materials (2000). The Issues And contemporary concepts in school curricula (Human Rights- Legal Awareness), Cairo, P 39

This was confirmed by the global reports, such as the 2005 Education for All Global Monitoring Report ⁽¹⁾, which emphasized that there are Two principles that characterize most attempts to define quality in education:

The first identifies learners' cognitive development as the major explicit objective of all education systems.

The second emphasizes education's role in promoting values and attitudes of responsible citizenship and in nurturing creative and emotional development. This principle also emphasized that a child's education should be moving towards the development of respecting human rights and the basic principles and freedoms which are set forth in the Charter of the United Nations. Jean Le Gal (2008)⁽²⁾; The education for citizenship is a theory and practice field in which are reflected agreements and disagreements, our conceptions of social and political life, the definition of rights, freedoms and obligations which we believe are legitimate to all of human race, our ways of thinking including conflicts and resolution, the role of the family, education and other institutions that might be involved.

1.2. Potential of e-learning and ICT in education.

In the information technology revolution, ICT and e-learning have the potential to support education in general and classroom practice in particular, and to enhance teaching and learning in ways that make them more interesting and stimulating for teachers and students alike. Schools that have Internet connectivity can use forms of Web or Internet-based learning, collaborative learning, networks and online learning, and specific lessons downloaded from the Web and customized to the context. In schools with no Internet connection, learning materials and tuition to enhance learning can be delivered via a range of technologies and software such as CD-based tutorials, computer-assisted instruction (CAI) and computer-based testing. Some of these software applications can be supplied in all schools.

(1) UNESCO Publishing (2005). Education for All, The Quality Imperative(p. 1). Retrieved from <http://unesdoc.unesco.org/images/0013/001373/137334e.pdf>

(2) Jean Le Gal, (2008). Les droits de l'enfant à l'école pour une éducation à la citoyenneté, Group de Boeck & Larcier s. a., Editions De Boeck Université, p. 12.

Certain researchers have found clear links between e-learning and the attainment of required educational outcomes; Lee, Brescia and Kissinger (2009)⁽¹⁾.

In the context of remote regions, A. Ellen Kalinga, et al., (2006)⁽²⁾ note that 'Application of ICT in e-learning that is accessible in remote and rural schools will improve the performance of students as well as raising morale for teachers and students'. Tina N. Hohlfeld, Albert D. Ritzhaupt, Ann E. Barron (2010)⁽³⁾ refer to the important relationship between the way in which ICT is used and the resultant outcomes. Crucial components are the teachers and their pedagogic approach. Andrew Jones (2004)⁽⁴⁾ argues that even excellent software, reliable hardware and flexible networks, important though they may be, will have little effect on performance and attainment if teachers are not enabled, motivated, and educated to use these resources appropriately.

On the other hand, one of the many challenges facing developing countries today is preparing their societies and governments for globalization and the information and communication revolution. According to Sung-Pyo Hong (2005)⁽⁵⁾ With the revolution in information technology, we experience profound changes in the nature of our world. Indeed, we live in an information age. The information technology revolution fundamentally changed our lifestyle. The IT revolution made it possible to communicate with someone located on the opposite side of the globe on a real-time visualization basis. Because of the IT revolution, we also enjoy simultaneous multimedia-based communications in education.

(1) Sang Min Lee, et al., (2009). Computer use and academic development in secondary schools. *Computers in the Schools*, 26(3), 224-235.

(2) A. Ellen Kalinga, et al., (2006). An Interactive e-Learning Management System (e-LMS): A Solution to Tanzanian Secondary Schools' Education. *International Journal of Human and Social Sciences*, pp. 1-4, Retrieved from: <http://www.waset.org/journals/ijhss/v1/v1-4-37.pdf>

(3) Tina N. Hohlfeld, Albert D. Ritzhaupt, Ann E. Barron, (2010). Connecting schools, community, and family with ICT: Four-year trends related to school level and SES of public schools in Florida. *Computers & Education*, 55(1), 391-405.

(4) Andrew Jones (2004). A review of the research literatures on barriers to the uptake of ICT by teachers. BECTA. Retrieved from: http://dera.ioe.ac.uk/1603/1/becta_2004_barrierstouptake_litrev.pdf

(5) Sung-Pyo Hong (2005). Impact of Information Technology Revolution on Revolution in Military Affairs in the Rok Armed Forces. In Mansourov A.Y. (Ed.), *Information Technology Revolution And National Security On The Korean Peninsula* (p. 218). Honolulu, Hawaii: The Asia-Pacific Center for Security Studies.

Many countries now regard understanding information and communication technologies (ICT) and mastering the basic skills and concepts of ICT as part of the core of education, alongside reading, writing and numeracy. According to Patti Swarts (2006)⁽¹⁾, ICT is a powerful tool which has the potential to transform the educational opportunities and life chances of all students, including those who are normally excluded by virtue of their special circumstances and special educational needs. ICT can break down some of the barriers that lead to underachievement, student disaffection and educational exclusion. If used appropriately it can also improve the quality and consistency of instruction by providing an enabling environment for both students and teachers to access information and resources.

The Digital learning media demonstrates how technological development can have a profound impact on learning, in using them, students use information communication technologies to build knowledge and to communicate with others. According to Rima Shore, (2008)⁽²⁾, as technologies increasingly saturate daily experience, students need to express themselves fluently using multiple media (e.g., text, video, graphic design, sound), to use those media to navigate across multiple platforms (such as desktop computers, handheld devices, cell phones, and iPods), and to adopt safe and responsible practices. Within this context, computer-based learning might support dramatic changes in how education occurs if we are willing to move away from the paradigm of schooling adopted a century ago. These changes include targeting learning so that it is aligned with the interests and needs of students showing that there are benefits and great opportunities for students to use computer-based learning techniques. According to a study by Nadzrah A., (2007)⁽³⁾, Computer use in teaching and learning can no longer be associated with individual learning activities undertaken in an isolated environment. Computer use can

(1) Patti Swarts, P. (2006). ICT and the Third Revolution in Education Policy. *E-Journal of Digital Learning*, 2(9), 6. Retrieved from <http://www.digitalLEARNING.in>

(2) Rima Shore, (2008). *The Power of Pow! Wham! Children, Digital Media and Our Nation's Future. Three Challenges for the Coming Decade*, p. 10. New York: The Joan Ganz Cooney Center.

(3) Nadzrah Abu Bakar, (2007). English Language Activities In Computer-Based Learning Environment: A Case Study In ESL Malaysian Classroom, *GEMA Online Journal of Language Studies*, 7(1), 14. Retrieved from http://myais.fsktm.um.edu.my/474/1/Nadzrah_Abu_Bakar.pdf.

support and augment the learning and use of English by promoting the use of language in an authentic environment.

In a related context, the study of Maryam Honarmand (2008)⁽¹⁾, Emphasizes that many of the technologies for designing and implementing the computer-based learning software are available. Although these technologies are different all, the end result which is designing the system with user-friendly and user-interactive environment in its best possible way is similar. It is good to remember that we are always able to apply an integration of these technologies in order to make an attractive and effective environment for any educational purposes. Due to the high number of multimedia tools, it is possible to create an environment in which the users are not bored, and have the best outcome of their learning software package.

Also Ali Al-Rabai and Abeer Shdifat (2005)⁽²⁾ confirm that computer is becoming a very necessary tool for learning in modern educational trends. Researchers in this area have assured that the value of using computer in the classroom improves student achievement.

1.3. An overview of the educational system and Legal Education in Egypt.

1.3.1. Introduction.

Egypt's strategic geographic position, long and rich history, and current size of population have made it a regional leader, politically, culturally, and economically. Egypt is located in the northeastern corner of Africa, and is bordered by Libya, Palestine, Israel, Sudan, the Mediterranean, and the Red Sea. Over 95 percent of Egypt's land is desert, with the remaining land comprising the Nile Valley and Delta. Approximately three percent of the land is arable, with permanent crops on 0.5 percent of the land. During Egypt's long history, the Nile River has played a dominant role in Egyptian life. It extends for some 1500 kilometers through the length of the country. Approximately 98 percent of the population lives along its

(1) Maryam Honarmand, (2008). Using Multimedia in Computer Based Learning (CBL) A Case Study: Teaching Science to Student, E-Journal of World Academy of Science, Engineering and Technology, (vol. 42), 3 Retrieved from <http://www.waset.org/journals/waset/v18/v18-134.pdf>.

(2) Ali Al-Rabai and Abeer Shdifat, (2005), Using Computers in the Classroom: Obstacles Perceived by Teachers in Al-Mafraq City Schools, Jordan, Journal of Educational Sciences, the fourth issue, Institute for Educational Studies, Cairo University.

banks, as they have for more than 6000 years ⁽¹⁾. Egypt is one of the largest countries in the Middle East and Africa in terms of its population and it has the second biggest population in Africa after Nigeria. Egypt has 83,688,164 million people (July 2011)⁽²⁾, who are living in less than 4% of its landscape, which is about 1 million square kilometers⁽³⁾. Approximately 35 per cent of the population is made up of young people under the age of 15, putting a lot of pressure on education and the labour market ⁽⁴⁾. The total number of students at school level including private and foreign education, is roughly estimated at 15.2 million representing around 22.5% of the total population



Figure (1) Map of Arab Republic of Egypt.

(1) Human Development Report, 2006. Retrieved from: <http://hdr.undp.org/en/media/HDR06-complete.pdf>
(2) The World Factbook. (2012, June. 20). Egypt People and Society. Retrieved April 20, 2010, from <https://www.cia.gov/library/publications/the-world-factbook/geos/eg.html>.
(3) All- About- Egypt.com. (2010, April. 20). Egypt Facts- Population. Retrieved April 20, 2010, from <http://www.all-about-egypt.com/egypt-facts-population.html>.
(4) Nuffic, (2011), Information about the structure of the education system of Egypt and the evaluation of degrees obtained in Egypt. International Recognition Department, The Hague, Retrieved from: <http://www.nuffic.nl/international-organizations/docs/diploma-recognition/country-modules/country-module-egypt.pdf>.

1.3.2. A brief history of Egypt's education system.

A modern European-style education system was first introduced to Egypt by Mohammed Ali (1805-1849) during the first half of the 19th century. He established schools for accounting, engineering and administration to serve his need of well-educated, loyal administrators and army officers for building up a national army. The establishment of a modern education system resulted in the emergence of an educated Egyptian middle class, while the lower classes still relied on the traditional Qur'an schools, called "katateeb". A dual system of education was thus established, which has persisted, in a somewhat different manner, until today ⁽¹⁾.

During the period of British occupation (1882-1922), investment in education was curbed drastically and secular public schools, which had been free up to this point, began to charge fees. Education was now fashioned to suit the needs of the British colonial administration. However, the majority of children who received any education at all still relied on the traditional katateeb and were barred from upward social mobility. According to Barsoum, "the limited availability of education created a thirst in the poorer rungs for educating their children"⁽²⁾. At the same time, foreign schools became popular among the Egyptian elite. The number of foreign "mission" or "language schools" that used modern curricula, increased significantly during this period. This system of elite "language schools" has persisted and still plays an important role in Egypt today⁽³⁾.

Under the presidency of Gamal Abdel Nasser, education became a central part of the modernizing project. In the 1950s, he phased in free education for all Egyptian citizens, starting with schools and later extending this to include higher education. The Egyptian curriculum became a model for the region, greatly

(1) Sarah Hartmann, (2008), 'The Informal Education Sector in Egypt: Private Tutoring between State, Market, and Civil Society', Working Paper 88, Department of Anthropology and African Studies, Johannes Gutenberg-Universität Berlin, Retrieved from: <http://www.ifeas.uni-mainz.de/workingpapers/AP88.pdf>.

(2) Ghada F. Barsoum, (2004), *The Employment Crisis of Female Graduates in Egypt: An Ethnographic Account*, Cairo Papers in Social Science, 25 (3), Cairo: The American University in Cairo Press.

(3) Louisa Loveluck (2012), *Education in Egypt: Key Challenges*, Middle East and North Africa Programme, Chatham House, Retrieved from: http://www.chathamhouse.org/sites/default/files/public/Research/Middle%20East/0312egyptedu_background.pdf.

influencing other Arab education systems, which often employed Egyptian-trained teachers.

With Sadat's Open Door Policy (infitah), a two-class system was re-established, similar to the one that had existed during colonial times: While the poor masses had to rely on the underfunded and deficient public system, the wealthier families could educate their children in an increasing number of private and "language schools" (madaris al-lughat), a prerequisite for getting a well-paying job in the private sector. The fees for private and language schools range from a few hundred to several thousand LE (Egyptian Pounds) per year.

1.3.3. The Egyptian Education System today.

1.2.3.1. Overview

The public education system (pre-university) in Egypt is state-sponsored and set up in three stages: for 4–14 years old: kindergarten for two years followed by primary school covers ages six to eleven (six years). At present, pre-primary education is not part of the formal education system. There are a number of providers involved in this level of education, including the Ministry of Education, the Ministry of Social Solidarity, the National Council for Childhood and Motherhood (NCCM), Al Azhar pre-university education, a number of international and local NGOs, and the private and cooperative sectors ⁽¹⁾.

Then, preparatory school for ages twelve to fourteen (three years), Basic education consists of the first two stages and is compulsory for all students in the country for 9 academic years between the ages of 6 and 14. And secondary education consists of four different types: general, industrial, commercial, and agricultural. Secondary education extends over three years for ages 15 to 17, (See Figure 2).

(1) Sahar El-Tawila, et.al. (2000), The School Environment in Egypt: A Situational Analysis of Public Preparatory Schools, Cairo: Population Council.

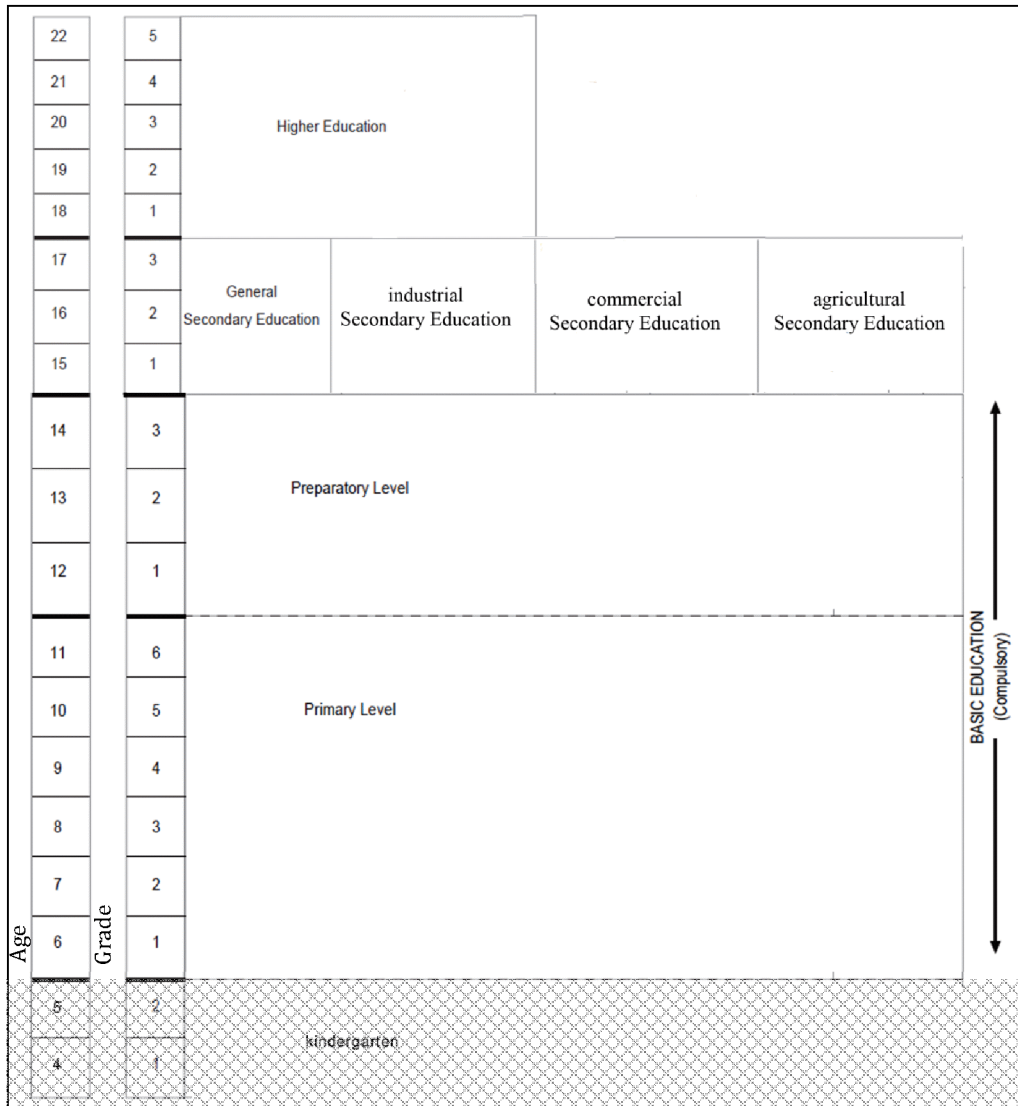


Figure (2) The Egyptian Education System.

Students who pass the primary end-of-level exam move on to preparatory school. Those who do not pass after two attempts withdraw from education. Based on their performance in the preparatory level exam, a student may go to general secondary, technical secondary, or withdraw from formal education. Graduates from general secondary schools may be eligible to enter university, depending on their score on the secondary end-of-level exam; while almost all technical secondary graduates enter the workforce (the top five percent may attend Higher Institutes or

university for further training)⁽¹⁾.

Subsequently, the increased population and the small area that the people are living in have led to a rising number of problems faced by the country: economical and educational problems are just two examples.

1.3.3.2. Number of classrooms, students and teachers in last five years in pre- university education.

The Egyptian Ministry of Education is facing several key difficulties that jeopardize the quality of teaching and learning in Egyptian schools. These difficulties include the increasing number of students who require basic education, the need for increasing numbers of qualified teachers, a lack of resources, facilities and infrastructure.

Table (1) shows a comparison between the total number of students in pre-university education (preschool, primary, prep-school and secondary), the total number of teachers, and the total number of classrooms in schools.⁽²⁾

No./Year	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011
Classrooms	389033	394716	400321	454411	440645
Students	15424478	15778337	16101210	16367569	17489280
Teachers	809892	809391	809241	848386	884159

Table (1) the total number of classrooms, students and teachers
(2006/2007- 2010/2011)

Table (1) illustrates the fact that although there are a growing number of students in Egyptian schools, there is a serious effort to increase the number of classrooms that are required for these students.

(1) Ghada F. Barsoum, (2004), *ibid*

(2) The Ministry of Education in Egypt. (2012, Mars. 12). The evolution of the classroom, students, and teachers from 2004 to 2009. Retrieved Mars 25, 2010, from: http://services.moe.gov.eg/books/10011/develop/sch_clas_stud/sch_clas_stud/1.pdf.

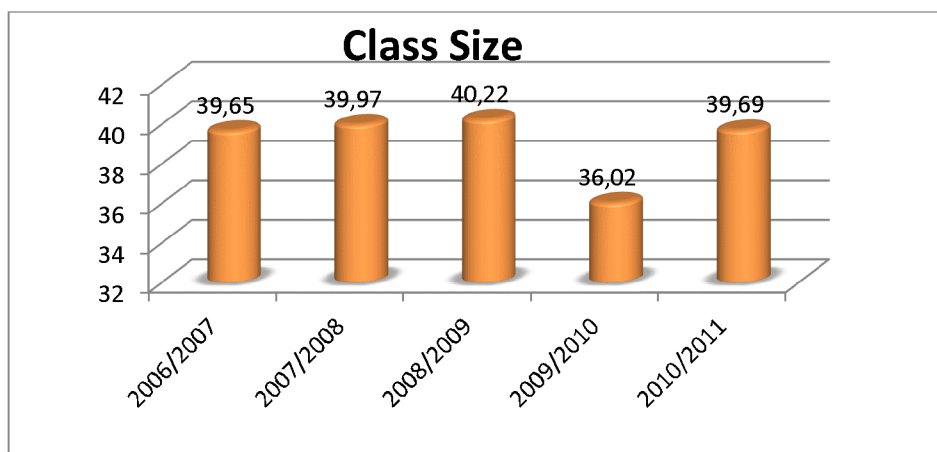


Figure (3) Average class size (2006/2007- 2010/2011).

However, according to the 2010/2011 statistics which are shown in table (1), it can be noticed that the average number of students per classroom is 39.69 this number varies from school to school. While the average number of students in some schools is 35 students per classroom, others have an average of over 55 students per classroom. The large numbers of students per classroom is considered to be one of the major problems facing education in Egypt. According Egyptian Ministry of Education, the average of class size in the different educational levels, (Public-Special) 2010/ 2012, in the following figure:

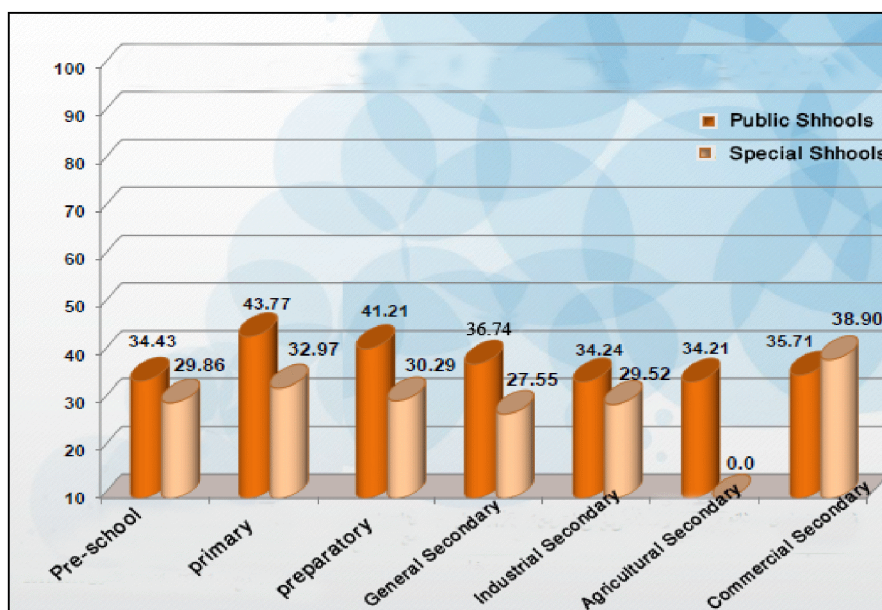


Figure (4) ⁽¹⁾ Average class size (Public- Special) 2010/ 2012.

For teachers, there is currently no system in Egypt to certify teachers, as is the common practice in many countries. Although Standards for Teachers' Performance were developed as part of the National Standards of Education in Egypt, their use to monitor, evaluate, and improve teacher performance in fields of planning, teaching, classroom management, and professional evaluation is not yet mainstreamed.

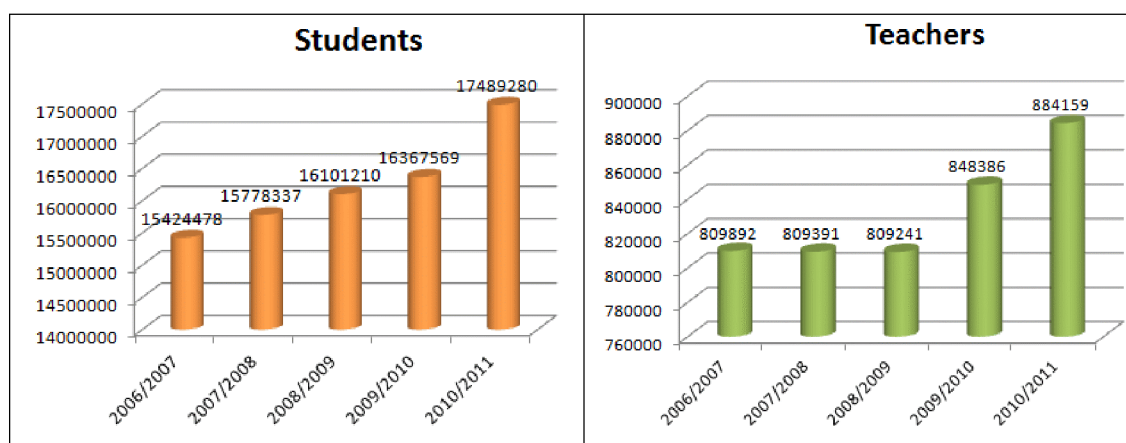


Figure (5) the number of Students and Teachers in Egypt (2006/2007- 2010/2011).

(1) The Ministry of Education in Egypt, annual Book of Statistics 2010/ 2011: Average class density (Public- Special) 2010/ 2011, Retrieved from: <http://services.moe.gov.eg/books/10011/indicators/graphs/4.pdf>.

The teacher/ student ratio differs from class size in that it includes all educators available at the site, not just people who are actually teaching full time. The teacher/ student ratio differs from class size in that it includes all educators available at the site, not just people who are actually teaching full time. Figure (5) shows there is one teacher per 19.78 students in 2010/ 2011, In versus 19.05 in 2006/ 2007. In addition, the gap between class size and teacher-student ratio indicates a large and inefficient.

1.3.3.3. Number of schools last five years in pre- university education.

In recent years, the Egyptian government -the Ministry of Education- has been seen to be increasing their effort to solve such problems. For example, the Ministry of Education in Egypt started building new schools in order to solve the problem of the rise in the number of students (see table 2). In addition, it has increased the number of teachers year by year.

2006/2007	2007/2008	2008/2009	2009/ 2010	2010/ 2011
40868	42184	43423	44631	45773

Table (2) the development in the total number of schools' in Egypt since (2006/2007- 2010/ 2011)

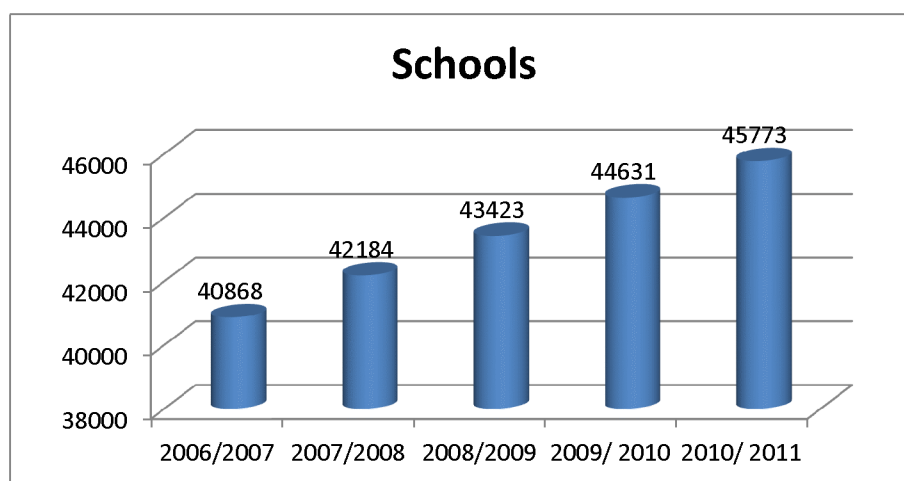


Figure (6) the total number of schools' in Egypt (2006/2007 - 2010/2011).

Figure (6) shows, there were a total of 45773 schools in 2010/2011 representing a 12 percent increase over the number of schools in 2006/2007. While this increase in the number of schools is of course a positive step, it is also necessary to consider what percent of current students are served by these schools.

1.2.3.4. Number of Schools, classrooms and students last five years in general secondary education.

Statistics in the following table shows: The number of students in general secondary was too high in 2006/ 2007 (1170155) and the class size was (37.09). while the number of students was decrease to (781985) in the following year 2007/ 2008. After that the number begins to increase even up to (1228563) in 2010/ 2011, and the class size was (36.74). And that in spite of the increase in the number of schools.

No./Year	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011
Schools	2258	2252	2297	2379	2599
Classrooms	31548	23826	24224	27600	33442
Students	1170155	781985	794797	859141	1228563
class size	37.09	32.82	32.81	31.13	36.74

Table (3) the total number of Schools, classrooms and students in general secondary education (2006/2007- 2010/2011).

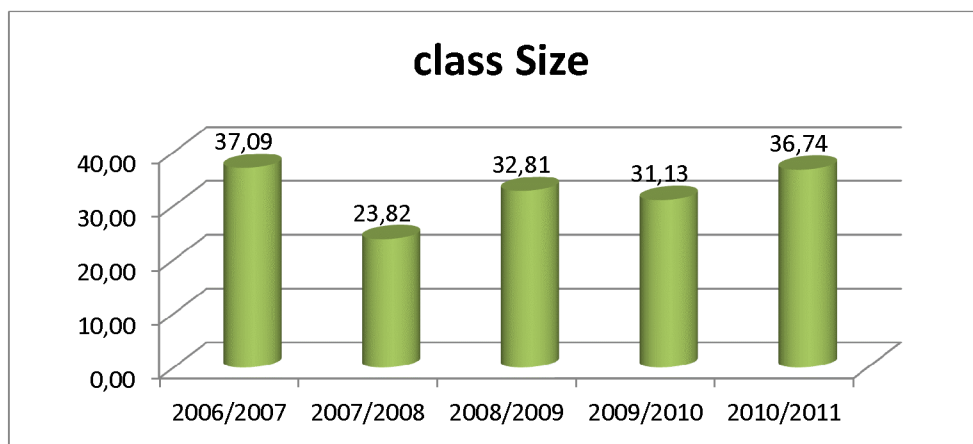


Figure (7) Average class size in general secondary education (2006/2007- 2010/2011)

1.3.3.5. Objectives of general Secondary Education.

General secondary education in Egypt aims at achieving the following objectives ⁽¹⁾:

- Preparing students for practical lives side by side to preparing them for university and higher education and participation in the public life.
- Emphasizing students' religious, behavioral and national values.
- Preparing citizens and helping them to develop their everyday life skills including their critical thinking and analytical, scientific and problem-solving skills that enable them to respond to present requirements and adopt them to face the scientific and technological progress.
- Developing pupils' abilities and potentialities, satisfying their needs and interests, and providing them with necessary values, behaviors, and basic knowledge and information about health, nutrition and environment, attitudes related to development and scientific and professional skills that cope with the various conditions and environments.

1.3.4. Civics and Legal education in schools.

Arab culture is in need of Education and awareness. Positive and open-minded concepts in the political culture will help to produce sound political guidance and education for people. Political education is one of the most important components of democratic evolution ⁽²⁾.

The ultimate goal of legal education or civic education is to prepare generations for the essential principles and values of democracy embodied with a high sense of responsibility and active engagement in social issues, community, or state which face them in their everyday life. Civic education, whenever and however undertaken, prepares people of a country, especially the young, to carry out their roles as citizens. Civic education is, therefore, is "the cultivation of the virtues,

(1) National Center for Educational Research and Development (NCERD) (2001), Education Development, National Report of Arab Republic of Egypt from 1990 to 2000, Cairo - Egypt.

(2) Hala Mustafa, et al., (2005), Building Democracy in Egypt, International Institute for Democracy and Electoral Assistance (IDEA) and the Arab NGO Network for Development (ANND), Retrieved from: http://www.idea.int/publications/dem_egypt/upload/Egypt_country_report_English.pdf

knowledge, and skills necessary for political participation". According to Caliber (2002)⁽¹⁾, Law Related Education has been defined as education to equip students with knowledge and skills pertaining to the law, the legal process, and the legal system, and the fundamental principles and values on which these are based. Law Related Education is typically understood to foster the knowledge, skills, and values that students need to function effectively in our pluralistic, democratic society based on the rule of law. Law related educators strive to develop the active citizens our society requires: those who can understand live in and contribute positively to the civic communities to which they belong. Carolyn (1988)⁽²⁾ Also confirms that Law-related concepts and facts are necessary to the understanding of history, government, and economics- subjects that are integral to education in the social studies in elementary and secondary schools. Sources of law, functions of law, legal processes, legal roles, and legal principles (e.g., justice, equality, authority, freedom, order, etc.) are essential elements of the social studies curriculum. Thus, Law Related Education is a necessary component of a sound social studies curriculum.

In Egypt, a field study conducted by Soher Hewala and Fatma Abdel Kader (1995)⁽³⁾, showed a general weakness in knowledge within the members of the sample, of their Constitutional rights and duties. This was found due to a lack of interest in the educational system to provide the information needed.

In a related context, a survey with Directed Education and staff members of education- Curricula and Methods of Teaching, conducted by Wally Ahmed (2000)⁽⁴⁾, showed that all members of the sample agreed that social studies curricula are not interested in the legal principles in the form required and do not earn students legal culture. Within this context, according to a field study conducted

(1)Caliber Associates, (2003). The Promise of Law-Related Education Delinquency Prevention. In Parrini, M. (Ed.), Information technical assistance bulletins on law-related education. (p. 2). Chicago: The American Bar Association.

(2)Carolyn Pereira, (1988). Law-Related Education in Elementary and Secondary Schools. Retrieved from ERIC database. (ED296948).

(3)Soher Hewala and Fatma Abdel Kader, (1995). The legal culture of the Egyptian citizen in a rapidly changing world. Journal of Educational Sciences. 1(2). 79-82. Institute for Educational Studies, Cairo University.

(4) W., Ahmed, (2000). The Efficacy of a Suggested Program in The Accompanying Activities of Social Studies Curriculum of the Second Cycle, Basic Education in Developing Some Legal Principles.(Unpublished doctoral dissertation). Ein-Shams University. Cairo.

by Mustafa Kasem (2006) ⁽¹⁾, said that The low awareness of secondary school students, the concept of civil society with its principles and basic concepts due to the school curricula are not dealing with this legal culture.

As a result of lack of teaching about the law in schools, there is a lack of respect for the law, and ignorance of the legal system, which in turn leads to anarchy and disobedience to the law in the Egyptian streets. This confirms what Roger Soder (1997)⁽²⁾ claimed, **First** we are not born with a working knowledge of our rights and our responsibilities as citizens in a democratic society. These are roles that must be taught. **Second:** The learning of these things must primarily be taught in schools. **Third:** in this case we must determine firstly the education of those who will teach the students and what needs to be done by the schools, in order to prepare students for citizenship in a democratic society.

Indeed for a long time, the main approach of teaching and learning in Egyptian schools was mainly the didactic traditional approach, which depended on memorizing the lessons, where teachers were the main source of information, and students being only passive receivers. This approach does not allow learners to engage actively in the learning process, and hence the pedagogical approach in Egyptian schools for a long time did not provide the best support for students to develop conceptual understanding, especially in social science learning. The strategic objectives of the Egyptian Ministry of Education are now moving towards the implementation of active learning wherever possible due to the class high-density constraints. And since the beginning of Technology Development Project, all Egyptian schools are equipped with an infrastructure of different facilities enabling them to use information and communication technology. There are a number of schools that are already technologically developed, providing small laboratories, including multimedia units connected to the internet. They are also provided with data projection, television, video players and number of computer devices varying

(1)Mustafa Kasem (2006). Education and citizenship: The reality of civic education in Egyptian schools. Cairo: Cairo Center for Human Rights Studies.

(2) Roger Soder, (1997). Democracy- Do We Really Want It? The Public Purpose of Education and Schooling, San Francisco, Jossey-Bass.Publishers.

from school to school and sometimes as many as 50 computers in some schools. In spite of this, Education is still mainly traditional in its thinking, using the old method of memorization; also there is a lack of specific education in the area of law and order in society.

1.4. ICT in the Egyptian education.

The Ministry of education in Egypt aims at vertical expansion in advanced technology in schools and continued deployment of modern equipment. The aim is also to diversify educational resources through video-conference facilities, producing advanced educational programs, e-education, and e-government. The ultimate goal is for the teacher to use technological resources as teaching tools.

The ministry has a plan to provide internet access to every school. Out of the 32.000 school in Egypt, 23.000 are equipped with computers, of which 6.000 are equipped with phone lines and internet connectivity. In 90 per cent of these internet connected schools, there is only a single computer installed; the remaining ten per cent have at most 20 computers per school. The ministry of education has an Intranet, which the director of the information center would like to replicate in every school across the nation. Some schools have closed their internet services because costs were too high. it has been suggested that the government should provide a special education rate for internet access ⁽¹⁾. Now in year 2012 there are: 30758 schools in all phases of education are equipped with (274855) computers, (15159) video projector and overhead projector, (25000) television, (25000) video, (22000) satellite receiver ⁽²⁾.

1.4.1. Technological development project.

1.4.1.1. Introduction.

The Egyptian Ministry of Education launched a technological development project in 1995 to establish a well-equipped "Centre of Technology" one in each

(1) Tim Kelly, et al., (2001), Internet on the Nile: Egypt Case Study, International Telecommunication Union (ITU). Retrieved from: <http://www.itu.int/osg/spu/wtpf/wtpf2001/casestudies/egypt1.pdf>.

(2) The Ministry of Education in Egypt. (2012). Technology Development Centre. Retrieved from: <http://knowledge.moe.gov.eg/Arabic/Departments/TDC/Technical>.

governorate. According to the Ministry of Education (2010)⁽¹⁾, this development project in Egypt aims to create a learning environment enabling the students to create their own learning experience. By learning how to use these resources the student will be able to find the information necessary of each subject by themselves. Subsequently, the Ministry of Education (Ibid) aims to use educational technology in order to improve the quality of instruction and increase its effectiveness through:

- Integration of technology in curriculums by use of other sources rather than just the textbook, such as multimedia, computer labs, technology advanced education, television, video conferencing and the Internet.
- preparing the curriculums to self-learning
- Solving the problems related to the crowded classrooms.
- Facing the shortage of qualified teaching staff.
- Considering the individual needs of the students.
- Training teachers in the field of preparing instructional objectives and instructional materials and appropriate instruction methods." (This quote is a translation of the Ministry of Education (2009) objectives)

Since its formation in 1999, the Ministry of Communications and

1.4.1.2. ICT Policies

Ministry of Communications and Information Technology (MCIT) has been responsible for the development of ICT in the country with a view spread ICT tools nationwide. According to Amr Hamdy (2007)⁽²⁾, The National ICT policy in the area of education is jointly coordinated by MCIT and the Ministry of Education. The plans up to 2015 are as follows:

1. Integrating technology at schools

- Providing a computer, data show, and wide screen connected to the Internet for each class.

(1) The Ministry of Education in Egypt. (2010, January. 20). Technology Development Centre. Retrieved January 20, 2010, from <http://knowledge.moe.gov.eg>.

(2) Amr Hamdy (2007). ICT in Education in Egypt. In Farrell, G., Isaacs, S. & Trucan, M. (Eds.), Survey of ICT and Education in Africa (Vol. 2, p. 218) :53 Country Reports. Washington: The World Bank.

- Providing computer labs in schools at the rate of one lab for every 15 classes.

2. Introducing developed educational software

- Developing the production of software on scientific bases and linking it to curricula.

3. Providing electronic educational services

- Uploading the entire primary, preparatory, and public secondary schools curricula on the Internet so that the students can use them at school and at home.
- Extending virtual classes for effective transmission to include a class at least in each educational directorate.

4. Establishing the infrastructure of the information technology

- Increasing the capacity of the international Internet of the ministry to allow the biggest possible number of people to log onto the ministry site, and to make use of the provided services especially the electronic education.
- Expanding the tools of linking the Internet to the “E1 circles” (Internet connectivity) that are specialised for exchanging information among schools, administrations, educational directorates, and the ministry to avoid overcrowding.
- Expanding the use of ADSL (broadband) and leased lines in addition to what is available now in (dial-up) circles to help schools log onto the Internet.

5. Distance-training national net

- Upgrading the equipment of the distance-training national net (video conference).
- Using video streaming to include rooms in schools.

- Using distance interactive learning for testing the standards of those attending the training sessions in the video-conference halls, and for an active participation with the lecturer.

6. Training the educational cadres

- Aiming for most teachers to earn the international computer driver's licence (ICDL) within eight years through a wide international programme, provided that it is mandatory for those who join the work in the Ministry of Education to have this certificate.
- Training teachers to use ICTs in preparing and conducting lessons.
- Training teachers to use discussions and assign groups of students to prepare co-research instead of just using lecture format.

1.4.2 Courseware design.

In developing the thesis, the researcher spent plenty of time designing and producing a Computer Based Learning (CBL) courseware system, in legal culture to the first and second phase of the secondary education. After discussion with a group of experts in the field of Education such as teacher of social studies, Educational Psychology, Curricula and Methods of Teaching, and law professors. In addition, a group of experts in e-learning in Centre of Technology at the Egyptian Ministry of Education. The researcher wanted to develop the idea of creating learning materials which would suit different groups of learners, In other words, learners would be able to learn by means of their preferred learning styles, whereas individuals perform better if the learning material suits their dominant intelligences ⁽¹⁾.

The focus was on learning more advanced features of the software adobe director MX2004, Adobe Flash CS3, Adobe Photoshop CS3, SWiSH Max2 and Sound Forge program. All previous programs to produce an interactive program in multimedia, and this process is delineated in chapter three. According to A. P. Ponte

(1) Razali Hassan (2010), How Do Learners Respond to Computer Based Learning Material which has been Designed to Suit Their Particular Learning Style, Ph.D. thesis of Philosophy in Education, University of Warwick, Institute of Education, Malaysia.

and A.C.G. Agno (2011)⁽¹⁾, Interactive Courseware enhances the traditional way of teacher's instructional strategies to encourage the students interests in learning with the computer environment that is creative enough to please them. This software serves as an alternative way in learning. The Interactive Courseware is a type of computer-based instruction with its text and animations in a graphical form, to learn interactively with the lessons that are presented with facts and able to have a recap on what they have just learned by taking the interactive quizzes. This can provide the students with a more flexible, creative and entertaining environment for their learning experiences with the implementation of a Visual basic format and Macromedia Flash. The interactive courseware has been tested successfully. As found, the system increases work productivity; that the teacher saves time and effort in evaluating pupils. Also, it provides a great advantage for the application of the common tasks that a teacher performs inside the classroom, specifically in reinforcing the lessons through the software. The interactive courseware helps the students in learning effectively. Using the courseware the students are kept abreast with the latest information technology. Hence, they cope with the advancement of learning in today's generation.

Baharuddin, et al., (2006)⁽²⁾ the most students agreed that this courseware was interactive mainly because the courseware was designed and developed based on an interactive, dynamic and effective concept. Multimedia resources can be used to develop active learning by allowing the user to be an active learner. It is also obvious from the study that students liked to use the courseware to discover information and learn actively. The interactive nature of multimedia courseware is considered to be its most important learning feature and enables students to achieve topic goals and to receive meaningful intrinsic feedback. Also both Chris

(1) ANDREW P. PONTE, and AURORA CINDY G. AGNO, (2011), Interactive Courseware for Preschoolers, Asian Journal of Business and Governance, Vol. 1 No. 1 January 2011, Retrieved from: http://www.eisrj.com/documents/Interactive_Courseware_for_Preschoolers_1326363053.pdf

(2) Baharuddin Aris, et al., (2006), Learning "Goal Programming" Using an Interactive Multimedia Courseware: Design Factors and Students' Preferences, Malaysian Online Journal of Instructional Technology (MOJIT), Vol. 3, No.1, pp 85-95, Retrieved from: <http://eprints.utm.my/8165/1/8165.pdf>

Williams and Patrick Harkin (2000) ⁽¹⁾, adds that Multimedia programs can be used at the time and place the user chooses They allow learning to occur at the time the user wants and at convenient locations such as the office, the library or at home. Multimedia programs allow quality teaching materials produced by specialists in the field to be available to a wide audience.

1.5. Research Problem.

Currently in Egypt, the teaching, curriculum, and textbooks all emphasize the memorization of isolated facts and the application of principles disconnected from the real world. High stakes student examinations also emphasize memorization. Lecture is the dominant mode of instruction and government inspectors assure that teachers are faithful to the content and schedule of the curriculum ⁽²⁾.

The teaching of democracy and the principles and values of society, have been lacking in the Egyptian education system over the last sixty years, hence, the civic education course and the ideas behind it are new to the teachers, who had been practicing the traditional method in the past. In the traditional instruction, the teachers use the rigid state curriculum and ready-made materials (mostly textbooks) as the only form of teaching resource, and the instruction was based on lecturing methods. A new conflict emerged between the traditional methods, and the new methods that were emerging. Many teachers by their own initiative tried to present their own ideas into their classrooms, which were not included in the curriculum. They tried to teach the students the legal ideas of their culture in the form of the methodological and pedagogical fashion. However, the current civic education curriculum within the first two phases of Egyptian secondary schools, continue to teach lessons including biographies of historical eminent leaders, and general history of the country.

(1) Chris Williams and Patrick Harkin (2000), Multimedia computer-based learning: a developing role in teaching, *Advances in Psychiatric Treatment* (1999), vol. 5, pp. 390-394.

(2) Robert B. Kozmam (2005), ICT, Education Reform, and Economic Growth, Intel, Retrieved from: http://download.intel.com/education/wsis/ICT_Education_Reform_Economic_Growth.pdf

This negligence in teaching legal culture or civic education might be due to the absence of the appropriate curriculum, the social studies curriculum does not include such subjects. For example things such as the general legal principles, or system of government in the State, or their constitutional rights and duties are not included in the present system. Consequently the absence of these lessons and lack of teaching these important subjects, affects the ability of students to respect the law and personally to be aware of their rights and duties towards society in general: laws which include the environment, road safety and the Universal declaration of Human Rights. All of this may possibly lead to anarchy because of the absence of legal awareness.

In order to solve this problem, appropriate teaching/ learning strategies using ICT will be investigated, and once found, the appropriate tools will be set in place. Many of the studies emphasized the importance of Programmed instruction in the educational process. According to a study made by Osama Nabil (2009)⁽¹⁾, the results showed: Programmed instruction is designed in keeping with the principle of individual differences, saves time and resources, and increases academic performance.

In a related context, Jason K. McDonald, et al., (2005)⁽²⁾ mentioned a study related to the development of programmed instruction, as the field stimulated a discernible movement in American education. It states that: Early research on the effectiveness of programmed instruction was very encouraging to its promoters. One researcher reviewed more than 150 studies and concluded that there was “no doubt” that students learned from programmed instruction. In nearly all of the studies reviewed by researchers, students using programmed instruction performed as well as or better than students using other methods. With this initial

(1) Osama Nabil, (2008). Educational Studies: the programmed instruction, 18 (2). Retrieved from: <http://www.nccer.edu.sd/magazine.html>

(2) Jason K. McDonald, Stephen C. Yanchar and Russell T. Osguthorpe (2005) Learning from Programmed Instruction: Examining Implications for Modern Instructional Technology, ETR&D, Vol. 53, No. 2, 2005, p. 84–98. Retrieved from: http://institute.nsta.org/scipack_research/learning_from_programmed_instruction_implications_etrd.pdf.

success, educators and developers began to produce programmed instructional materials at a high rate.

Also study made by Micki M., (2006)⁽¹⁾ compared the effects of a Programmed Learning Sequence (PLS) versus Traditional Teaching (TT). On 100 sixth-grade Bermudian students the test scores on a Fractions Unit, determine whether those with specific styles fared better or less well with either of the two approaches. The study shows that, the control group's mean-post test score (M = 5.98) was statistically lower than the experimental group's mean-post test scores (M= 7.86) (n= 100). Furthermore, the experimental group's mean attitude-test score toward learning with the PLS (M= 4.47) was significantly higher than the control group's M= (3.0) at the $p < .001$ level for all responses. Both achievement- and attitude-test scores translated into large effect sizes. So the use of ICT in Egyptian schools is minimal and reinforces the curricular and pedagogical emphasis on rote learning. The knowledge acquisition approach might be tempting to policymakers and even parents because it focuses on increased scores on the high-stakes tests that have traditionally been used to determine a student's educational future. This reform strategy is more compatible with Egypt's current system, with its emphasis on the faithful implementation of a standard curriculum.

Accordingly, the main question with respect to students understanding of legal culture concepts needs to be answered and formulated as follows:

1. What is the importance of the digital mediation in education as an instructional technology tool? And what the new role of the Human mediation?

The sub-questions formulated below bear upon the most relevant issues addressed by the main research question:

- The legal principles that should be included in the Civics syllabi of the first and second phase of the secondary schools.

(1) Micki M. Caskey, (2006), Effects of Programmed Learning Sequences on the Mathematics Test Scores of Bermudian Middle School Students, *Research in Middle Level Education (RMLE)*, V. 30, No. 2. Retrieved from: http://www.amle.org/portals/0/pdf/publications/RMLE/rmle_vol30_no2.pdf.

- The impact of a proposed program (Application) in the Civics as accompanying activities of social studies for the first and second phase of the Egyptian secondary schools.
- The effectiveness of a proposed legal culture program (Application) in the first and second phase of the secondary education.

To answer the main question, the researcher will review the literature dealing with digital mediation in education as an instructional technology tool. The researcher will include the role of the digital media in e-learning due to the lack of specialist teachers who teaching the law, and the role of human media as a facilitator and guide in the learning process.

To answer the first sub-question which related to the legal principles that should be included in the social studies syllabi, the researcher will make a list of the legal rules that should be provided for the students in the first and second phase of secondary schools, in the light of previous research and literature. Including information from other countries, referring to some books of law and the Egyptian Constitution.

To answer the second sub-question which related to the impact of a proposed program (Application) in the accompanying activities of social studies, the researcher will design a program based on the scientific content, and through the educational objectives of this proposed program, in addition, including some activities and practices from the local environment. Also preparing the evaluation by designing an electronic formative test at the end of each unit, and the legal attitudes test to measure the knowledge of students about the legal culture that is included in the two units of program.

To answer the third sub-question which related to the effectiveness of a proposed legal culture program (Application), the researcher will choose unit one and unit two from the suggested program to measure its efficacy to develop the legal principles included by means of the following steps:

1. Preparing achievement tests for each unit and a legal attitudes test to examine

whether the proposed legal culture program can acquire students of the first and second phase of the secondary schools, concepts, the principles and the legal terminology, Understanding how the Egyptian legal system works, also knowledge about constitution, its sources, its emergence and ways of modifying it

2. Selected a sample of the study from the first and second phase of the secondary schools, and applying the legal attitudes and achievement tests before studying the program units directly.
3. The students will study two units of the proposed program, following that, the post-achievement and legal attitudes tests will apply on the research sample.
4. Handle statistical.

1.6. Research aims

The research aims to:

- Design, implement and evaluate a Program of legal studies through social studies curriculum for students at the first and second phase of the secondary schools in Egypt. This will be by taking advantage of information and communication technology (ICT).
- Achieve the maximum level of interaction between the student and the curriculum, with a view to empowering students to participate effectively as responsible citizens at the local, national and international level.
- Encourage an understanding of the Legal culture of learning civic education.

1.7. Research objectives

This research aims to attain several objectives:

- There is a need for localized research on e-learning, particularly on the development of guidelines for the integration of ICT in the science classrooms.
- Use educational potentialities of ICT in learning the legal principles through social studies curriculum.
- Design and production of interactive educational programs to learn the law through the social studies curriculum.

- Study the effectiveness of the proposed program to equip students with the principles and legal concepts.
- Understand and use legal concepts, principles and terminology.
- Analyze the processes and procedures involved in law-making and dispute resolution.
- Understand how the Egyptian legal system operates.
- Equip the Students with a basic knowledge of the legal principles in the lives of individuals, such as the right and duty.
- Recognize the importance of law in the provision of security and stability in society.
- The development of the constitutional principles among students.
- Identify the systems of government and making the balance between individual rights and the rights of others.

1.8. Significance and Contribution of Research

- This study is of significance to the field of education and technology as it expands the ICT knowledge base. The concept of e-learning is new to most teachers and students in secondary schools in developing countries.
- This research highlights the different issues that are related to the design, implementation and evaluation Programme of legal principles through social studies curricula for Grade I and II of secondary stage in Egyptian schools, and to achieve the maximum degree of interaction between the student and the curriculum.
- An attempt to resolve one of the big problems facing the Egyptian society, its indifference and lack of compliance with the law by including the legal principles in the social studies curriculum.
- An attempt to treat the problem of the reality of the rules, and the actual practice of them by using Programmed instruction in the legal principles of

accompanied activities of the social studies curriculum, which depends on the positive of student in the process of learning.

- This research may help in the development of social studies curricula in the light of the idea of legal education. Moreover, the findings of this study are also seen to have major implications for policy and practice in Egyptian education.
- The thesis contributes to the general literature and to the body of knowledge on ICT integration in schools in developing countries.

1.9. Thesis structure

Chapter one: is the introduction chapter. This chapter gives a clear statement about the research rationale, its aims and objectives and provides an overview on ICT in education. The chapter also describes the situation in Egyptian secondary schools before the efforts by the government and stakeholders to integrate ICT in schools. Furthermore, the introductory chapter gives an overview of the education and legal education in Egypt.

Chapter two: gives the background of literature used in this research. This chapter looks critically into the literature relevant to this research. For example, it looks into digital mediation in education as an instructional technology tool, ICT in Education. It also investigates the different studies that are related to the Legal education and civic education. The chapter addresses the rationale for integrating e-learning into education. It identifies the key benefits perceived as well as challenges to integration.

Chapter three: provides a formulation of the theoretical framework of integration of ICT in the civic education, to inform students' studies. It provides an overview of the main learning theories; showing their impact on teaching and learning of civics. The effectiveness of media in support of education, together with the role of e-learning and educational technologies, is reviewed.

Chapter four: is the Methods and Procedures chapter. In Chapter Four, the Application design is presented. Techniques and information about design of the legal education program. This chapter highlights the methodology that is used in this research and evaluative the instruments. In addition, the data collection method that is used in order to gather data discussed. It also contains the information about the implementation of the legal education program.

Chapter Five: This chapter gives the findings of the Study based on statistical analysis (t-test) in the achievement tests and legal attitudes test. In addition, estimation and Interpretation of Effect size. Also this chapter includes a discussion of the main findings of this research.

Chapter six: It includes a discussion of the main findings of the research regarding to the study questions and hypothesis, moreover, it highlights the main conclusions of the study. The research study Discussion and Conclusions. This chapter also included recommendations and conclusion.

Chapter Two: Review of the Literature.

2.1. Overview

The purpose of this chapter is to provide an overview of literature related to the objectives outlined in Chapter One. This chapter aims to highlight the background literature that has been used in this research and is relevant to the use of digital mediation in education as an instructional technology tool. It includes a critical review of the theoretical basis for this research and focuses on digital mediation in education as an instructional technology tool. In addition, legal culture and civic education theory are also used to support the theory for this research.

There has been a great deal of research on the effectiveness of ICT in education, so much so that a complete and comprehensive review of the literature is beyond the scope of this chapter. Even though many studies show that educational technology can have a positive impact on teaching and learning, other results are not convincing in the context of pedagogically complex uses of ICT and for supporting students' higher-order thinking skills. Bloom's model of educational objectives 'Bloom's Taxonomy' (Alford, Herbert, and Frangeheim, 2006)⁽¹⁾ has become the standard for classifying different levels of knowledge, namely: knowledge, comprehension, application, analysis, synthesis, and evaluation. Knowledge is considered the lowest level of learning and evaluation the highest.

2.2. Digital mediations in education as an instructional technology tool:

2.2.1. Introduction:

Digital media is a catch phrase for an ensemble of technologies. Some of these are "born" digital, such as the personal computer, the internet, games consoles and mobile devices; others can be made digital, such as print media, radio and television, because of the technical possibilities to digitize all signs so that text, image, sound and numbers can be brought on to the same technological platform and begin to

¹ Alford, G., Herbert, P. & Frangeheim, E. (2006). Bloom's Taxonomy Overview. In *Innovative Teachers' Companion* (pp. 176-224). ICT Publications.

“speak together” in multifaceted ways. Fundamentally, the increasing range of communication channels available and the complexity of their uses help push spatial, temporal and social boundaries of learning and knowledge formation. Terms such as distance learning and e-learning are indicative of the possible dispersion of learning sites just as m-learning is gaining ground as an indication that learning is, in very concrete terms, an ongoing activity ⁽¹⁾.

The provision of content, especially information, is one of the most important lifelines in the current information society ⁽²⁾. The key point in instructional technology is to engage learners in learning events. For this purpose, hardware technology, such as audio-visual media, electronic devices and computer software, is being utilized in the educational field. This type of educational technology is called technology in education, which defined by Association for Educational Communications and Technology (AECT)⁽³⁾ it is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources. Henry Ellinton, et al. (1993)⁽⁴⁾ explained the concept the concept as a method to improve the overall efficiency of the teaching/ learning process. In the same context steven hackbarth, (1998)⁽⁵⁾, also emphasized that educational technology is a systematic process involving application of knowledge in the search for replicable solutions to problems inherent in teaching and learning. Educational technology is especially important because we aspire to help our students achieve high-level, worthwhile objectives, but in the context of limited time and resources. Under the concept of technology of education,

1 Kirsten Drotner, et al., (2008), *Informal Learning and Digital Media*, Cambridge Scholars Publishing (CSP), Retrieved from: <http://www.c-s-p.org/flyers/9781847185518-sample.pdf>.

2 Steffen Mencke and Reiner Dumke, (2010). *Semantics-Enhanced E-Learning Courses*. In Safeullah Soomro (Eds.) *New Achievements in Technology, Education and Development*. (pp.287- 307). Retrieved from: <http://www.intechopen.com/books/new-achievements-in-technology-education-and-development>.

3 Association for Educational Communications and Technology (AECT) (2004), *The Definition of Educational Technology*, Retrieved from: http://www.indiana.edu/~molpage/Definition%20of%20ET_classS05.pdf.

4 Henry Ellington, Fred Percival and Philip Race, (1993), *Handbook of educational technology*, 3rd ed. London: Kogan Page

5 steven hackbarth, (1998), *the educational technology handbook processand products for learning*, education technology publication, Inc, Englewood cliffs, new jersey, USA, pp. 11-12

Sanghyeon Cheon, (2009)⁽¹⁾ mentioned that Meditation can be conceived of as an instructional technology in that it is a tool that can help learners become more attentive to their learning of instructional content. In general, meditation involves conscious attempt to train one's attention. Large portion of empirical meditation studies support that meditation practice enhances people's attention.

2.2.2. The use of media in teaching.

2.2.2.1. Brief history ⁽²⁾.

- The use of various types of media in teaching can be traced back to early 1900,s. In 1905, the first School Museum opened in St. Louis. The museum was a collection of instructional media such as portable museum exhibits, slides, films, study prints, etc. They were referred to as , "visual media", "visual education" or "visual instruction".
- In 1910 the first catalogue of instructional films was published in the United States.
- During the 1920's - 1930's with the development of radio broadcasts, sound motion pictures and sound recordings, the term "audiovisual instruction" was first introduced.
- During the 1950's television very rapidly became an instructional medium. The Federal Communications Commission, the United States agency generally responsible for communications by radio, television, wire, satellite and cable and, in particular, with the allocation and use of radio frequency bands, had set aside 242 TV channels for educational purposes.
- During the 1950's- 1960's computer-assisted instruction (CAI) was introduced in schools and universities. During this time the term

1 Sanghyeon Cheon, (2009), Meditation as Instructional Technology: A Literature Review, International Journal of Buddhist Thought & Culture February 2009, vol. 12, pp. 195-206, Retrieved from: http://ftp.buddhism.org/Publications/IABTC/Vol12_Sanghyeon%20Cheon_Meditation%20as%20Instructional%20Technology.pdf.

2 Robert A, Reiser, (2001). A History of Instructional Design and Technology: Part I: A History of Instructional Media. Educational Technology Research and Development, 49, (1), pp. 53-64. Retrieved from: http://faculty.soe.syr.edu/takoszal/IDE830/IDE830_linked_readings/Readinglist1/1-2_Reiser_HistoryIDT_Part1.pdf.

"audiovisual instruction" started to be replaced by terms such as "educational technology" and "instructional technology".

- By the early 1970s, the terms educational technology and instructional technology began to replace audiovisual instruction to describe the application of media for instructional purposes.
- After the interest in instructional television faded, the next technological innovation to catch the attention of a large number of educators was the computer. Although wide-spread interest in the computer as an instructional tool did not occur until the 1980s, computers were first used in education and training at a much earlier date.
- Since 1995, rapid advances in computer and other digital technology, as well as the Internet, have led to a rapidly increasing interest in, and use of, these media for instructional purposes, particularly in training in business and industry.

2.2.2.2. The definition of Media.

The term mediation- From the linguistic point- most commonly used to means according to the dictionary Le petit Robert (2002)⁽¹⁾ "Destiny for an agreement, to conciliate or reconcile people, parties. Arbitration, conciliation".

Within this context, Le dictionnaire encyclopédique de l'éducation et de la formation (2000)⁽²⁾ proposes the following definition: Ensuring mediation is playing an intermediary role, that mediation is more or less recognized as neutral, to create or maintain links whether inadequate or nonexistent or are broken between individuals, groups, instances, institutions even states. The teacher is no longer the dispenser of knowledge, but he is an intermediary between student and knowledge, constructing situations and devices for the student to overcome conflicts psycho-socio-cognitive suitable for all learning. In a report by the General Inspectorate of National Education (2007), all gait allow

1 Paul Robert, et al., (2002), Petit Robert langue française Dictionnaire alphabétique et analogique de la langue française, Paris, Dunod, p. 1064.

2 Le dictionnaire encyclopédique de l'éducation et de la formation (2000), 2e éd, Nathan Université.

the pupil to know, read, understand and appreciate representations and messages from different types of media which it is daily confronted to orient themselves and using manner relevant, critical and reflective these large supports diffusion and convey the contents ⁽¹⁾.

On the other hand, in terms of idiomatic, Felicia Pantazi, (2011)⁽²⁾. Gives the definitions as suggested by some scholars listed in chronological order. In order to make the meaning of "media" is more clear:

- In 1937, Hoban defined media as words, diagrams, pictures, film, objects, models, stereographs, slides, flat and maps.
- In 1979, Gagné and Briggs define media as “the physical means of communication (books, printed modules, programmed texts; computers; slide/tape presentations; films, videotapes, and so on)”.
- In 1990, Rowntree believes that media as print, audio visual, practical work, human interaction.
- In 2002, Laurillard categorized media based on the teaching strategy:
 - **Narrative media:** lecture, print, audiovision, television, video, dvd,
 - **Interactive media:** hypermedia, enhanced hypermedia, web resources, interactive television,
 - **Adaptive media:** simulations, virtual environments, tutorial programs, tutorial simulations, educational games,
 - **Communicative media:** computer-mediated conferencing, digital document discussion environment, audio conferencing, video conferencing, student collaboration and
 - **Productive media:** microworlds, collaborative microworlds, modeling.

1 Jacques Kerneis, (2010), Didactique de L'éducation aux Médias et Culture Informationnelle. Dans Chapron, F., et Delamotte, E., (dirs.) L'éducation à la Culture Informationnelle. p. 271.

2 Felicia Pantazi, (2011). An investigation of the relationship between multimedia and instructional design. Master's thesis, University of Victoria. Retrieved from: http://dspace.library.uvic.ca:8080/bitstream/handle/1828/3268/Pantazi_Felicia_MSc_2011.pdf?sequence=7

- Finally, in 2005, Mayer defines it in reference to the use of words (written or spoken text) and pictures (photos, illustrations, animation, or video) in instruction. He considers multimedia instruction as “the presentation of words and pictures with the intent of promoting learning.”

Despite some variation due to advances in technology, the concept of media appears to have remained consistent throughout the years. For example, in 1937, Hoban defined media as words, diagrams, pictures, film, objects, etc. More than a half a century later, in 2005 Gagné’s considers media being audio, video, film, text, photographs, animation, and graphics.

2.2.3. What Does Digital Mean?

Digital is now central uses of everything ⁽¹⁾. The word "digital," in its most basic sense, refers to anything composed of numerals, or digits. The word has come to mean anything created or maintained by computers, which use digital processing to organize data. Examples include "digital cameras" and DVDs, or digital video discs⁽²⁾. And so “digital” is a term that is often used when referring to electronic media created by using bytes made up of binary units created by the presence or absence of an electrical impulse, in essence a 1 or a 0. According to Sara Danelon (2009)⁽³⁾ The term digit, is derived from the Latin digitus meaning finger. Digital is the process where the written word is converted into numbers, or rather into binary forms. Computers based on the binary system are machines which can only read 0 and 1 and therefore the only way to store and transport data is to digitilize it, thus it is possible to create packages and send them between a sender and storage in other words, a browser and server can send the information to a CD or a tape. Thus the name digital. The significance for us is that, because these components are really only electrical impulses without substantial being, they cannot be fixed into place or

1 Jean-Luc Manise, (2011), *Médiation numérique et éducation permanente: Pratiques & défis*. Récupérée de: http://www.cesep.be/ETUDES/TECHNO/Mediation_numerique_Education_permanente.pdf

2 eHow, (2012). What What does digital mean? Retrieved from: http://www.ehow.com/facts_6901260_digital-mean_.html.

3 Sara Danelon (2009). What does digital mean?, *Doing to learn*. Retrieved from: <http://doing2learn.eu/en/what-does-digital-mean>.

frozen in a linear order; they can be endlessly and instantly arranged and rearranged. The electrical impulses of which bytes are composed can speed around the world in seconds, and become something entirely different within a few moments of their arrival at a destination. (In a pre-digital medium, the smallest units of matter, atoms, once set in place, stay in that order. Print, radio, and television, as originally conceived and transmitted are pre-digital, linear media) In a broad sense, digital refers to media which provide for users a high level of choice and interactivity because the bits and bytes can be rearranged and transmitted so easily ⁽¹⁾.

2.2.4. Definition of Digital Media:

Digital media is digitized content that can be transmitted over the internet or computer networks. This can include text, audio, video, and graphics ⁽²⁾. Aldo Caputo (2006)⁽³⁾ defined digital media: audio, video, and images that exist in a computer-readable format, and can reside on a local device (CD, DVD, hard drive), or remote location (website). They can be easily create, copy, and transmit digital media, also streamed, downloaded, or stored on media such as CD or DVD. The recent popularity of mobile devices such as iPods that allow audio and video to be downloaded and experienced anywhere, anytime, have also increased the use, as well as the hype, around digital media. While audio and video have a long history of use in education, the capabilities of digital media, coupled with reduced computing costs, higher bandwidth, easier-to-use technology, and greater awareness of digital media have increased their use in education.

1 Eliza T. Dresang (1999). *Radical Change: Books for Youth in a Digital Age*, Contemporary Issues in Technology and Teacher Education (CITE Journal), Volume 8, Issue 3 (2008) ISSN 1528-5804. Retrieved from: <http://www.citejournal.org/vol8/iss3/seminal/article1.cfm>.

2 Bryan Fraser Gill (2012), *Definition of Digital Media*, retrieved from: <https://wikispaces.psu.edu/display/IST432SP11Team14/Definition+of+Digital+Media>.

3 Aldo Caputo, et al., (2006), *Digital Media*, Teaching Support Services, University of Guelph. retrieved from: <http://www.tss.uoguelph.ca/pdfs/TBDigMedia.pdf>.

2.2.5. Digital mediations and education:

Digital technology revolutionizes many of the ways we receive and use information every day. The availability of online resources has changed everything from looking for a new house to reading the newspaper to purchasing plane tickets. In short, the advent of digital technology touches almost every aspect of modern life. Perhaps no area holds more potential for such transformation than education. Accordingly, digital technology makes informative content easier to find, to access, to manipulate and remix, and to disseminate. All of these steps are central to teaching, scholarship, and study. Together, they constitute a dynamic process of “digital learning”⁽¹⁾. In the area of education, Digital Media is the process of planning, instructional design, and development. Digital Media course where students will create and learn using elements of text, graphics, animation, sound, video, and digital imaging to create digital computer applications to be delivered on CD-ROM, Internet or other media. These skills will prepare students for entry-level multimedia positions and will provide fundamental digital media understandings and skills beneficial for other occupational/ educational endeavors⁽²⁾. Good educational software and teacher-support tools, developed with full understanding of principles of learning, have not yet become the norm ⁽³⁾.

To sum up the Digital Media and Education thread focuses on the ways that various digital media (e.g., educational software, curriculum materials, gaming, mobile computing, social networks, etc.) impact learning and classroom practices. Students will learn about the design of digital media for education and ways in which learning theory and media research inform those designs. Students will explore a range of digital media and their applications to educational issues in different disciplines, such as math, science, literacy as well as other subjects. You

1 William McGeeveran and William W. Fisher, (2006), The Digital Learning Challenge: Obstacles to Educational Uses of Copyrighted Material in the Digital Age, The Berkman Center for Internet & Society, No. 2006-09. Retrieved from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=923465.

2 Utah Education Network (UEN) (2010), Digital Media: materials produced by and for the teachers of the State of Utah, Retrieved from: <http://www.uen.org/core/core.do?courseNum=110210>.

3 John D. Bransford, et al., (2002). How people learn: brain, mind, experience, and school. Washington, D.C., National Academy Press. p. 239. Retrieved from: <https://www.msu.edu/~towlehje/How%20People%20Learn.pdf>.

will gain the knowledge necessary to evaluate digital media with respect to curricular fit and their impact on learning ⁽¹⁾.

2.2.6. Meditation as instructional technology.

It can be safely said that the key point in instructional technology is to engage learners in learning events. For this purpose, hardware technology, such as audio-visual media, electronic devices and computer software, is being utilized in the educational field. This type of educational technology is called technology in education ⁽²⁾. In contrast to technology in education; the concept of technology of education. Technology of education is methodology to improve the overall efficiency of the teaching/learning process. Under the concept of technology of education, Heinrich (1982) ⁽³⁾ introduced meditation as a new kind of instructional technology.

Hanson and Gueulette (1988)⁽⁴⁾ also suggested a new direction of instructional technology by introducing various psychotechnology including meditation. Both of them view that meditation has potential to help the learning process. Since their discussion on meditation as educational technology, it is hard to find related studies in the field of educational technology.

2.2.7. Technology as a Tool:

Technology is a tool that has been used for instructional delivery, but that has the potential to impact the teaching and learning environment. Niles (2006) ⁽⁵⁾ observed that when students learned "from technology," they were likely to be using the computer as a tutor, directing drill and practice, and or delivering

1 University of Michigan School of Education, (2012), Digital Media and Education, Educational Studies Program, Retrieved from: http://www.soe.umich.edu/academics/masters_programs/dme.

2 Sanghyeon Cheon, (2009), Meditation as Instructional Technology: A Literature Review. International Journal of Buddhist Thought & Culture February 2009, vol. 12, pp. 195-206. Retrieved from: http://ftp.buddhism.org/Publications/IABTC/Vol12_Sanghyeon%20Cheon_Meditation%20as%20Instructional%20Technology.pdf

3 Heinrich, R. (1982), Future of Technologies of Instruction. Instructional Media: And the New Technologies of Instruction. New York: Wiley.

4 Connie Hanson, and David, G. Gueulette, (1988), Psychotechnology as Instructional Technology: Systems for a Deliberate Change in Consciousness. Educational Communication and Technology 35 (4):231-42.

5 Rai Niles, (2006), A Study Of The Application Of Emerging Technology: Teacher And Student Perceptions Of The Impact Of One-To-One Laptop Computer Access , Retrieved from: <http://soar.wichita.edu/dspace/bitstream/handle/10057/373/d06005.pdf?sequence=6>

information. He indicates that "Learning with technology" where students used the technology as a tool, as "a way of navigating the learning process, enabling them to improve higher-level critical thinking skills, and creativity, and were enabled to gain new knowledge. Educators must begin transitioning the practice of learning from technology to learning with technology. Those in the Educational system have to realize that change is needed, to move with the times, therefore using technology as a teaching tool rather than the old teaching methods.

According to Elliot Soloway, et al., (2003) ⁽¹⁾ Drill and practice software has become increasingly developed over the years. Teachers can review the progress of individual students. For example, if one student needs additional practice on the concept of legal principles and another student has mastered the concept of legal principles but needs reinforcement with the Egyptian constitution, drill and practice, software programs can provide both students with as much reinforcement as necessary at the same time. The computer will continue to review the same material over and over again until each student has mastered the concept that needs reinforcement, whereas the classroom teacher may not have sufficient time or patience ⁽²⁾. So Drill and practice in its most positive application can give students more time on a task: students can practice at their own pace without pressure until they fully master the concept. However, some educators feel that this type of software provides less instruction than a classroom teacher who can provide constant human interaction ⁽³⁾.

In the same context, J., Pruett (2004)⁽⁴⁾ find technology is an important learning tool which if implemented correctly will create critical thinkers and

1 Elliot Soloway, et al., (2003) No Access, No Use, No Impact: Snapshot Surveys of Educational Technology in K-12," *Journal of Research on Technology in Education*, ISTE, Volume 36, Number 1, Fall 2003, pages 15-28. Retrieved from: <http://cecs5580.pbworks.com/f/Norris%20Sullivan%20Poirot%20Soloway%20No%20Access,%20No%20Use,%20No%20Impact.pdf>.

2 Alexandre Serres, (2010), *Educatons aux médias, à l'information et aux TIC: ce qui nous unit est ce qui nous sépare*. Dans Chapron, F., et Delamotte, E., (dirs.). (2010). *L'Education à la Culture Informatiionnelle*. presses de l'enssib, cop. pp. 76- 85.

3 Linda M. Cohen. (2000). *The Role of Educational Technology in the Education of Limited English Proficient Students*, Retrieved from: http://www.ncela.gwu.edu/files/rcd/BE016995/Winter_89_9.pdf

4 Jennifer Pruett, (2004), *Is technology a valuable tool in the classroom, what's your stance?*, Retrieved from: http://web.missouri.edu/bakere/Attachments/Pruett_T_Interviews.pdf

independent researchers. Though technology can cause problems at times, for example breaking down, this too allows students to use their critical thinking skills concerning how to solve problems. The history of the integration of technological as tools in education is marked by the double opposition of teaching and learning, group and individual ⁽¹⁾.

2.3. Forms of E-Learning.

2.3.1. Introduction.

The use of ICT in education is often referred to as e-learning ⁽²⁾. The learning process needs techniques and tools to present the knowledge (from different resources), interact with it and share it with others. In this context, eLearning is a new tool which has the potential to enhance and support the traditional learning system and already it is becoming an integral part of the learning tools used by every educational organization. So eLearning is becoming an important tool to support the learning system to achieve its goals. E-learning became hot topic in the 1990's after the spread of the Internet. Although it has a relative short history, it is becoming an important part of the learning ⁽³⁾. So e-learning: used to facilitate or extend teaching and learning ⁽⁴⁾.

According Lee Ann (2001)⁽⁵⁾ E-learning allows you to learn anywhere and usually at any time, as long as you have a properly configured computer. E-learning can be CD-ROM-based, Network-based, Intranet-based or Internet-based. It can include text, video, audio, animation and virtual environments. It can be a very rich learning experience that can even surpass the level of training you might experience in a crowded classroom. It's self-paced, hands-on

1 Bordeleau, P., (1994), *Les Développements Technologiques Dans L'univers Des Environnements Pédagogiques Informatisés Virtuels*. Dans Bordeleau, P., (dir.). (1994). *Des Outils Pour Apprendre Avec L'ordinateur*. Les éditions Logiques inc., p. 19.

2 Antoinette J. Muntjewerff, (2009). *ICT in Legal Education*, German Law Journal, Vol. 10 No. 07, Retrived from: http://www.germanlawjournal.com/pdfs/Vol10No07/PDF_Vol_10_No_07_SL669-716_Muntjewerff.pdf.

3 Jamil A. Itmazi, (2012), *eLearning*, Palestine Polytechnic University, Retrieved from: <http://elearning.ppu.edu/file.php/1/eLearning/elearning.pdf>

4 Marcel Lebrun (2005). *E-Learning pour enseigner et apprendre, aller pédagogie et technologie*. Bruglant- Academia. P. 19.

5 Lee Ann, Obringer, (2001). *How E-learning Works*, Retrieved from: <http://people.howstuffworks.com/elearning1.htm>.

learning. Examples of e-learning (De Villiers, 2006)⁽¹⁾ are online courseware, tutorials, interactive learning environments, multi-media applications, simulations, hyperlinked 'textbooks', web-based instruction, and use of the Internet. Furthermore, the stance that use by learners of computers-as-tools is also a form of e-learning. Over and above instructional and learning-support functionality, some e-learning systems have administrative facilities such as course management and recording of progress ⁽²⁾. In the same context, the Canadian Council on Learning emphasized that e-learning does not require use of the internet. It can occur through many stand-alone applications and local networks. It can take place at anytime, anywhere—in educational settings, the workplace, and in home environments. It can be formal, informal, or a combination of both ⁽³⁾.

2.3.2. Definition of E-learning.

The European Committee defines the concept of e-learning as: “the use of new multimedia technology and the internet to enhance the quality of learning by enabling access to means and services as well as enable exchange and cooperation over distance”⁽⁴⁾. But American Society for Training and Development (ASTD) has been defined E- learning as “a wide set of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio- and videotape, satellite broadcast, interactive TV, and CD-ROM”⁽⁵⁾.

1 M.R. (Ruth) de Villiers (2006). A learning theory approach in support of outcomes-based e-learning, Conference on Information Technology in Tertiary Education, Pretoria, South Africa, 18 – 20 September 2006.

2 Thomas De Praetere, (2009) E-LEARNING: Comment commencer?dokeos, flexible learning solutions. Récupérée de: <http://www.dokeos.com/doc/thirdparty/CommentCommencer.pdf>

3 Conseil canadien sur l'apprentissage, (2009), État de l'apprentissage virtuel au Canada, Conseil canadien sur l'apprentissage, Ottawa, Canada. Récupérée de: http://www.ccl-cca.ca/pdfs/E-learning/E-Learning_Report_FINAL-F.PDF

4 Jean-Michel Fourgous (2012), Apprendre autrement à l'ère du numérique, Mission parlementaire Fourgous, p.164. Récupérée de: http://www.missionfourgoustice.fr/missionfourgous2/IMG/pdf/Rapport_Mission_Fourgous_2_V2.pdf.

5 Renée E. DeRouin, et al., (2005). E-Learning in Organizations, Journal of Management, Vol. 31 No. 6, December 2005 PP. 920-940.

Djamshid Tavangarian et al. (2004)⁽¹⁾, defined e-learning as "all forms of electronic supported learning and teaching, which are procedural in character and aim to effect the construction of knowledge with reference to individual experience, practice and knowledge of the learner. Information and communication systems, whether networked or not, serve as specific media, to implement the learning process".

Derek Stockley (2003)⁽²⁾ and Naidu (2006)⁽³⁾ also defines e-learning by saying: "E-learning is commonly referred to the intentional use of networked information and communications technology in teaching and learning". CD-ROM and DVD can be used to provide learning materials. It may include the use of web-based teaching materials and hypermedia in general, multimedia CD-ROMs or web sites, discussion boards, collaborative software, e-mail, blogs, wikis, computer aided assessment, educational animation, simulations, games, learning management software, electronic voting systems ⁽⁴⁾.

A broad definition of e-learning, as adopted by CEDEFOP (2002)⁽⁵⁾, is learning that is supported by information and communication technologies. E-learning is not simply the possession of ICT skills, but primarily involves the use of various instructional formats and technological methodologies in learning, particularly the use of 'software, the Internet, CD-ROM, online learning or any other electronic or interactive media⁽⁶⁾. This definition of e-learning is appropriate for this study, which takes a broad approach, incorporating various forms of educational technology and learning.

1 Djamshid Tavangarian, et al., (2004). Is e-learning the Solution for Individual Learning? *Electronic Journal of e-Learning*, 2(2), 273-280., Retrieved from: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.116.8017&rep=rep1&type=pdf>.

2 Derek Stockley, (2003). What is E-Learning? Training, Learning and Performance Management Consulting, Retrieved from: <http://derekstockley.com.au/elearning-definition.html>.

3 som Naidu, (2006). E-Learning, A Guidebook of Principles, Procedures and Practices, Commonwealth Educational Media Centre for Asia, Retrieved from: http://www.cemca.org/e-learning_guidebook.pdf.

4 Christian Gittings, (2010). Computer aided learning, Retrieved from: <http://www.scribd.com/cgittings>.

5 CEDEFOP (Centre européen pour le développement de la formation professionnelle), (2002), *Learning et formation en Europe*, Luxembourg: Office des publications officielles des Communautés européennes, p. 7, Récupérée de: http://www.cedefop.europa.eu/EN/Files/3021_fr_short.pdf

6 Christophe Col and Fabien Fenouillet (2007). Déploiement du e-learning en sciences de l'éducation : état des lieux en France . *International Journal of Technologies in Higher Education*, 1, Vol. 4, p. 7-19.

2.3.3. Forms and Methodologies of E-learning.

This section presents an overview of the evolution of e-learning and describes various forms and methodologies. In the mid-1950s and early 1960s collaboration between educators at Stanford University in California and International Business Machines Corporation (IBM) introduced CAI into select elementary schools. Initially, CAI programs were a linear presentation of information with drill and practice sessions. Programmed Logic for Automatic Teaching Operations (PLATO) system, another early CAI system initiated at the University of Illinois in the early 1960s and developed by Control Data Corporation, was used for higher learning. PLATO also introduced a communication system between students that was a forerunner of modern electronic mail (messages electronically passed from computer to computer). The Time-shared Interactive Computer-Controlled Information Television (TICCIT) system was a CAI project developed by Mitre Corporation and Brigham Young University in Utah. Based on personal computer and television technology, TICCIT was used in the early 1970s to teach freshman-level mathematics and English courses ⁽¹⁾.

In the early 1970s, intelligent tutoring systems (ITS) were introduced by the artificial intelligence (AI) community. They were time-intensive to develop and were, therefore, not generally introduced. During the 1980s and 1990s, CAI, in the form of tutorials and drill-and-practice software, became popular as stand-alone courseware, stored and run from diskettes on micro-computers and desktop computers ⁽²⁾.

Forms and methodologies of e-learning include computer-based tutorials, hypermedia, simulation, drills and practice, learning management systems, educational games, intelligent tutoring systems, state-of-the-art interactive

1 Douglas N. Arnold, (2006) COMPUTER-AIDED INSTRUCTION, University of Minnesota, Retrieved from: <http://www.ima.umn.edu/~arnold/papers/cai.pdf>

2 De Villiers, M.R. (2005). E-Learning artifacts: Are they based on learning theory? *Alternation*, 12(1b), pp. 345-371. Retrieved from: <http://food.ukzn.ac.za/docs/12.1b/01%20deV.pdf>.

learning environments, problem-solving tools, Web-based learning and collaborative online environments ⁽¹⁾.

Tutorials

Tutorials are one step ahead of drill-and-practice activity, because they not only present information but also as instructional software used to guide students in subject-related material, present information in appropriately-sized chunks, check learning by question and answer methods, judge responses and give feedback. Teaching segments are alternated with question segments, giving responses with diagnostic feedback, based on the student's input. Examples include BioLab and MathMedia educational software packages that also exploit 'drill and practice' software functions ⁽²⁾.

Tutorials have potential in online interactive learning, because they provide many possibilities to motivate students through multimedia capabilities. Also, a tutorial allows learners to work at their own pace in an individualized mode of instruction and provides many opportunities for reinforcement, correction of mistakes, and elucidation of misunderstandings. Tutorials are effective for "presenting factual information, for learning rules and principles, or for learning problem-solving strategies.

One of the advantages of a tutorial is its potential to teach students who do not have a qualified teacher in a particular topic, a problem that occurs in many isolated small schools or when the small number of students in a particular class does not justify the hiring of a specialist teacher. Tutorials are also useful in providing individualized instruction. There are, however, a number of different ways in which tutorial software can be used. For instance, a tutorial may be employed to support and reinforce classroom instruction, to teach a

1 Stephen M. Alessi, and Stanley R. Trollip, (2001). *Multimedia for learning: Methods and development*. (3rd edn.). Boston: Allyn & Bacon, p. 580.

2 Stephen M. Alessi, and Stanley R. Trollip,(2001). *ibid*

selected topic, to activate prior knowledge in an area before going to the main topic, or to generate classroom discussion and group work ⁽¹⁾.

Tutorial software is designed to teach students basic concepts and more advanced information about a subject or topic. It includes illustrations and simulations, and sometimes drill-and-practice tests. One example of tutorial software is sheppardsoftware.com, which includes information about capital cities, states, and landscapes (<http://sheppardsoftware.com/Geography.htm>).

Drill-and-Practice:

A drill-and-practice system is a form of software that merely tests information and provides feedback and does not present information at the start ⁽²⁾. A typical drill-and practice exercise presents learners with a question, followed by response entry and corresponding evaluation of the question and feedback. For a drill-and-practice activity to be effective; there should be a gradual increase on the “types, amount, and layers of stimuli and feedback presented. An enriching drill and practice activity should provide opportunities to increase understanding of a mathematical concept as the learner progresses through the activity ⁽³⁾.

Drills provide exercises in basic skills and help students to practice and gain speed, confidence and retention. In some drills the computer stores and randomly presents practice items to support specific instructional objectives. Drills provide record-keeping facilities and different levels of difficulty, with some drills placing the student on a level according to achievement in a pre-test⁽⁴⁾.

1 Boris Handal, and Anthony Herrington (2003). Re-examining categories of computer-based learning in mathematics education. *Contemporary Issues in Technology and Teacher Education*, 3(3), 275-287.

2 Stephen M. Alessi, and Stanley R. Trollip,(2001). *Multimedia for learning: Methods and development*. (3rd edn.). Boston: Allyn & Bacon, p. 580.

3 Handal, B., & Herrington, A. (2003). *ibid*

4 De Villiers, M.R. (2005). E-Learning artifacts: Are they based on learning theory? *Alternation*, 12(1b), pp. 345-371. Retrieved from: <http://food.ukzn.ac.za/docs/12.1b/01%20deV.pdf>.

Drill and practice software is appropriately used in areas of basic skill mastery such as mathematical facts and processes, grammar practice, and language vocabulary. For example, the ESL trial software was designed by Merit Software to help special education students who need help in using simple, clear English. (<http://viking.coe.uh.edu/~ichen/ebook/et-it/drills.htm>).

Simulations:

The idea behind simulations is to encourage learning within artificial situations. One of the greatest advantages of simulators is their capacity to represent and connect huge amounts of information through multimedia ⁽¹⁾. Computational simulations have been used in educational contexts for inquiry learning by allowing learners to develop their understanding of phenomena ⁽²⁾.

Simulations are interactive software that provides students with opportunities to simulate situations while learning. The major advantage of simulations is their capacity to represent the real-world in circumstances when learning cannot be enacted in real terms; for example, in chemistry experiments and biological phenomena. Simulations model real-world phenomena and activities in simplified forms, by omitting details or adding features. They also serve to avoid dangerous situations, such as exposure to noxious chemicals, and allow students to manipulate situations otherwise infeasible, such as events in the solar system. Students dynamically manipulate parameters to change the situation. This control process helps them to explore situations, solve problems and understand concepts. Simulations can be difficult for students to manage but can play a useful role in supporting advanced instruction. Also Simulations are similar to games in that they are goal-oriented. They differ from games in that they are not explicitly governed by rules, and there is no competition among the players or against the computer. Another example, Teaching

1 Gibbons, Andrew S.Fairweather, Peter G., (1998). Computer-based instruction: Design and development. Englewood Cliffs, NJ: Educational Technology Publications.

2 Alejandra de Jesus M. de Leon, (2009), Professors' and Students' Perceptions and Experiences of Computational Simulations as Learning Tools. Ph.D. thesis, Purdue University, West Lafayette, Indiana. Retrieved from: http://nanohub.org/resources/8751/download/Magana_de_Leon_Computational_Simulations_for_Learning.pdf

mathematics through online simulators requires the teacher to keep a wise balance between personalized scaffolding and autonomous learning.

(http://www.crocodile-clips.com/en/Crocodile_Chemistry)

Educational Games:

Educational games provide non-repetitive practice and can be used from primary school to college level ⁽¹⁾. While using games, learners encounter a dynamic situation to which they must respond. In a game situation the learner engages in a lose/win situation that requires the practice of skills assumed to be known or in the process of development. Practice is said to facilitate knowledge acquisition. The artificial environment provided by the software, therefore, motivates the learner through an amusing activity that indirectly provides pedagogical benefits. For example, there are adventure games for children and suitable programs can be used as simulation games in business schools ⁽²⁾. Such programs mainly serve as discovery environments and can be used in combination with both simulations and drills. These programs aim to be motivational, and are sometimes termed 'edutainment', with Incredible Machines (2000) an excellent example of an educational game involving puzzle solving. It presents so-called 'wacky' machines designed to do specific tasks, while the student's role is to determine where to put the missing components to make the machines work. (<http://www.mobygames.com/game/incredible-machine-2>).

1 Stephen M. Alessi, and Stanley R. Trollip,(2001). *ibid*

2 Roni Linser, et al., (1999). Pedagogical foundations of web-based simulations in political science. In Winn, J. (Ed.), *Conference Proceedings of the Australasian Society for Computers in Learning in Tertiary Education: Responding to Diversity* (pp. 191-198). Brisbane, Australia: Queensland University of Technology. Retrieved from: <http://www.ascilite.org.au/conferences/brisbane9/papers/linseraidum.pdf>

Hypermedia/ Hypertext:

Lise, Vieira, (2004)⁽¹⁾ defined Hypermedia/ Hypertext that: software function that combines associated text with certain words or groups of words of information located in other texts with links. at any time, the user can obtain additional information by simply clicking on these words indexed. This is the same type of investigation that called applies navigation to databases providing the image and sound. Hypermedia systems present students with a database of information and multiple means of navigation, most commonly hyperlinks, and multiple modes of presentation, such as textual, graphics, audio and video information. Hypermedia systems can be dynamic Web-based environments or CD-based environments with static content. They are flexible, with non-linear navigation, allowing students to select their own paths through the material ⁽²⁾.

Hypermedia approaches combine hypertext and multimedia. Multimedia delivers content using several formats, such as text, sound, graphics, and video that work to reinforce each other. Hypertexts are learning environments in which knowledge is represented through a network of nodes of information. Nodes of information are connected through clickable buttons to other nodes, and users control navigation through the nodes. A hypertext has been defined as “a database that has active cross-references and allows the reader to jump to other parts of the database as desired” ⁽³⁾.

Figure (8) shows the material you are used to reading in books and other printed material(Linear text). The content is displayed in a straight line of paragraphs and pages from beginning to end. but Hypertext uses hyperlinks that take the reader to other places in the text or to other texts altogether

1 Lise Vieira, (2004). *L'Édition électronique. De l'imprimé au numérique : évolutions et stratégies*. Presses universitaires de Bordeaux, P. 58.

2 Stephen M. Alessi, and Stanley R. Trollip,(2001). *ibid*

3 Judith K. Hall, (2000). *Field dependence-independence and computer-based instruction in geography*. Retrieved from: <http://scholar.lib.vt.edu/theses/available/etd-05022000-19260058/unrestricted/JudithHallDissertation.pdf>

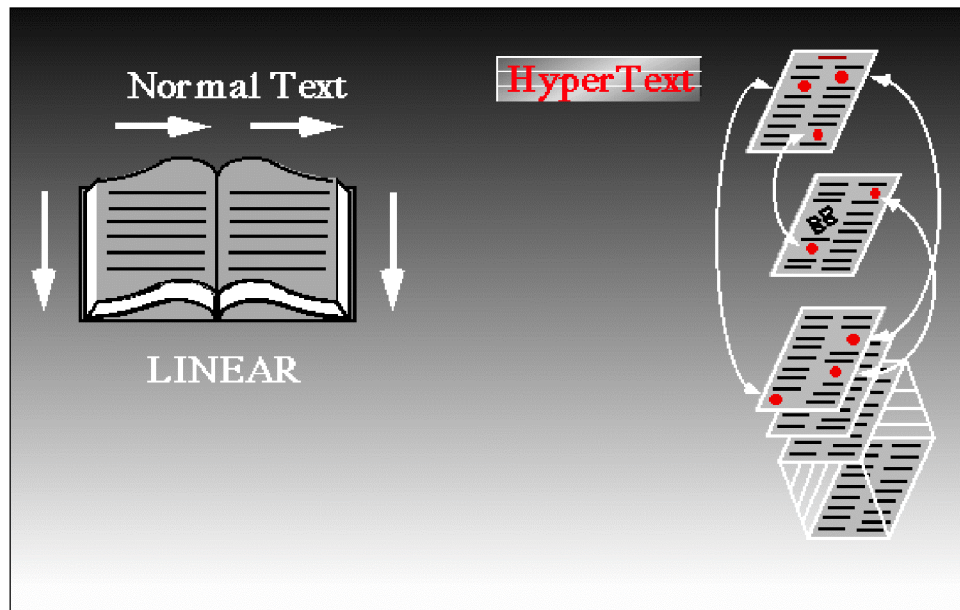


Figure (8) Linear Text vs. Hypertext.

The non-linear dynamics of Hypermedia empowers students, giving them more autonomy, responsibility, and interactivity with the software. Hypermedia allows students to acquire more holistic understanding, participate actively in explorative learning, and construct quality knowledge. It has also been claimed that Hypermedia proved successful in reaching a variety of learning styles given its diverse use of media as compared to other traditional forms of instruction ⁽¹⁾. Your Digestive system (2012) is an example of this form of e-learning methodology dealing with health education.

(http://kidshealth.org/kid/htbw/digestive_system.html).

Web-based learning:

As an increasingly powerful, interactive, and dynamic medium for delivering information, the World Wide Web (Web) in combination with information technology has found many applications. One popular application has been for educational use, such as Web-based learning. The use of the Web as an educational tool has provided learners and educators with a wider range of new

¹ Boris Handal, and Anthony Herrington (2003). Ibid.

and interesting learning experiences and teaching environments, not possible in traditional in class education. Web based learning environments have been developed mainly by instructional designers using traditional instructional design models such as the instructional systems design, cognitive flexibility theory, and constructivist learning environment ⁽¹⁾

Web-based instruction is teaching and learning that is supported by the features and resources of the Internet. Web-based learning is also defined as the use of the World Wide Web as a way to deliver materials and instruction for student learning. When taking into account Web-based learning, there are two categories, namely, onsite learning and distance learning. The first is used to support traditional classroom teaching and learning. The second is used with off-site learners, with the aim not only of supporting quality learning, but also to make learning opportunities available and accessible to more students ⁽²⁾.

Alessi and Trollip suggest Web-based learning as an appropriate approach to teaching and learning, because, 'Web based learning can be combined with any of these methodologies (for the web is essentially a delivery medium)

2.3.4. Discussion.

Each form of e-learning has an underlying philosophy to drive students' performance. Tutorials are used in the instructional process to provide guidance and to coach students. Instruction in tutorials is activated by interactive dialogue. The system presents relevant and appropriate content, questions to be answered and judged, and feedback according to the student's input. So-called 'program-controlled' tutorials are able to gauge an appropriate level of difficulty on which to place each student. For Alessi and Trollip (2001), these kinds of systems have their origins in programmed instruction and

1 Chang S. Nam and Tonya L. Smith-Jackson (2007), Web-Based Learning Environment: A Theory-Based Design Process for Development and Evaluation, Journal of Information Technology Education, Vol. 6, 2007. Retrieved from: <http://jite.org/documents/Vol6/JITEv6p023-043Nam145.pdf>

2 Stephen M. Alessi, and Stanley R. Trollip,(2001). *ibid*

operant conditioning; they are a behavioural approach in which students are treated as passive recipients of information.

To enhance active learning, problem-solving software is used to allow students to use the computer more actively; not as a tutor, but as a tool ⁽¹⁾. Further developments with open learning environments encourage students to explore task situations with the aim of independently acquiring knowledge while solving problems, and improving their overall performance ⁽²⁾. Findings from Ilomäki and Rantanen's study show that during the 2006-2007 school year, 85% of schools in Florida, USA used technology-enhanced media, including websites, to support pupils in communicating with families and external communities. In another approach, students use cognitive computing tools, such as commercial off-the-shelf spreadsheets and databases, to process and manipulate information.

Technology should not be used for its own sake, but rather as a means of support. Alessi and Trollip (2001)⁽³⁾ are in favour of using computer-based instruction 'in situations where the computer is likely to be beneficial', while de Villiers (2005b) ⁽⁴⁾ notes that technology is the medium and not the message.

2.3.5 Advantages of E-learning:

The advantages of applying e-learning in education in comparison with conventional classroom learning will undoubtedly create new opportunities, and revealed the following thoughts:

1. Faced with the demand engendered by the population growth, e-learning comes to be seen as a major way of meeting the incremental demand for

1 Liisa Ilomäki and Pirkko Rantanen, (2007). Intensive use of ICT in school: Developing differences in students' ICT expertise. *Computers & Education*, 48(1), 119-136.

2 Tina N. Hohlfeldt, Albert D. Ritzhaupt, and Ann E. Barron (2010). Connecting schools, community, and family with ICT: Four-year trends related to school level and SES of public schools in Florida. *Computers & Education*, 55(1), 391-405.

3 Stephen M. Alessi, and Stanley R. Trollip, (2001). *ibid.* p. 6.

4 De Villiers, M.R. (2005b). Interpretive research models for informatics: action research, ground theory, and the family of design and development research. *Alternation*, 12(2), pp.10-52.

education. Elizabeth T. Welsh, et al., (2003)⁽¹⁾ record that educational entities use e-learning when they are pushed to deliver education to number of students which exceed their classroom capacity. This situation fits typically with the Egyptian educational entities which are surely suffering from congested classrooms. In its inclusive report entitled "higher education enhancement project 2002", the World Bank expected that the number of students enrolling in the Egyptian higher education entities would boost by approximately 6% annually through the period 2000–2010 ⁽²⁾.

2. Although e-learning initiatives require considerable investment in both IT infrastructure and staff, comparing to conventional education, e-learning, on whole, delivers education for a relatively lower cost. According to the World Bank, Egypt is one of the cheapest countries, when it comes to the cost of Internet, as it costs about 5 \$ monthly per user ⁽³⁾. This may justify why the gap in the Internet usage between the lower and the higher income segments in Egypt does not exceed 33%. Consequently, students' financial background will definitely not be a barrier when applying e-learning in Egypt. One the other hand, it has to be mentioned that the initial investment required to develop highly interactive e-learning courses can be high, so cost savings are certainly not automatic. However, applying e-learning will probably reduce the total expenses of higher education in Egypt ⁽⁴⁾.
3. One of the main advantages of e-learning is that it facilitates providing education for students in remote areas, who cannot physically attend

1 Elizabeth T. Welsh, et al., (2003), E-learning: emerging uses, empirical results and future directions. *International Journal of Training and Development*, Vol.7, No.4, 2003, pp. 245 - 258.

2 The World Bank, (2009), *The Road Not Traveled: Education Reform in the Middle East and North Africa*. Retrieved from: <http://web.worldbank.org/wbsite/external/countries/menaext/0,,contentMDK:21617643~pagePK:146736~piPK:226340~theSitePK:256299,00.html>

3 MCIT, (2008), *The future of internet economy in Egypt*. Official report for the Egyptian Ministry of Communication and Information Technology. Retrieved from: <http://www.mcit.gov.eg/Publications.aspx?ID=¤tindex=H1aVkrIO/g=&pagenum=aUtGjcydRv8=&selectedpage=5yBwBg+oqQY=&Cname=&all=0&p=>

4 MCIT, (2010), *Egyptian education initiative*. Official report for the Egyptian Ministry of Communication and Information Technology. Retrieved from: <http://www.mcit.gov.eg/Publications.aspx?ID=¤tindex=H1aVkrIO4/g=&pagenum=aUtGjcydRv8=&selectedpage=5yBwBg+oqQY=&Cname=&all=0&p=>

conventional classroom education. Communication can be either synchronous and/or asynchronous; it can cover a wide geographical area and can be accessible to a mass audience ⁽¹⁾.

4. Living in an extremely dynamic world, it is accepted now that students have to deal with a wide body of knowledge and to acquire the ability to go into a lifelong learning process. E-learning will facilitate delivering information over a longer period of time, which is likely to improve information retention. Therefore, e-learning will definitely enhance the students' ability regarding acquiring knowledge by themselves ⁽²⁾.
5. e-Learning provides integration of collaboration with self-study and at the same time interactivity with course content, student interactions with instructors, and interactions among classmates, and in addition interaction with the course interface, and vicarious interaction. It guarantees flexibility in respect of time of learning. This makes it peculiarly attractive for part-time students ⁽³⁾.

2.3.6. Student-Content Relationship.

The use of technology in instruction and learning can be classified according to the student-content relationship. The six types listed in Table (4) originate from Morten Falch (2004) ⁽⁴⁾ description of four types of e-learning, which Solomon Negash, et al., (2007) ⁽⁵⁾ expanded to six types. In this table, a 'Yes' in the 'Presence' column indicates that teacher and student meet during content delivery, either physically or virtually. A 'Yes' in the 'E-communication' column

1 Galal M.H. Afifi, (2011) E-learning as an alternative strategy for tourism higher education in Egypt, ERIC, [EJ941455].

2 Alejandra de J. Magana de León, (2008), E-Learning: Benefits and Challenges, Purdue University, Retrieved from: <http://web.ics.purdue.edu/~admagana/portfolio/ELearningEssayAleMagana.pdf>

3 Dongsong Zhang, et al., (2004), Can E-Learning Replace Classroom Learning? Communications Of The ACM May 2004/Vol. 47, No. 5 pp. 75-79. Retrieved from: <http://kanjiteacher.googlecode.com/svnhistory/r124/NonCode/Papers/Learning/zhang2004.pdf>

4 Morten Falch, (2004). A Study on Practical Experiences with using E-learning Methodologies and Cooperative Transnational Development Methodology. CTI Working Paper, no. 97, 2004, Center for Tele-Information, Technical University of Denmark. Retrieved February 19, 2009 from <http://www.cict.dtu.dk/upload/centre/cict/publications/working%20papers/ctiwp97.pdf>

5 Solomon Negash, Marlene V. Wilcox, and Michelle Emerson, (2007). Synchronous hybrid e-Learning: Teaching complex information systems classes online. International Journal of Information and Communication Technology Education (IJICTE), 3(3), 1-13.

indicates the availability of e-communication between teacher and student during instruction delivery, or where it is the main communication medium, with examples of the six classifications provided in the last column.

E-learn.	Alias	Pres.	E-com.	Examples
Type 1	Face-to-face	Yes	No	PowerPoint slides; video clips; direct instruction via online textbooks; drill and practice; CAI tutorials; multimedia productions
Type 2	Self-learning	No	No	Pre-recorded course content on CD-ROMs, CAI tutorials
Type 3	Asynchronous	No	Yes	Online learning; discussion boards; e-mail and notes posted by teacher; dynamic Web-based resources
Type 4	Synchronous	No	Yes	Audio, video, chat and instant messaging, Skype
Type 5	Blended/Hybrid- asynchronous	Occasional	Yes	E-mail; newsgroups; bulletin boards combined with some class-based teaching
Type 6	Blended/ Hybrid- synchronous	Yes	Yes	Chat rooms; multi-user domains; electronic classroom lectures; video or audio conferencing

Table (4) Classification of E-Learning

(Adapted from Negash, Wilcox and Emerson, 2007)

2.3.6.1. Type 1: Face-to-face.

This takes place in a face-to-face classroom setting, but is classified as e-learning because of the frequency of use of e-learning tools such as PowerPoint slides, video clips and tutorials, with multimedia to deliver content and support the process of instruction. For this type of e-learning, both instructor and student are physically present in the classroom at the time of delivery ⁽¹⁾. The knowledge acquired by teachers who use face-to-face methods can be of great use in improving both types of teaching, which is the reason why researchers nowadays study issues related to these teaching methods ⁽²⁾. Each student or pair of students must be seated at a computer. The primary communication between student and instructor takes place in the classroom. However, many face-to-face situations also use e-learning technologies outside the classroom, for example when supplementary interactions occur between the teacher and students or between students through the use of e-mail. In a face-to-face situation, e-learning tools can be used not only for instruction, but also for content delivery. Situations where e-learning is combined with conventional classroom teaching are referred to as 'blended learning'.

2.3.6.2. Type 2: Self-learning.

The self-learning approach occurs where students obtain the content via media and learn on their own. There is no physical, or virtual, presence of an instructor, neither is there any electronic communication (e-communication) between the student and instructor. Instead, the student receives pre-recorded course content. Communication between the teacher, or administrator, and student is limited to support on matters such as replacing damaged media or transferring supplementary material. Self-learning can occur in a computer laboratory or in the student's home or workplace ⁽³⁾.on the other hand, in the

1 Solomon Negash, Marlene V. Wilcox, and Michelle Emerson (2007). Ibid.

2 Laura Alonso Díaz and Florentino Blázquez Entonado. (2009). Are the Functions of Teachers in e-Learning and Face-to-Face Learning Environments Really Different?. Educational Technology & Society, 12 (4), 331-343. Retrieved from: http://www.ifets.info/journals/12_4/28.pdf.

3 Solomon Negash, Marlene V. Wilcox, and Michelle Emerson. (2007). ibid.

conventional system of education, the students get most of their instruction through face-to-face interaction with a teacher. The students under this system use the already existing text materials (text books). Self-learning depends on the materials specially prepared or transformed for a target group. Other major differences between self-learning and conventional instructional materials (textbooks) are given in the following table ⁽¹⁾:

Textbooks	Self-Learning Materials
<ul style="list-style-type: none"> • Assume interest. • Written mainly for teacher use. • Do not indicate study time. • Designed for a wider market. • Rarely state aims and objectives. • Structured for teachers and specialists. • Little or no self-assessment. 	<ul style="list-style-type: none"> • Arouse interest. • Written primarily for Learner use. • Give estimates of study time. • Designed for a particular learner group. • Always give aims and objectives. • Structured according to the need of learners. • Major emphasis on self-assessment.

Table (5) Textbooks Vs Self-learning Materials

2.3.6.3. Type 3: Asynchronous.

Teachers and students do not meet at all during content delivery; there is no physical or virtual presence of an instructor or facilitator. The teacher pre-records or uploads the learning content and students access it asynchronously at their convenience, with content delivery taking place separately from access. Communication between the teacher and students occurs via e-learning technologies, such as online learning, discussion boards, e-mail and notes posted by the teacher. E-communication is the main mode of contact for this form of e-learning, which may overlap with Type 2 above ⁽²⁾.

1 C.R.K. Murthy and P.R. Ramanujam, (2005), STRIDE Handbook 5 Development and Revision of Self- Learning Materials, Indira Gandhi National Open University, New Delhi. Retrieved from: <http://webserver.ignou.ac.in/institute/handbook5/Section%203.pdf>.

2 Solomon Negash, Marlene V. Wilcox, and Michelle Emerson. (2007). *ibid*.

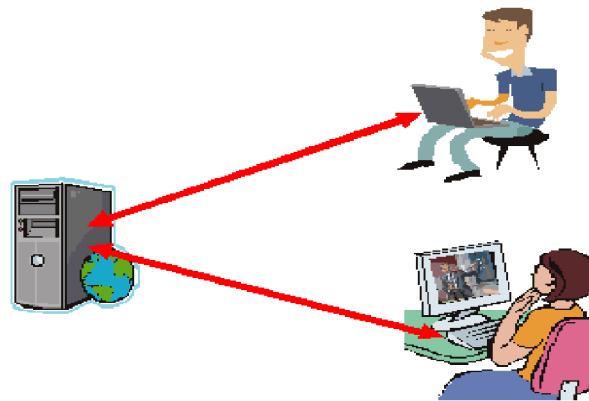


Figure (9) Asynchronous Learning ⁽¹⁾

In fact, many people take online courses because of their asynchronous nature, combining education with work, family, and other commitments. Asynchronous e- learning makes it possible for learners to log on to an e-learning environment at any time and download documents or send messages to teachers or peers. Students may spend more time refining their contributions, which are generally considered more thoughtful compared to synchronous communication ⁽²⁾.

2.3.6.4. Type 4: Synchronous.

In this format the teacher and student do not meet physically, but have 'virtual' contact during real-time delivery. All participants are online simultaneously. E-communication is used in a technology-mediated classroom, for example, in chat sessions or computer conferencing. This methodology includes all the above technologies as well as audio, video, chat and instant messaging technologies ⁽³⁾.

1 golf instruction courses and our training process, (2012), retrieved from: <http://www.golfinstructioncourses.com/instruction-process>.

2 Stefan Hrastinski, (2008), Asynchronous and Synchronous E-Learning, Educause Quarterly, Number 4, 2008, Retrieved from: <http://net.educause.edu/ir/library/pdf/EQM0848.pdf>.

3 Solomon Negash, Marlene V. Wilcox, and Michelle Emerson. (2007). *ibid*.

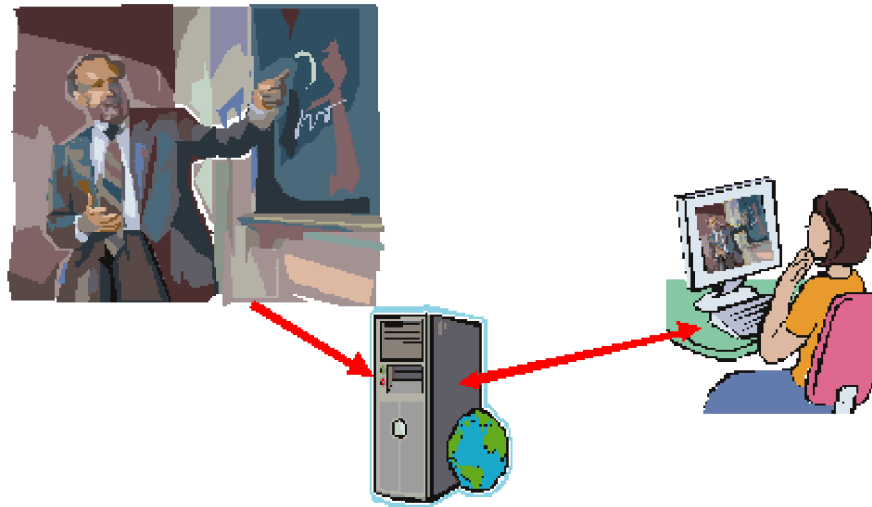


Figure (10) Synchronous Learning ⁽¹⁾

Learners and teachers experience synchronous e-learning as more social and avoid frustration by asking and answering questions in real time. Synchronous sessions help e-learners feel like participants rather than isolates ⁽²⁾.

2.3.6.5. Type 5: Blended/hybrid-asynchronous

Negash and V., Wilcox (2008) ⁽³⁾ describe blended or hybrid e-learning, as situations where there is occasional contact with teachers, and content delivery takes place mainly through e-learning technologies for the remainder of the time. There are infrequent face-to-face sessions and this approach is therefore a combination of face-to-face and asynchronous e-learning. E-communication is mainly used, and there is physical presence during the face-to-face portion and no physical or virtual presence during the asynchronous portion, therefore presence is categorized as “occasional.”

1 golf instruction courses and our training process, (2012), retrieved from: <http://www.golfinstructioncourses.com/instruction-process>.

2 Stefan Hrastinski, (2008), *ibid*

3 Solomon Negash and Marlene V. Wilcox (2008), *E-Learning Classifications: Differences and Similarities*. (Ed.), *Handbook of Distance Learning for Real-Time and Asynchronous Information Technology Education*, Information science reference, IGI Global, Hershey, New York. pp. 1- 23.

2.3.6.6. Type 6: Blended/hybrid-synchronous.

This kind of e-learning is called blended/hybrid e-learning that requires the instructor and learner meeting at the same time during the course content delivery. Presence could be either physical or virtual. Therefore, some class sessions are held with physical presence like a traditional classroom setting (face to face), the rest of the class sessions are set with virtual presence like synchronously. Overall, it is a combination of synchronous and face to face e-learning ⁽¹⁾.

There are similarities between this blended or hybrid form of e-communication and the asynchronous form of e-learning, in that both physical and virtual presence occur. Face-to-face sessions in class settings alternate with virtual settings. Teachers and students meet frequently in both physical and virtual format.

2.4. Information and Communication Technology (ICT).

2.4.1. Introduction.

Information and communication technologies (ICTs), cover a broad range of technologies. While commonly associated with computers, the term also includes other informational media such as handheld devices like television, radio and even print, and communications technologies, such as telephones and networks, as well as newer digital technologies such as computers and the Internet, have been touted as potentially powerful enabling tools for educational change and reform ⁽²⁾. It is obvious that using an ICT adds another dimension to the dynamics in mediation ⁽³⁾. When used appropriately, different ICTs are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace and raise

1 Guorong XU, (2011), Social networking sites, Web 2.0 technologies and e-learning, Master's thesis, Unitec Institute of Technology, New Zealand. Retrieved from: <http://unitec.researchbank.ac.nz/bitstream/handle/10652/1864/Guorong%20Xu%20MComp.pdf?sequence=1>.

2 UNESCO/ IITE, (2012), Guidelines for the Launching of the UNESCO/IITE Pilot Project "Learning for the Future", UNESCO Institute for Information Technologies Education. Retrieved from: http://iite.unesco.org/capacity_development/lff/files/LLFGuidelines-final-eng.pdf.

3 John Campbell, et al., (2010), Mediating from a Distance: Suggested Practice Guidelines for Family Mediators, British Columbia Mediator Roster Society. Retrieved from: http://www.mediatebc.com/PDFs/1-2-Mediation-Services/Guidelines_Mediating_Distance.aspx.

educational quality by among others, helping make teaching and learning into an engaging active process connected to real life. However, the experience of introducing different ICTs in the classroom and other educational settings all over the world over the past several decades suggests that the full realization of the potential educational benefits of ICTs is not automatic ⁽¹⁾.

In the educational context, ICTs are technological resources such as computers, CD-ROMs, educational videotapes, learning resources online (information technology), e-mail, Web sites, the videoconferencing (communication technologies) so the various technical adaptation that are available for response the access needs of learners and learning ⁽²⁾.

2.4.2. Definitions.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) uses the term ICTs, or information and communication technologies, to describe: “the tools and the processes to access, retrieve, store, organise, manipulate, produce, present and exchange information by electronic and other automated means. These include hardware, software and telecommunications in the forms of personal computers, scanners, digital cameras, phones, faxes, modems, CD and DVD players and recorders, digitised video, radio and TV programmes, database programmes and multimedia programmes” ⁽³⁾.

Both of the R., E. Anderson (2008)⁽⁴⁾ Jager and Lokman, (2009)⁽⁵⁾, Toomey (2009)⁽⁶⁾, and Dave Moursund (2012)⁽⁷⁾ are confirmed that ICT in general relates

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- 1 Victoria L Tinio (2002). ICT in education. Retrieved from: <http://hughby.wordpress.com/2010/09/10/ict-in-education-victoria-l-tinio/>
- 2 Salomon Tchameni Ngamo, (2007), *Stratégies organisationnelles d'intégration des TIC dans l'enseignement secondaire au Cameroun: Étude d'écoles pionnières*, thèse de doctorat (Ph.D.), Université de Montréal, Canada.
- 3 Anderson, Jonathan, (2005), "IT, E-learning and teacher development," *International Education Journal*, ERC2004 Special Issue, 2005, Vol. 5, pp. 1–14. Retrieved from: <http://www.eric.ed.gov/PDFS/EJ903883.pdf>.
- 4 Ronald E. Anderson. (2008), *Implications Of The Information And Knowledge Society For Education*, Springer Science+Business Media, LLC. in J., Voogt G., Knezek (Eds.), *International Handbook of Information Technology in Primary and Secondary Education* (pp. 5-22), USA, Springer Publisher.
- 5 A.K. Jager and A.H. Lokman, (1999), *Impacts of ICT in education. The role of the teacher and teacher training*. Paper Presented at the European Conference on Educational Research, Lahti, Finland 22 - 25 September 1999. Retrieved from: <http://www.leeds.ac.uk/educol/documents/00001201.htm>.
- 6 Toomey, R. (2009). *Information and Communication Technology for Teaching and Learning*. Retrieved from: www.dest.gov.au/schools/Publications/20/digest/technology.htm (5 September, 2009).
- 7 Dave Moursund, (2012) *Craft and Science of ICT in Education*. Retrieved from: <http://pages.uoregon.edu/moursund/ICT-planning/craft-science.htm>.

to those technologies that are used for accessing, gathering, manipulating and presenting or communicating information, through different kinds of information (voice, video, audio, text and data), software applications, hardware (e.g. computers and other devices); and connectivity (e.g. access to the Internet, local networking infrastructure, and videoconferencing. In most educational circles, it means computer technology, multimedia, and networking, especially the Internet. Consequently, ICT includes the full range of computer hardware, computer software, and telecommunications facilities. Thus it includes computing devices, full range of display and projection devices used to view computer output. It includes digital cameras, computer games, CDs, DVDs, cell telephones, telecommunication satellites, and fiber optics.

2.4.3. Brief history of ICTs in Education.

From the history of media we know that new forms never replace the old one. TV didn't kill radio and Internet didn't kill TV. New forms of media rather complement the old once, but do not countervail them. This naturally leads to greater choice for people, but also causes fragmentation. Different media devices and formats also get mixed with each other and this way generates new forms that contain features from each of them. iPod is a good example of this. It is a kind of walkman of Internet era that can be used to have personalized radio shows (podcasting) ⁽¹⁾.

The history of the use of ICTs in education is relatively short. Before 1979, computers existed primarily in tertiary level educational institutions. Then, in the eighties, microcomputers began to be distributed to schools, and teachers began to grapple with the question of how to use computing for education rather than simply educating about computing. Starting from the mid-nineties, the use of ICTs in schools rapidly expanded in developed nations through curriculum support,

1 Teemu Leinonen, (2005), (critical) history of ICT in education - and where we are heading? Retrieved from: <http://flosse.bloggning.fi/2005/06/23/critical-history-of-ict-in-education-and-where-we-are-heading>.

networking, the professional development of teachers and software improvements⁽¹⁾.

Later, near the end of the 1980s, the term 'computers' was replaced by 'IT' (information technology), signifying a shift of focus from computing technology to the capacity to store and retrieve information. This was followed by the introduction of the term 'ICT' (information and communication technologies) around 1992, when e-mail started to become available to the general public ⁽²⁾.

A growing number of researchers and educators began to develop applications that used hypertext, multimedia and networking to build cognitivist and constructivist learning environments aimed at improving learning. However, these applications were initially found to be ineffective in attaining better results as compared to learning outcomes achieved through traditional pedagogies and assessed against traditional metrics. This finding may be largely influenced by teachers' and learners' lack of familiarity with ICTs, as well as the inappropriateness of the traditional metrics in and of themselves ⁽³⁾.

In recent years, bandwidth has greatly increased and user familiarity with the Web and ICTs in general has evolved, contributing to an evolution of the Web. Some are referring to this evolution as numbered "versions" or "generations" (Web 1.0, 2.0 and 3.0). Web 1.0 refers to the first implementation of the Web which mainly allowed users to search for information and read it. The main goal of organizations creating such Web sites was to establish an online presence and make information available to anyone at any time. The Web as a whole hasn't moved beyond this stage yet. Web 2.0 refers to the trend in social networking, user-generated content and software as a service rather than a product. Many of the social networking tools

1 Mike ASTON, (2002), "The development and use of indicators to measure the impact of ICT use in education in the United Kingdom and other European countries," *Developing Performance Indicators for ICT in Education*. UNESCO Institute for Information Technology (IITE). Chapter 43, pp. 62-73. Retrieved from: <http://www2.unescobkk.org/elib/publications/ICTindicators/ICTinEDchap43.pdf>.

2 W.J. Pelgrum and N. Law. (2004). *Les TIC et L'education dans le monde: tendances, enjeux et perspectives*, UNESCO: Institut international de planification de l'education. pp. 19-21.

3 Gerry White, (2005), *BEYOND THE HORSELESS CARRIAGE: Harnessing the potential of ICT in education and training*, education.au limited, Retrieved from: http://time2learn.wikispaces.com/file/view/Horseless_carriages_GW.pdf.

have been around for a number of years (forums, chats, etc.) but there are new trends in communication and collaboration tools which are emerging (e.g., folksonomies, wikis, blogs, tools like Facebook, etc.). Appendix 1 includes a glossary of the most widely-used social networking tools and sites ⁽¹⁾.

Web 3.0, an emerging concept, is used to refer to the artificial intelligence applications that will increasingly become integrated into the Web, as well as to the increasing interoperability that users will have between the diverse information databases and information sources on the Web. It is also called the “semantic Web,” defined as “an extension of the World Wide Web in which Web content can be expressed in a format that can be read and used by software agents, thus permitting it to be found, shared and integrated more easily.” Information and applications on Web 3.0 are expected to adopt a “microformat” as the use of personal devices such as mp3 players, cellular phones, TVs, gaming devices, etc. to access and publish content on the Web becomes more commonplace ⁽²⁾.

White (2005) summarizes the history of ICTs in education by explaining that the period from circa 1981 to the present has seen the educational use of computers evolve from standalone data processors in computer labs, through to accessing the Web and building a Web presence, to nowadays being able to provide integrated Web services for teaching and learning activities, resource collections, student records, administration, professional development and community relations ⁽³⁾.

Policy based on the prevailing ideas about ICTs has also been a major driver shaping the adoption of ICTs in education. For example, the late 1980s and early 1990s were dominated by rhetoric surrounding the idea of the transition from the Industrial Society to the Information Society, where managing, generating and sharing information would be key to national economies maintaining the cutting

1 George Siemens, (2005), “Connectivism: A learning theory for the digital age,” *International Journal of Instructional Technology & Distance Learning*, Vol. 2(1), January 2005. Retrieved from: http://www.itdl.org/Journal/Jan_05/article01.htm.

2 Gerry White, (2008), *ICT Trends in Education*, Australian Council for Educational Research, Digital Learning Research, Retrieved from: http://research.acer.edu.au/digital_learning/2

3 Gerry White, (2005), *ibid.*

edge in an increasingly globalized market. This idea promoted the concept that the education system would need to create a “learning culture,” which would prepare citizens for lifelong learning in an information society ⁽¹⁾.

More recently, the focus has shifted from the information society to the knowledge society and policies promoting “connectedness”: “the ability to take advantage of information resources”. Consistent with this concept of “connectedness,” the policy focus for supporting ICTs in education rests primarily on the individual learner and his or her ability to access information. It has not yet shifted to encourage a different modality of learning that emphasizes and shapes peer interactions and social outcomes that are already occurring as a result of building a “connected” society ⁽²⁾.

2.5. Aspects of ICT Integration.

Integrating technology with teaching means the use of learning technologies to introduce, reinforce, supplement and extend skills. In the exemplary classrooms, student use of computers is woven integrally into the patterns of teaching; software is a natural extension of student tools ⁽³⁾. However, other technologies such as television, radio, photographs and audio tapes have been used in the past. Nevertheless, with the speedy development of emerging technologies, such as Internet and the web, ICT integration has increasingly attracted the attention of educators and created new challenges to teaching and learning. In this section, we elaborate on these challenges and obstacles before describing key factors in learning with technology and concluding the section with the criteria for a successful ICT integration.

1 Leslie Paas, (2008), How Information and Communications Technologies Can Support Education for Sustainable Development: Current uses and trends, International Institute for Sustainable Development (IISD). Retrieved from: <http://www.iisd.org/>

2 Charles Ungerleider, (2003), A Systematic Review of the Effectiveness and Efficiency of Networked ICT in Education, A State of the Field Report to the Council of Ministers of Education, Canada and Industry Canada. Retrieved from: <http://www.cckm.ca/pdf/SystematicReview2003.en.pdf>.

3 Rusmini Ku Ahmad, (2004), Integrating Technology into Teaching and Learning. Concepts and Applications: A Malaysian Perspective, SEAMEO-UNESCO Education Congress & Expo, May 27 - 29, Bangkok, Thailand. Retrieved from: http://iab.academia.edu/RusminiKuAhmad/Papers/524732/Integrating_Technology_into_Teaching_and_Learning.

2.5.1. Obstacles to Successful ICT Integration.

The use of technology in Egypt has dramatically grown by launching the Egyptian Education Initiative in 2008, aiming to reform the education system through the use of Information and Communication Technology ⁽¹⁾. However, technology-based learning was relatively new to many educators and educational managers. as was previously the case internationally, practical implementation issues and obstacles to full integration were overlooked, while institutions focused on acquiring more and more computers and other equipment for schools ⁽²⁾.

Literature suggests that the educational sector has not yet achieved a level of maturity with regard to e-learning practice and this is particularly the case in third world situations (Garrison and Anderson, 2003 ⁽³⁾; Zemsky and Massy, 2004 ⁽⁴⁾; Laurillard, 2006 ⁽⁵⁾; Howie and Blignaut, 2009) ⁽⁶⁾. However, various studies, both international and local, suggest that the introduction of ICT has not been managed in a way that can transform learning and teaching. Considered Web-based teaching as still in its early stages but yet 'blazing new trails in developing the essential elements and process that will lead to high-quality, active, online learning environments ⁽⁷⁾.

2.5.1.1. Classification of the Obstacles.

While the introduction of technology in education may create opportunities for innovation, it also gives rise to challenges and demands changes to existing processes. It requires a considerable shift in pedagogy and practice for educators concerned, the process of integrating ICT into teaching and learning is a complex

1 Galal M.H. Affi, (2011) *ibid*.

2 Robert Zemsky and William F. Massy (2004). *Thwarted innovation: What happened to e-learning and why*. West Chester, PA: The Learning Alliance, University of Pennsylvania. Retrieved April 1, 2007, from http://www.immagic.com/eLibrary/ARCHIVES/GENERAL/UPENN_US/P040600Z.pdf

3 D.R. Garrison, and T. Anderson, (2003). *E-Learning in the 21st Century: A framework for research and practice*. London: Routledge.

4 Robert Zemsky and William F. Massy (2004). *ibid*

5 Diana Laurillard, (2006). *E-Learning in higher education*. In P. Ashwin (Ed.), *Changing higher education: The development of learning and teaching*, (pp. 71-84). London: Routledge.

6 Sarah J. Howie and A. Seugnet Blignaut (2009). *South Africa's readiness to integrate ICT into mathematics and science pedagogy in secondary schools*. *Education and Information Technologies*, 14(4), 345-363.

7 Dean Caplan, (2004). *The development of online courses*. In T. Anderson & F. Elloumi (Eds.), *Theory and practice of online learning*, (pp. 175-197). Athabasca: Athabasca University. Retrieved from: http://cde.athabascau.ca/online_book/contents.html.

process. This process can cause many difficulties in the classroom as it applies to instruction, student learning, and policy. These difficulties are known as “barriers”. A barrier is defined as “A circumstance or obstacle that prevents communication or that keeps people or things apart”. A series of categories have been used by researchers to classify barriers within education and industry when it comes to the implementation of ICT ⁽¹⁾.

Numerous studies divide barriers into two distinct categories: extrinsic and intrinsic. How the researchers defined extrinsic and intrinsic differed. For example, in one study by Al-Alwani (2005, as cited Sadlowski, 2012) ⁽²⁾, saw extrinsic barriers as pertaining to organisations rather than individuals and intrinsic barriers as pertaining to teachers, administrators, and individuals, Ertmer (1999)⁽³⁾ discussed extrinsic barriers as first-order, and cited access, resources, time support and training, and intrinsic barriers as second-order and cited attitudes, practices, beliefs and resistance.

Other researchers’ perspectives assign the barriers into types of environmental conditions, such as material and non-material, Pelgrum (2001)⁽⁴⁾ classifies the obstacles into two groups: ‘material’ referring to the lack of both hardware and software, and ‘non-material’ including inadequate ICT knowledge and skills on the part of teachers and insufficient time to meet the additional demands of these new approaches. The material conditions may be the insufficient number of computers or copies of software. The non-material obstacles include teachers’ insufficient ICT knowledge and skills, the difficulty of integrating ICT in instruction, and insufficient teacher time. An example of material conditions may include the number of computers available to a teacher, or access to appropriate equipment and resources found online. The non-material obstacles include insufficient knowledge

1 Kevin Schoepp, (2005). Barriers to technology integration in a technology-rich environment. *Learning and Teaching in Higher Education: Gulf Perspectives*, 2(1), pp. 1-24.

2 Jesse N. Sadlowski, (2012), *Teachers And Technology Support Services: What They And Organizations Need To Know About Themselves And One Another*, Lethbridge, Alberta

3 Peggy A. Ertmer, (1999). Addressing first-and second-order barriers to change: Strategies for technology integration. *Educational Technology Research and Development*, 47 (4), pp.47-61.

4 W.J. Pelgrum, (2001). Obstacles to the integration of ICT in education: results from a worldwide educational assessment. *Computers & Education*, 37 (2), pp. 163-178.

and skills to adequately promote and use ICT in classroom activities. These non-material conditions also include teacher and computer technician time.

Other classifications can also be found within the literature such as teacher-level barriers compared to school-level barriers. Becta (2004)⁽¹⁾ divided the barriers according to whether they related to the individual (teacher), such as lack of confidence, lack of time and resistance to change, or if they related to the organization (school), such as lack of effective training in solving technical problems and lack of access to resources.

Furthermore, teachers find it difficult to integrate technology into their teaching practices if they are not provided with good infrastructural support in the classroom and in the school. Without such foundations, they will struggle to overcome barriers to the use of educational technology (Bingimlas, 2009) ⁽²⁾. Bingimlas, in a review of literature, provides a meta-analysis of relevant literature which indicates that the lack of appropriate infrastructural support and access to resources is a major barrier to e-learning in schools. Similarly, a study by Sicilia (2005)⁽³⁾ determined that technical and associated issues were major barriers to progress in the adoption of ICT. The infrastructural barriers include time spent addressing software problems; insufficient upgrading of hardware and software; inadequate Internet connectivity; and time spent repairing faulty computers and printers. Technical malfunctions and faulty equipment distract and discourage the teacher, particularly if they occur during an actual lesson. For the teaching of science, Gomes (2005) ⁽⁴⁾ advises that ICT integration should be supported by technical personnel or that comprehensive technical training should be scheduled for the teachers themselves. In countries such as the UK and the Netherlands, the role of technicians in supporting teachers has been recognised and implemented.

1 British Educational Communications and Technology Agency (Becta). (2004). A review of the research literature on barriers to the uptake of ICT by teachers. Retrieved from: http://dera.ioe.ac.uk/1603/1/becta_2004_barrierstouptake_litrev.pdf.

2 Khalid Abdullah Bingimlas, (2009). Barriers to the successful integration of ICT in teaching and learning: A review of the literature. *Eurasia Journal of Mathematics, Science and Technology Education*, 5(3), 235-245.

3 Sicilia C. (2005). The Challenges and Benefits to Teachers' practices in constructivism learning environments supported by Technology. Unpublished Master's Thesis. Montreal, QC: McGill University.

4 Carmen Sicilia, (2005). Integration of ICT in science teaching: A study performed in Azores, Portugal. In A.M. Vilas, B.G. Pereira, J.M. González & J.A. González (Eds.), *Recent Research Developments in Learning Technologies*, Vol. III. (pp. 165-168). Badajoz: Formatex.

Teachers in Saudi Arabia acknowledge their desire to integrate technology in their teaching, but mention infrastructural obstacles as a serious handicap (I, Almohaissin, 2006) ⁽¹⁾. In general, recent studies identify the following as major barriers (Almohaissin, 2006; Bingimlas, 2009): lack of hardware and appropriate software; insufficient technical training; lack of suitably qualified technical personnel; and a need for ICT integration skills among educators.

2.5.1.2. Some implications for teachers and for schools.

There are some implications for teachers and schools for successful integration of ICT into education arising from this. The following table aims to illustrate these implications:

Barriers	Implementation	
	For schools	For teachers
Lack of access	<ul style="list-style-type: none"> • Providing ICT resources including hardware and software. 	<ul style="list-style-type: none"> • Taking advantage of resources offered at schools. • Access to ICT resources at home.
Resistance to change	<ul style="list-style-type: none"> • Training in new pedagogical approaches. 	<ul style="list-style-type: none"> • Being open minded towards new ways of teaching.
Lack of time	<ul style="list-style-type: none"> • Providing sufficient time: reducing the number of teacher lessons or increasing the daily lesson time. 	<ul style="list-style-type: none"> • Acquiring skills of self-organisation and time managements.
Lack of training	<ul style="list-style-type: none"> • Providing training courses in dealing with the new devices, modern technologies, and new pedagogical approaches. 	<ul style="list-style-type: none"> • Preparing themselves (pre-service) by self- training. • Taking up opportunities for training offered at schools. • Knowing how to access to resources.

¹ Ibrahim Abdullah Al-Mohaissin, (2006). Introducing computers into Saudi Arabia secondary school science teaching: Some problems and possible solutions. Unpublished paper.

<p>Lack of technical support</p>	<ul style="list-style-type: none"> • Providing continued technical support. 	<ul style="list-style-type: none"> • Relying on themselves to be able to solve problems in their use of ICT. • Accessing available support.
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Table (6). Possible implications for schools and teachers for the integration of ICT into education. (Table taken from Bingimas p. 243)

The table (6) categorizes specific barriers, then outlines suggestions and strategies for implementations that schools and teachers may use overcome these barriers.

Accordingly, Schools need to provide training courses for teachers to gain experience in dealing with the new devices, modern technologies, and new pedagogical approaches. Technical support needs to be provided in schools. Additionally, schools must provide teachers with the necessary ICT resources including hardware and software. It is important for schools to cooperate with teachers by providing sufficient time to implement new technologies in the classroom. For example, a school can reduce the teacher’s number of lessons or increase the daily lesson length.

Teachers also need to engage with this implementation. Teachers should take advantage of ICT resources offered at schools. They need to be prepared well before joining the teaching profession. Where training is absent, teachers can prepare themselves by enrolling in private sessions or by self-training. They should be open minded towards new approaches of teaching. Where support is lacking, they need to find ways to be able to solve problems involving their use of ICT in schools. Finally, teachers should acquire skills of self-organisation which will help them a great deal in conducting their classes when using ICT.

2.6. Key focus in learning with Technology.

We learn anywhere, anytime, anyplace; there are opportunities to learn all around us every day. We learn in the home, office, on the road. Likewise, educational content can be shaped to fit all kinds of useful delivery media that is convenient, user-friendly, and (most important) serves the educational need of members

without the content being short changed or trivialized. Smith, J. (2001, as cited Christian Niemczik, et al., 2007) ⁽¹⁾,

2.6.1. Blended Learning

Blended learning systems combine face-to-face instruction with computer-mediated instruction ⁽²⁾. The European Committee defines the Blended learning, also known as hybrid learning is an approach that has developed with tenacity in the field of education. It is in any case a new term or a new method. The learning and Blended Learning were and still a smart way to adapt to different training needs. The main idea is choice. It is essential, in blended learning, you can choose Better methods appropriate to the specific needs ⁽³⁾. One of the goals of blended learning is to maximise the benefits of both face-to-face and technological (online) methods. Some authors advocate the term 'hybrid' when referring to courses that combine face-to-face instruction with distance delivery systems (J. Young, 2002; Negash et. al., 2007)⁽⁴⁾. In the present study, the term 'blended' is preferred for describing educational and learning events 'that focus on the combining together of face-to-face and technology in ways that lead to a well-balanced combination (Charles R. Graham 2006).

The combined solution includes several different delivery methods, such as collaboration software, Web-based courses and computer communication practices, in tandem with traditional class-based instruction. In situations where there is no Internet connectivity, the electronic component consists of CD-ROM-based drills, tutorials and simulations, as well as the use of commercial software tools such as PowerPoint presentation and Excel. The term 'blended learning' is also used to

1 Christian Niemczik, Elke Brenstein and Margit Scholl, (2007), COMBLE: European Community of Integrative Blended Learning Experts, Retrieved from: <http://comble-project.eu/static/what-more/RES%20world%20system%20of%20higher%20education%20paper.pdf>.

2 Charles R. Graham, et al., (2006). Blended learning systems: Definition, current trends, future directions. In C. J. Bonk & C. R. Graham (Eds.). Handbook of blended learning: Global Perspectives, local designs (Chapter 1). San Francisco, CA: Pfeiffer Publishing. Retrieved from: <http://www.publicationshare.com/c1-Charles-Graham-BYU--Definitions-of-Blended.pdf>.

3 Catherine Roupie, (2008), Tutorat Et Lien Social Dans Un Dispositif De Formation Hybride, Master 2 Professionnel, Universite De Rouen. Récupérée de: http://www.univ-rouen.fr/civii/memoires_masterICF/textes/T_ANDREO-ROUPIE.pdf

4 Jeffrey R. Young, (2002). 'Hybrid' teaching seeks to end the divide between traditional and online instruction. The Chronicle of Higher Education. Retrieved from: <http://chronicle.com/weekly/v48/i28/28a03301.htm>.

describe the combination of various event-based activities, as in classrooms, live synchronous e-learning and self-paced learning (Valiathan, 2002). The development of new technological delivery systems enables the integration of e-learning into traditional learning programmes.

There are multiple activities and processes involved in practically integrating ICT into the classroom. These include complete online training with precise and well-defined policies; the use of virtual laboratories; online access to, and control of, distant physical set-ups, such as physics laboratories; and working face-to-face in the classroom situation with digital controls and computer-based tools.

2.6.2. Communication and Collaboration between Students.

Collaborative working is perceived as a means of working more creatively, a 'two heads are better than one' approach, and a means to improving learning. Technology can be used as a strategic resource in supporting teaching and learning. The current infrastructure and investment that is available means that there are opportunities for technology to be used in collaborative learning ⁽¹⁾. Learning supported by technology in a blended learning framework. Through participation and reciprocity knowledge is developed amongst learners ⁽²⁾.

Literature advocates using technology to foster learning through discussion and collaboration. Communication can be synchronous via chat rooms and electronic conferencing or asynchronous by e-mail and postings on discussion boards ⁽³⁾. This, in turn, necessitates the use of the appropriate educational technology and further research into managing the implementation of

1 Heather A. Thornton, et al., (2006), Collaborative Learning: using technology for fostering those valued practices inherent in constructive environments in traditional education, *Journal for the Enhancement of Learning and Teaching* - Volume 3 Issue 2. Retrieved from: <https://uhra.herts.ac.uk/dspace/bitstream/2299/2588/1/902189.pdf>

2 Martina A. Doolan, (2011), *Using Technology to Support Collaborative Learning Through Assessment Design*, PhD thesis, University of Hertfordshire, Retrieved from: <https://uhra.herts.ac.uk/dspace/bitstream/2299/6055/1/Martina%20Doolan%20-%20final%20submission.pdf>

3 C., BARATS, (2009), *Discours et pratiques TICE dans un établissement du supérieur: ce que révèle un espace de travail collaboratif*. Dans Sidir, M., (dir.). (2009). *La Communication éducative et les TIC, épistémologie et pratiques*, Lavoisier, Paris. pp. 39- 40.

communication and electronic collaboration between distributed students (Laurillard, 2006 ⁽¹⁾; Mara, 2006 ⁽²⁾).

2.6.3. Integration of Techniques, Approaches and Physical Environments.

Literature indicates that although the traditional classroom environment, along with its conventional teaching and seating arrangements, still dominates the instructional approach, technology is now being used to teach students across curricula, using many of the ICT-based activities introduced in this chapter. The paradigm shift is occurring gradually in terms of the infrastructure and physical layout of the environment, illustrating a slow movement towards general use of technology.

Literature investigating the effect on learning of the overall layout and seating arrangements in computer laboratories and in classrooms fitted with computers, suggests that information and communication technology encourages students to 'learn by doing' and impacts on both the learning and teaching styles in a technology-based environments. D., Zandvliet and L., Straker (2001)⁽³⁾ found that the physical setting, computer placement and seating arrangements were often overlooked when ICT is integrated into classrooms, and recognized that physical factors in IT classrooms effect learning, comfort, and safety issues of students. Overall, they found many significant links between physical and social factors that influence student satisfaction with learning in IT rich classrooms. Jessica C., (2003) ⁽⁴⁾, confirmed that each type of classroom could then be adapted to facilitate the type of instruction to be performed. For example, the classroom design must attempt to focus the student's attention on the learning activities. Focus is achieved through the arrangement of architectural elements, proper acoustics and lighting, and the

1 Diana Laurillard, (2006). *ibid*

2 Marra, Rose, (2006). A review of research methods for assessing content of computer mediated discussion forums. *Journal of Interactive Learning Research*. 17(3), 243-276.

3 David B. Zandvliet and Leon M. Straker (2001) 'Physical and psychosocial aspects of the learning environment in information technology in rich classrooms', *Ergonomics*, vol.44, Retrieved from: <http://www.iea.cc/ECEE/pdfs/ergoITclass2001.pdf>

4 Jessica Callahan, (2003), *Effects Of Different Seating Arrangements In Higher Education Computer Lab Classrooms On Student Learning, Teaching Style, And Classroom Appraisal*, Master thesis, University of Florida.

absence of visual distractions. Also, the aesthetics of a classroom could help to enhance students' enjoyment of their learning experience.

According Niemeyer, (2003) ⁽¹⁾ the guidelines stress that different classroom layouts facilitate different teaching styles and learning activities, and recommends that within a computer lab classroom, the U or V shape allows the presenter sight of all of the students' computers. He believes that this design is beneficial to computer-enhanced courses that use instructional methods such as computer-based independent work, lecture, group discussion, and presentation.

2.6.4. Open Source Technologies.

The basic idea of open source software is very simple; programmers or users can read, modify and redistribute the source code of a piece of software (Cristina Gacek, et al., 2004) ⁽²⁾. The main features that characterize free (open source) software are the freedom that users have to ⁽³⁾:

- Use the software as they wish, for whatever they wish, on as many computers as they wish, in any technically appropriate situation.
- Have the software at their disposal to fit it to their needs. Of course, this includes improving it, fixing its bugs, augmenting its functionality, and studying its operation.
- Redistribute the software to other users, who could themselves use it according to their own needs.

This literature review identified a number of studies (Lujara et al. 2007⁽⁴⁾; Lee et al. 2009 ⁽⁵⁾) which indicate that ICT can provide rich learning environments for

1 Daniel Niemeyer, (2003). *Hard Facts On Smart Classroom Design: Ideas, Guidelines, and Layouts*. Lanham, MD: Scarecrow Press, Inc.

2 Cristina Gacek, et al., (2004) The many meanings of open source. *IEEE Software*, 21(1), pp. 34-40.

3 European Commission, (2000), *Free Software / Open Source: Information Society Opportunities for Europe? Working group on Libre Software*, Retrieved from: <http://eu.conecta.it/paper.pdf>

4 S. K. Lujara, M. M. Kissaka, L. Trojer and N. H. Mvungi (2007). Introduction of open-source e-Learning environment and resources: A novel approach for secondary schools in Tanzania. In *Proceedings of World Academy of Science, International Journal of Human and Social Sciences*, (pp. 239-243). Retrieved from: <http://www.waset.org/journals/ijhss/v1/v1-4-35.pdf>

5 Sang Min Lee, et al., (2009). *ibid*

teachers and students. DiBona, Ockman and Stone (1999) ⁽¹⁾ argue with regard to the advantages of open-source when compared to proprietary commercial software, that ‘The process of discovery must be served by sharing information: enabling other scientists to go forward where one cannot; pollinating the ideas of others so that something new may grow that otherwise would not have been born’. They conclude: ‘The scientific method minimizes duplication of effort because peers will know when they are working on similar projects. Progress does not stop simply because one scientist stops working on a project. Lujara discuss initiatives to introduce ICT tools into certain secondary schools in Tanzania, using open source software in e-content development, to facilitate self-learning. They propose the use of ICT tools, and especially e-learning, as viable solutions to overcome a lack of conventional resources. The choice of open source (OS) software is sound, since it has certain advantages over proprietary packages: it is licence free; can be customized to suit the specific context; and it has support for sustainability.

2.7. Criteria for Successful ICT Integration.

2.7.1. Attainable Goals.

In formulating policies relating to the utilization of ICT in the curriculum, and in education administration, consideration must be given to the diversity in forms and applications of ICT, the potential benefits. A policy decision to implement and integrate ICT in schools usually requires a considerable investment in technology (Hadjithoma and Karagiorgi, 2009) ⁽²⁾. Such decisions may be based on over-optimistic expectations or might assume that specific outcomes will be achieved by teachers and students. However, these decisions may fail to define the exact nature of successful ICT implementation or integration. Hence it is difficult to establish whether the venture has been successful without an initial statement of explicit objectives and expected outcomes (Miller, Martineau and Clark, 2000). The subsections following set out some criteria for successful ICT integration.

1 Chris DiBona, Sam Ockman, and Mark Stone, (Eds.). (1999). *Open sources: Voices from the open source revolution*. New York: O'Reilly.

2 Christina Hadjithoma and Yiasemina Karagiorgi (2009). The use of ICT in primary schools within emerging communities of implementation. *Computers & Education*, 52(1), pp. 83-91.

2.7.2. Attitudes and Expertise of Educators.

Teachers are the main gatekeepers in allowing educational innovations to diffuse into the classrooms. Therefore one of the key factors for effecting an integration of computers in the school curriculum is adequate training of teachers in handling and managing these new tools in their daily practices. Loyd and Gressard as cited Christensen, R., (2002) ⁽¹⁾, showed that positive attitudes toward computers are positively correlated with teachers' extent of experience with computer technology. With familiarity, anxieties and fears tend to decrease, and confidence increases. The amount of confidence a teacher possesses in using computers and related information technologies (often referred to as simply "technology") may greatly influence his or her effective implementation of technology methods in the classroom. Positive teacher attitudes toward computers are widely recognized as a necessary condition for effective use of information technology in the classroom.

Mueller, Wood, Willoughby, Ross and Specht (2008) ⁽²⁾ in their survey of 185 elementary and 204 secondary teachers' use of computers as instructional tools in Canada, found that attitudes and beliefs have a positive impact on the successful integration of ICT in the classroom, as well as on teachers' under-use of technology. Teachers need to be empowered by learning to use technology and, in particular, by using technologies to change their teaching paradigms and those of their peers. This is particularly challenging in rural and disadvantaged areas, where change is often difficult. Davidson and Elliot (2007) ⁽³⁾ and McGarr (2009) ⁽⁴⁾ argue that the skills and attitudes of teachers can facilitate the effectiveness of technology integration into the curriculum, if, when teachers start developing expertise, they are prepared to share their experiences and demonstrate them to others, including their peers.

1 Rhonda Christensen, (2002), Effects of Technology Integration Education on the Attitudes of Teachers and Students, *Journal of Research on Technology in Education*, ISTE (International Society for Technology in Education), (U.S. & Canada). Retrieved from: [http://mytechtips.pbworks.com/f/Effects%2520of%2520Technology%2520Integration%2520Education%2520on%2520the%2520Attitudes%2520of%2520Teachers%2520and%2520Students%2520\(1\).pdf](http://mytechtips.pbworks.com/f/Effects%2520of%2520Technology%2520Integration%2520Education%2520on%2520the%2520Attitudes%2520of%2520Teachers%2520and%2520Students%2520(1).pdf)

2 Julie Muellera, et al., (2008). Identifying discriminating variables between teachers who fully integrate computers and teachers with limited integration. *Computers & Education* 51(4) 1523-1537.

3 J.K. Davidson, and D.L. Elliot, (2007). A comparison of e-Learning in Scotland's colleges and secondary schools: The case of National Qualifications in 'Core Skills'. *Computer Assisted Learning*, 23(6), pp. 511-522.

4 McGarr, Oliver, (2009). The development of ICT across the curriculum in Irish Schools: A historical perspective. *British Journal of Educational Technology*, 40(6), pp. 1094-1108.

2.7.3. Relevance.

The implementation of any ICT technology or e-learning application should be undertaken for one reason only, namely, that it is relevant and adds value to the teaching and learning experience. Teacher beliefs toward technology use play an integral role in the development of a positive self-efficacy toward technology use. Positive self-efficacy toward technology use leads to student-centered practices of technology use. Teacher beliefs are not stagnant. They can be and are influenced by the leadership of the school ⁽¹⁾. Hohlfield, Ritzhaupt and Barron (2010) ⁽²⁾, argue that learning, assignments and assessments must have personal value for the student outside the classroom as well, and that work produced should have an audience beyond the teacher. Therefore, for effective pedagogy to occur when ICT is integrated into the classroom, the applications should relate to real life practices, in their study. Without discerning use of ICTs, there can be unexpected, and sometimes negative, Johnson and Aragon (2003)⁽³⁾ advise that when teachers implement educational technology in a curriculum, they need to select an appropriate form or product and justify its use according to the following criteria: Technology is appropriate for the specific topic, the possibility that the technology adds value to the learning experience and use of the technology to support the instructional process.

Research indicates that technology must be used in ways that align with curricular and teacher goals, and offer students opportunities to use these tools in their learning. In general, technology-based tools can enhance student performance when they are integrated into the curriculum and used in accordance with knowledge about learning. But the mere existence of these tools in the classroom

1 Douglas G. Winner, (2012), *The Self-Efficacy of the Elementary Teacher toward Technology Use*, PhD thesis, Drexel University. Retrieved from: http://idea.library.drexel.edu/bitstream/1860/3819/1/Winner_Douglas.pdf.

2 Tina N. Hohlfielda, Albert D. Ritzhauptb and Ann E. Barrona (2010). Connecting schools, community, and family with ICT: Four-year trends related to school level and SES of public schools in Florida. *Computers & Education*, 55(1), pp. 391-405.

3 Scott D. Johnson and Steven R. Aragon (2003). An instructional strategy framework for online learning environments. *New Directions for Adult and Continuing Education*, 100, pp. 31-43. Retrieved from: http://ldt.stanford.edu/~educ39105/paul/articles_2005/An%20Instructional%20Strategy%20Framework%20for%20online%20instruction_Johnson_Aragon.pdf.

provides no guarantee that student learning will improve; they have to be part of a coherent education approach ⁽¹⁾.

2.7.4. Appropriate Activities.

Skilled teachers plan interesting and appropriate activities. In ICT pupils make very good and often outstanding progress because of the extensive investment in computers and the teachers' improved confidence. This ensures that pupils apply their skills well and make good use of ICT in other subjects, notably English, art and design, geography, history and design and technology ⁽²⁾. Education and training activities are increasingly employing the use of a variety of technologies to support pedagogy and learning. Several of the technologies used are computer-based. Word-processors, spreadsheets, and databases are being utilized as tools in supporting teaching and learning. Graphics and desktop publishing software now allow teachers to develop more instructional materials to their own specifications. Correspondingly, teachers are utilizing testing and measurement software, CD-ROMS, compact disc-interactive (CD-I), DVD, hypertext, hypermedia, and multimedia tools to enhance classroom activities. Experienced teachers often draw from their personal experience to develop real-world educational activities. This encourages learning through active participation and leads students on to implementation and the acquisition of personal computing skills. Teachers who are less experienced, or who lack knowledge about real-world ICT practice, are less able to develop meaningful and practical learning activities which could benefit students and encourage active participation.

2.7.5. Supportive Approaches.

Six themes, related to areas of enhancement of integration of technology in the curriculum. These themes were: (1) technology accessibility and reliability, (2)

1 Carole L. Perlman and Sam Redding, (2011), Handbook on Effective Implementation of School Improvement Grants, Academic Development Institute. p. 127. Retrieved from:
http://www.centerii.org/handbook/Resources/Handbook_on_Effective_Implementation_of_School_Improvement_Grants.pdf.

2 B., Payne, (2002), Reporting inspector: Mary Last 17171, PARKSIDE SCHOOL. Retrieved from:
www.ofsted.gov.uk/provider/files/767735/urn/121262.pdf

time availability for teachers to integrate technology, (3) teacher confidence to integrate technology into the curriculum, (4) professional development (5) impact of technology on student learning (6) Impact of administration's support on integration of technology into the curriculum⁽¹⁾. These recurring themes are supported by Hoffman (2001)⁽²⁾, who identified factors for technology integration success such as accessibility to technology, school based professional development, and administrator support are similar to the themes identified in this study. N. Bitner and J. Bitner (2002) ⁽³⁾ also identified areas of consideration to allow for successful integration of technology which include understanding and accepting that teachers may have a fear of change associated with the impact of technology in the classroom, training to provide teachers basics of computer use to instill a level of computer ability and confidence, the need for a supportive climate to foster experimentation with technology and curriculum without fear of failure. And the need to learn time management skills for efficiency and productivity which, in turn, will free up time for better curriculum planning. It must be explained to teachers and students that they will initially experience a certain amount of frustration and turmoil in the process of change. Lee et al. (2009) ⁽⁴⁾ point out that the way ICT is integrated, impacts on the subsequent attainment of outcomes. The teachers involved and the pedagogic methods used are dominant issues in the success or lack thereof of the process. Success is influenced by factors such as the knowledge, attitude, goals, skills and perceptions of the human teacher, as well as by the technology and the environment. The role of the teacher should change from instructor to facilitator, guiding students as they actively acquire and enhance their knowledge and skills.

1 Tejinder, Reel (2009), Enhancement of Integration of Technology into the Curriculum, Education Resources center (ERIC), [EJ885669], Retrieved from: <http://www.nipissingu.ca/oar/PDFS/1021.pdf>.

2 E. S. Hoffman, (2001). Technology planning and implementation: A study of effective change efforts in Michigan public school districts. Dissertation Abstracts International 62-05, 1088.

3 Noel Bitner, and Joe Bitner (2002) Integrating Technology into the Classroom: Eight Keys to Success Journal of Technology and Teacher: 10 (1), pp. 95-100.

4 Sang Min Lee, et al., (2009). Ibid.

2.8. Rationale for Integrating ICT into Education.

Technology is developed to solve problems associated with human need. If there is no problem to solve, the technology is not developed and/or not adopted. Applying this principle to educational technology would mean that educators should create and adopt technologies that address educational problems, of which there are many. Further, a technology will not be adopted by educators where there is no perceived need ⁽¹⁾. The general rationale for integrating ICT into education is the assumption that e-learning will introduce tangible positive changes ⁽²⁾. With regard to cognitive skills, Lim (2007)⁽³⁾ notes that ICT when ‘coupled with the necessary pedagogical strategies’ can ‘engage students in high-order thinking’.

Although technology- especially computers- has been in use in education since the 1950s, research results to date have not made a strong case for its impact on teaching and learning, but extensive research with computer-based methods supports only the general conclusion that technology has made a difference”. In *A Vision for Life Long Learning- Year 2020* (Hinrichs, Microsoft Research, 2002) Bill Gates- the CEO of Microsoft Corporation- pointed out that computers have long been a powerful tool for education, “giving students access to a new world of information, sparking creativity, and facilitating rich communication and collaboration across vast distances ⁽⁴⁾.

The growing role of ICT in society, along with the pressure to adapt education to the needs of the market place, has created an urgency to integrate ICT into curriculum-based teaching. This has occurred particularly in developed

1 C. Paul Newhouse, Sue Trinidad and Barney Clarkson, (2002), *Quality Pedagogy and Effective Learning with Information and Communications Technologies (ICT): a review of the literature*. Specialist Educational Services, Perth, Western Australia. Retrieved from: <http://www.det.wa.edu.au/education/cmisis/eval/downloads/pd/litreview.pdf>

2 Michael Sankey and Rod St Hill (2005). Multimodal design for hybrid learning materials in a second level economics course. In S.L. Cheung (Ed.), *Proceedings of 11th Australasian Teaching Economics Conference: Innovation for Student Engagement in Economics*, Sydney, 11-12 July 2005 (pp. 98-106). Sydney: University of Sydney. Retrieved from: http://eprints.usq.edu.au/267/1/Sankey_StHill_05.pdf.

3 Cher Ping Lim (2007). *Effective integration of ICT in Singapore schools: Pedagogical and policy implications*. *Educational Technology Research and Development*, 55(1), pp. 83-116.

4 Enrique González Negrete, (2004), *Faculty Concerns And Perceptions Of Mandated Educational Change: An Exploratory Study*, PhD thesis, University of Texas at Austin, Retrieved from: <http://repositories.lib.utexas.edu/bitstream/handle/2152/1316/gonzalezd16267.pdf?sequence=2>

countries. A study made by Lee et al. (2009) ⁽¹⁾, entitled Computer use and academic development in secondary schools, analyzed how the overall school behaviour of tenth-grade students, as evaluated by English and Mathematic teachers and by standardised test scores in math's and reading, was related to computer use. This phenomenon was evidenced both in school work and in other activities. Their findings show that computer usage in the school situation has the potential to benefit students' educational outcomes and general future success, especially when parents and community are involved. Further, it has also been shown that the revolutionary approach of ICT can be an effective tool for expanding educational opportunities.

Roblyer, Edwards and Havriluk (2010)⁽²⁾ believe the following factors provide sound reasons for using ICT in education:

1. High motivation among students to use computers.
2. The unique instructional capabilities of ICT, such as data visualisation, the visualisation of problem scenarios, and the tracking and recording of learning progress;
3. Support for innovative instructional approaches, such as collaborative learning and problem-based learning;
4. Increased teacher productivity.
5. Knowledge construction by students.

According to Twining (2002) ⁽³⁾, There is widespread consensus that computer use needs to be integrated into the classroom and curriculum. Say further, increasing the quantity and quality of resources by adding sufficient high quality portable computers with one integrated software suite seemed likely to lead to an increase in the quantity and quality of computer use. Mikre (2011) ⁽⁴⁾, states that the uses of ICT

1 Sang Min Lee, et al., (2009). Ibid.

2 M. D., Roblyer, and Aaron H. Doering, (2010). Integrating educational technology into teaching (5th ed.). Boston: Pearson Education Inc.

3 Peter Twining (2002), Enhancing the Impact of Investments in 'Educational' ICT, Retrieved from: <http://kn.open.ac.uk/public/document.cfm?documentid=2515>

4 Fisseha Mikre, (2011), The Roles of Information Communication Technologies in Education Review Article with Emphasis to the Computer and Internet, Retrieved from: <http://www.ajol.info/index.php/ejesc/article/viewFile/73521/62437>.

is making major differences in the learning of students and teaching approaches. Schools in the Western World invested a lot for ICT infrastructures over the last 20 years, and students use computers more often and for a much larger range of applications. Several studies reveal that students using ICT facilities mostly show higher learning gains than those who do not use. Jo Tondeur et. al. (2008) ⁽¹⁾, a major obstacle, and the starting point for any intervention, is to improve the perception of ICT's usefulness. The first step involves helping teachers realize the worth of technology in instruction, compared to current conservatism and the traditional use of chalk and board. When they acknowledge its value, there is a decrease in resistance. The Tondeur study notes that 'school-related policies support and ICT training (Professional Development of Teachers) has a significant effect on classrooms. A further advantage to educators is personal empowerment and the career benefit of ICT skills. Teacher training programmes need to effectively train their prospective teachers in using different ICT materials for lessons and also to be able to direct and have learners effectively benefit from such materials. Therefore ICT sessions and practical exercises should be part of teacher training. To meet up with the demands of inclusive classrooms, teacher education programmes should address different approaches to designing programmes that respect the differential needs of their learners in the schools ⁽²⁾.

2.8.1. The Concept of ICT Integration.

Integrating ICT into teaching and learning is not a new concept. It may be as old as other technologies such as radios or televisions. However, with the rapid development of emerging technology, such as web technology, ICT integration has increasingly attracted the attention of educators ⁽³⁾. ICT is basically a tool. It can be hardware (such as computers, digital cameras), software, or both. In the educational context, it mainly refers to various resources and tools (software) presented on the

1 J., Tondeur; H., van Keer; J., van Braak, and M., Valcke, (2008). ICT integration in the classroom: Challenging the potential of a school policy. *Journal of Computer & Education*, 51(1), 212-223.

2 Thérèse Mungah Shalo Tchombé (2009) Perceptions of learning: Principles and practices in ICT integrated classroom. Dans Karsenti, T. (dir.). (2009). *Intégration pédagogique des TIC : Stratégies d'action et pistes de réflexion*. Ottawa : CRDI.

3 Qiyun Wang and Huay Lit Woo (2007). Systematic Planning for ICT Integration in Topic Learning. *Educational Technology & Society*, 10 (1), pp. 148-156.

computer. ICT is not particularly reserved for education; it is not a panacea for solving all educational problems either ⁽¹⁾. Research has indicated that the use of ICT can support new instructional approaches and make hard-to-implement instructional methods such as simulation or cooperative learning more feasible ⁽²⁾.

Integration has a sense of completeness or wholeness, by which all essential elements of a system are seamlessly combined together to make a whole. In education, simply handing out to students a collection of websites or CD-ROM programs is certainly not ICT integration. The computer should be fitted into the curriculum, not the curriculum into the computer ⁽³⁾.

Effective ICT integration into the learning process has the potential to engage learners. For instance, using multimedia to present authentic and ill-structured problems in problem-based learning can motivate and challenge students and hence develop their problem-solving skills ⁽⁴⁾. ICT can support various types of interaction to make the learning process more interactive and learners more active and engaged. Research has confirmed that effective ICT integration can promote student-engaged learning. Swan, Karen et al., (2005)⁽⁵⁾ reported that the students' motivation to learn and engagement in learning processes were improved by the use of mobile computing. In another study exploring the use of ICT tools to engage students in higher-order thinking in a Singapore school, Lim and Tay (2003)⁽⁶⁾ observed higher students' engagement in higher order thinking by using ICT tools.

2.8.1. Integrating ICT into the curriculum.

The integration of Information and Communication Technology (ICT) into the curriculum has become the major issue worldwide. The education system does

1 D. R. Taylor, (2000). Developing powerful learning communities using technology. AACTE Briefs, 21 (14), pp. 4-5.

2 Margaret Roblyer (2004). Integrating educational technology into teaching (4th Ed.), Upper Saddle River, NJ: Prentice Hall.

3 Earle, Rodney S. (2002). The Integration of instructional technology into public education: Promises and challenges. Educational Technology, 42 (1), pp. 5-13.

4 M. D. Williams, (2003). Technology integration in education. In S. C. Tan & F. L. Wong (Eds.), Teaching and learning with technology: An Asia pacific perspective, Singapore: Prentice Hall, pp. 17-31.

5 Swan, Karen et al., (2005). Uses and effects of mobile computing devices in k-8 classrooms. Journal of Research on Technology in Education, 38 (1), pp. 99-112.

6 Cher Ping Lim and Lee Yong Tay (2003). Information and communication technologies (ICT) in an elementary school: Students' engagement in higher-order thinking. Journal of Educational Multimedia and Hypermedia, 12 (4), pp. 425- 451.

not only pursue the integration of ICT into the curriculum because of its popularity in the market system, but because of the role it is perceived to play in the changing curriculum. Many attempts have been made to clarify what is understood by “integrating ICT into the curriculum”. This encompasses a range of approaches that different school teachers use to integrate ICT into their school curricula ⁽¹⁾.

In studying the relationship between ICT and pedagogy McCormick (2001) ⁽²⁾ and Scrimshaw suggested that ICT integration takes place through three levels of pedagogical change:

- Improving efficiency and effectiveness.
- Extending the reach of teaching and learning with ICT and
- Transforming the concept of the subject with ICT.

Improving efficiency with the use of ICT helps teachers to improve their practice by providing the teacher with accurate and efficient tools. These include use of spreadsheets to plot graphs and word processing for writing compositions.

Extending the reach of teaching and learning with ICT refers to the use of Internet that enables teachers to extend the resources found in the teaching environment. This provides opportunity for both the teacher and the learner to search for world wide up-to-date information. However the teacher should monitor the searching process by educating learners on how to use Internet for them to research an agreed question.

Transforming conception of the subject with ICT: During this level teachers support learners to develop a sense of independence through the use of ICT. Learners are free to explore and interact with all sorts of data on their own. The teachers’ role is to develop learners’ judgment skills and their ability to appraise critically what is of particular importance.

1 Rosa Maria Bottino (2004). The evolution of ICT-based learning environments: which perspective for the school of the future? *British Journal of Education Technology*, 35 (5), pp. 553-567.

2 Robert McCormick and Peter Scrimshaw (2001). *Information and Communications Technology, Knowledge and Pedagogy*. Education, Communication and Information, 1(1), pp. 37-57.

Studies of ICT development in both developed and developing countries identify at least four broad approaches through which educational systems and individual institutions typically proceed in their adoption and use of ICT. Sometimes, the number of stages identified varies. However, there is a general consensus that the introduction and use of ICT in education proceeds in broad stages that may be conceived as a continuum or series of steps ⁽¹⁾. In the study conducted by UNESCO (2005) ⁽²⁾ four stages of ICT integration within school environment were elaborated in the following Figure:

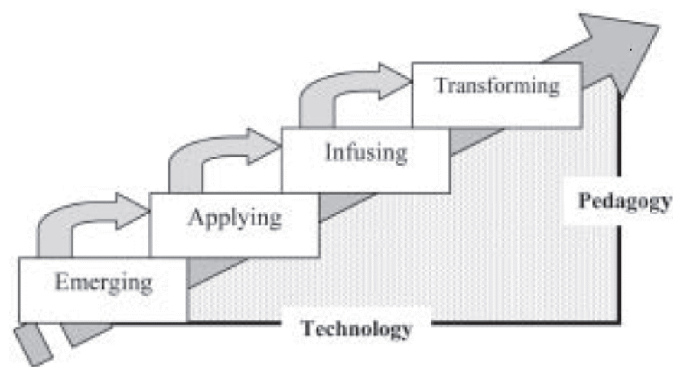


Figure (11) Stages of ICT development. (Figure taken from UNESCO 2005 p. 28)

1. **Emerging stage:** is evident when the school is in possession of few computers that can be used only by teachers and the administration. During this stage teachers are learning how to use computers. The purpose of this stage is to familiarise teachers with ICT literacy skills. Teachers are trained to use variety of tools and applications. Teachers begin to understand why they have to apply ICTs into their teaching. The major aim is to develop teachers in order for them to feel comfortable and at ease with the application programs and confident in their use (UNESCO 2005).

1 UNESCO (2003). Building capacity of teacher/facilitators in technology- pedagogy integration for improved learning and teaching. (2003). Final report. Bangkok:Unesco. Retrieved from: <http://unesdoc.unesco.org/images/0013/001356/135606e.pdf>.

2 UNESCO (2005). Regional Guidelines on Teacher Development for Pedagogy- Technology Integration, a project on: Training and Professional Development of Teachers/Facilitators in Effective Use of ICTs for Improved Teaching and Learning. Thailand: Unesco. Retrieved from: <http://unesdoc.unesco.org/images/0014/001405/140577e.pdf>.

2. **Applying stage:** is evident when teachers feel reasonably confident with ICT applications. They can use application software and communication tool and browse the Internet confidently. Teachers are ready to implement or apply new technologies in the teaching. Teachers decide why, when, where and how ICT tools will contribute in the objective of the lesson. Teachers should then be able to choose the appropriate ICT tool that will benefit the learner in understanding the new concepts of the new lesson. This includes being able to choose when the whole class or group multimedia presentations will be useful. It is also important for teachers to understand when and how they will assist learners to find, compare and analyze information from the Internet or from any other research source. At this stage not only teachers are applying ICT's in teaching, the management, secretaries as well as librarians are beginning to apply ICTs in administering their tasks (UNESCO 2005).
3. **Infusing stage:** is noticeable when teachers begin to use all what they have learnt in every aspect of their teaching. ICT is incorporated in lesson preparation and management. What becomes critical is for teachers to explore the use of ICTs and to be creative. Through their creativity they are able to stimulate and manage learning of learners using different learning styles to achieve their goals (UNESCO 2005).
4. **Transforming stage:** is visible when teachers use ICT tools with confidence. They are able to apply them in their teaching as well as in other aspects of their teaching. At the stage of transformation the focus changes from being centered on the teacher. The integration of ICT takes a new phase where the process of integrating ICT tools is no longer manipulated by the teacher. Learners are actively involved in the ICT activities and teachers assist and guide their learners during the process of constructing knowledge. Collaborative skills are developed. Learners work as groups in solving real life problems. They also work with other learning groups from other places using communicating tools by

accessing resources on the Internet. Because of the change in learning style, teachers change their assessment strategies (UNESCO 2005).

2.9. ICT in Schools.

2.9.1. Introduction.

The official appearance of computers in schools was in 1985. In general, computer as a tool facilitates pedagogical practices, including individualized learning, and should contribute to phasing simultaneous teaching. In addition, the use of networks (Internet), is an opening to the real world ⁽¹⁾. Today computers in schools are both a focus of study in themselves (technology education) and a support for learning and teaching (educational technology). Rationales can be presented for both computer literacy and using computers as part of educational technology. This review will concentrate on the latter but will address the issues surrounding computer literacy where relevant. The computer technology not only uses as an aid to learning and teaching in schools, but computers can help students, teachers and administrators ⁽²⁾. According to Haddad (2009) ⁽³⁾ ICTs in schools provide an opportunity to teachers to transform their practices by providing them with improved educational content and more effective teaching and learning methods. ICTs improve the learning process through the provision of more interactive educational materials that increase learner motivation and facilitate the easy acquisition of basic skills. The use of various multimedia devices such as television, videos, and computer applications offers more challenging and engaging learning environment for students of all ages. A study conducted by the International Institute for Communication and Development (IICD) indicated that 80 percent of its participants felt more aware and empowered by their exposure to

1 Yves Moreau and Michel Tournon (1999), *L'informatique à l'école*. Pertrand- Lacoste, Paris. p. 13.

2 C.Paul Newhouse, (2002), *The Impact Of Ict On Learning And Teaching*, Western Australian Department Of Education.
Retrieved from: <http://www.det.wa.edu.au/education/cmis/eval/downloads/pd/impactreview.pdf>.

3 Wadi Haddad and Sonia Jurich. (2009), "ICT for Education: Potential and Potency," in *Technologies for Education: Potentials, Parameters, and Prospects*, eds. Wadi Haddad and A. Drexler (Washington, D.C.: Academy for Educational Development), 28-40.

ICT in education, and 60 percent stated that the process of teaching as well as learning were directly and positively affected by the use of ICT ⁽¹⁾.

2.9.2. Concepts of ICT integration in schools.

2.9.2.1. History of computers in schools.

The issue of 'computers in education' started to become popular in educational policy-making in the early 1980s, when relatively cheap microcomputers became available for the consumer market. Stimulated by governmental policies and quite often led by the fear of losing the technology race, many countries started to build their own brand of microcomputers (BBC, Acorn, Tomson) and distributed these to schools. At the end of the 1980s, the term "computers" was replaced by 'IT' (Information Technology). IT came about in the 1970s to describe technologies that give the user direct access to a wide range of diverse information types ⁽²⁾.

This signifies a shift of the focus from computing technology to the capacity to store and retrieve information. This was followed by the introduction of the term 'ICT' (Information and Communication Technologies) around 1992, when e-mail started to become available to the general public. The term 'ICT' reflected the common understanding that a computer's potential is significantly enhanced by connection to a local network, and even more so by connection to the Internet ⁽³⁾. With regard to the early introduction of microcomputers in education, there were high expectations that it would make education more effective and motivating. However, when many surveys had shown that computers were used mainly as a supplement to the existing curriculum, and much less as tools that were fully

1 International Institute for Communication and Development, (2007), ICTs for Education: Impact and Lessons Learned from IICD Supported. Retrieved from: <http://www.iicd.org/files/icts-for-education.pdf>.

2 Jo Tondeur, Johan van Braak and Martin Valcke (2007). Curricula and the use of ICT in education. *British Journal of Educational Technology*, pp. 962-975.

3 Andrew E. Fluck (2003). Integration or Transformation. Retrieved from: <http://eprints.utas.edu.au/232/1/01front.pdf>.

integrated into the learning of traditional subject matter, the general feeling among many policy-makers was one of great disappointment ⁽¹⁾.

Between 1992 and about 1995, the investments in hardware, staff development and research programmes on ICT decreased (Pelgrum & Law, 2004). With the advent of the World Wide Web, the political interest in ICT was quickly boosted for a second time. Many have seen ICT as a formidable tool to close the gap between the developing world and the developed world – by skipping certain stages of industrial development and leapfrogging into the Information Economy ⁽²⁾. This interest was accompanied by a commonly accepted rhetoric that education systems would need to prepare citizens for lifelong learning in an ‘information society’ (Pelgrum & Law, 2004). As a result, an information society was to be changed by ICT; citizens in these information societies would need new competencies that had not yet been sufficiently attained in the traditional education systems; educational innovations would need to be implemented – with the aid of ICT – to attain these new skills.

2.9.2.2. Phases in the history of computers in education.

Leinonen, T., (2005) ⁽³⁾, Divides the history of using computers in education into five phases as in the following figure:

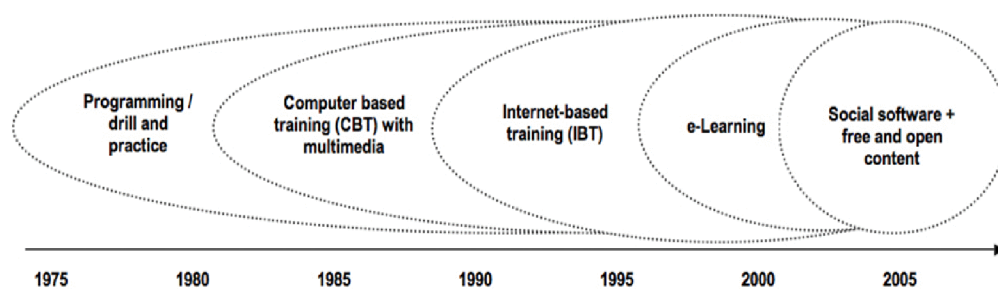


Figure (12) phases in the history of using computers in education.

1 Stéphanie Heer et Abdeljalil Akkari (2006), Intégration des TIC par les enseignants : premiers résultats d'une enquête suisse. Revue internationale des technologies en pédagogie universitaire. Récupérée de: <http://www.ritpu.org/IMG/pdf/akkarHeer.pdf>.

2 Alexander Osterwalder (2007). ICT in developing countries, A cross-sectoral snapshot. Scientific Commons.

3 Teemu Leinonen, (2005), ibid.

(1) Late 1970's – early 1980's: programming, drill and practice.

Drill and practice software has become increasingly sophisticated over the years. In many cases, teachers can individualize the content of the lesson. However, the software was very simple drill and practice exercises for math and language learning. These exercises didn't help much students to reach any deeper understanding, as they were mainly simulating students' short term memory and "trial, error, trial, error, trial, past" kind of activity.

(2) Late 1980's – early 1990's: computer based training (CBT) with multimedia.

Same point when the multimedia computers, with advanced graphics and sound came to the mass markets it was presented a claim that the drill and practice exercises failed to teach much because they didn't contain multimedia ⁽¹⁾.

This was the golden era of CD-ROMs and multimedia computers. This combination was seriously expected to have a huge impact on the ways of learning. Students learn better by watching movies/ animations and listening audios whereas some learn better by reading or watching still images.

(3) Early 1990's: Internet-based training (IBT).

The third wave or hype of using computer in education came with the raise of the World Wide Web, the Internet and the Internet-based training. At this point computer-based training was brought to Internet, but again without the multimedia. That time, was text and pictures and some early experiments with animations, video and audio.

(4) Late 1990's – early 2000: e-Learning.

The Internet-based training got mature in late 1990's and early 2000 in a form of e-learning. The pedagogical thinking around the e-learning is closely related to the computer-based training. The point is to deliver courses for students. Later on

¹ Teemu Leinonen, (2005), *ibid*.

the learning platform developers has become more aware that learning requires social activities among the learners themselves and the learner and the teacher(s).

(5) Late 2000: Social software and free and open content.

Social software and free and open content will make a real breakthrough in the field of educational technology. Blogs and wikis have already brought web back to its original idea: simple tool for your personal notes that are easily accessible and even editable by your peers and your potential peers. Such projects as the Creative Commons, Wikipedia and Open courseware have shown that free content benefits all – and that people are willing to contribute to the common good. Digital content is such that when you give it away you do not lose it yourself. This makes giving much easier for many people.

2.9.2.3. Requirements for a successful ICT integration in schools.

Several models and frameworks have been formulated to provide a better understanding of the ICT integration process, to evaluate the positive effects of technology on learning, or to investigate the kind of enhanced learning environment that technology provides in the classroom. Pelgrum (2004) identified five key dimensions that should be addressed when considering ICT Integration in education. These comprise the curriculum, the ICT Infrastructure, the staff development and support, the organizational change and leadership, and the National educational policies and ICT implementation strategies.

2.9.2.3.1. The Curriculum.

The curriculum is seen as the content and processes of learning in schools, as well as the outcome of learning. Three roles are generally differentiated for ICT in the curriculum: “Learning about ICT”, which refers to ICT as a subject of learning in the school curriculum, such as computer (or ICT) literacy, computer science and information literacy; “Learning with ICT”, which refers to the use of ICT, including multimedia, the Internet or the Web as a medium to enhance instruction, or as a replacement for other media without changing the beliefs about the approaches to,

and the methods of, teaching and learning; and “Learning through ICT”, which refers to the integration of ICT as an essential tool into a course/curriculum, such that the teaching and learning of that course/curriculum is no longer possible without it ⁽¹⁾.

The Egyptian Ministry of Education (MOE) with the assistance of many international organizations (such as USAID and UNESCO) has introduced many education reforms to prove the educational system and raise teachers' technological awareness and encourage them to integrate Information and Communication Technology (ICT) into the curriculum ⁽²⁾. According to a study made by Scott Adam (2003) ⁽³⁾ the study was a case study on the nature of technology integration in a social studies methods course and its impact on the practices of preservice teachers during the course and during their practice experiences. The case study data show that preservice teachers had a positive attitude toward computer and information technology prior to the beginning of this course, one major finding was that preservice teachers stated that the integration of technology in the methods course made them "comfortable", "confident" and "more fluent" in using technology in teaching.

Mehmet Açıkalın (2010)⁽⁴⁾ saw: educators increasingly support the use of computer-supported instruction in social studies education. However few studies have been conducted to study teacher use of computer-supported instruction in social studies education. The data analysis indicated that all of the participants agreed that the computer is a powerful research tool which facilitates students' work and makes the work faster and easier for the students. The participants used various types of computer-supported instruction in their classrooms. The use of the

1 Gary B. Shelly, Glenda A. Gunter and Randolph E. Gunter (2009, 6th Ed), *Teachers Discovering Computers: Integrating Technology and Digital Media in the Classroom*. Thomson Course Technology, Boston.

2 Alaa Sadik (2008). *Using Digital Storytelling: A Meaningful Technology-Integrated Approach for Engaged Student Learning*
Retrieved from: http://learnlink.aed.org/Publications/Sourcebook/chapter4/Computers_in_Schools_modelofuse.pdf.

(3) Scott Adam, Webber (2003), *Ideology and Pedagogy: The Uses of and Justifications for Computers and the Internet in Elementary Schools*, Ph. D., University of Colorado at Boulder, Retrieved from:
<http://www.lib.umi.com/dissertations/fullcit/3087593>.

4 Mehmet AÇIKALIN, (2010). *Exemplary Social Studies Teachers Use Of Computer-Supported Instruction In The Classroom*, *The Turkish Online Journal of Educational Technology (TOJET)*, volume 9 Issue 4, Retrieved from: <http://www.tojet.net/articles/v9i4/947.pdf>.

Internet and software programs such as Microsoft Power Point, Word, and Excel were the most common use of computer-supported instruction in the classrooms observed.

2.9.2.3.2. ICT Infrastructure.

ICT Infrastructure refers to the hardware, the software and network connectivity. Here, ICT is used not only to support “learning about ICT”, but also to support “learning with ICT” and “learning through ICT”, as described in the previous section. Sub-dimensions are identified in relation to ICT infrastructure in education, such as “the stand-alone versus the distributed” dimension – if software is only locally available (CD-ROM) or accessible only from remote locations (Web-based) ⁽¹⁾.

Issues relating to the quality and the quantity of hardware, the type and cost of equipment needed, the features of the ICT infrastructure which are crucial, and the guidelines for handling and maintenance should be addressed at this stage. From the Software perspective, the debate ranges over the respective pros and cons of using Free Software (FS), and solutions versus proprietary solutions. At the economic level, the balance goes to the (FS) solution, while proprietary software companies claim their Total Cost of Ownership (TCO) is lower ⁽²⁾.

2.9.2.3.3. Staff development and support.

Teachers play a crucial role in the adoption and implementation of ICT in education, since they are the key to making learning happen. The lack of ICT knowledge and skills from teachers is reported to be a major obstacle to implementation; and consequently, this requires the need for further training for teachers. The introduction of computers in schools is a complex innovation which poses considerable challenges to teachers in their daily work ⁽³⁾.

1 Neil Butcher (2004), L'infrastructure technologique et l'utilisation des TIC dans le secteur de l'éducation en Afrique: Vue générale. Groupe de travail de l'ADEA sur l'enseignement à distance et l'apprentissage libre (GTEDAL). Institut international de planification de l'éducation, Paris, France.

2 Jörg Müller, et al., (2006). The socio-economic dimensions of ICT-driven educational change. *Computers & Education* 49 (2007) , pp. 1175 - 1188.

3 Jac Stienen (2007), Les TIC au service de l'éducation, Impact et enseignements retenus des activités appuyées par IICD. Récupérée de: <http://www.iicd.org/files/Education-impactstudy-French.pdf>.

Education reforms should require teachers to adopt new roles, since more responsibilities for learning are given directly to the students. This change requires that teachers be proficient in advising and guiding students through more autonomous, self-directed learning processes, while at the same time monitoring the curriculum standards achieved by students. Preparing teachers for this new role is a major challenge for staff development. Also, while teachers are often the focus of staff-development provisions, they are not the only stakeholders that require staff development to cope with the introduction of ICT into schools ⁽¹⁾.

2.9.2.3.4. Organisational change and leadership.

The change brought in by introducing ICT has to be aligned with other institutional priorities, if it is to be successful. However, case studies of ICT implementation in schools in a number of countries have indicated that the vision and goal of such implementation can be very different, even for schools that have been actively engaged in innovation of their traditional educational practices ⁽²⁾. It might be expected that changes which do not involve challenges to the existing educational priorities or beliefs of the school would be relatively easily implemented. However, to bring about curriculum change, drastic changes in teaching practices, school culture and organizational management must be made. Schools need to become “learning organisations”, i.e. institutions that anticipate new challenges and change, and orientate themselves towards continual renewal and improvement.

2.9.2.3.5. Educational policies and ICT implementation strategies.

In recent years, many governments throughout the world have adopted plans that have, in varying degrees, addressed the issues relating to ICT integration in schools ⁽³⁾. However, the nature and scope of the strategies for initiating, guiding

1 Stéphanie Heer et Abdeljalil Akkari (2006) *ibid.*

2 W.J. Pelgrum and N. Law. (2004). *ibid.*

3 W.J. Pelgrum and N. Law. (2004). *ibid.*

and implementing these policy plans differ between countries, partly as a consequence of varying socio-economic circumstances ⁽¹⁾.

At the school level, policies must be formulated as well. A whole-school ICT policy sets out the rationale for the teaching and learning of ICT, as well as the aims and objectives for ICT use within the ethos and wider frameworks of the school. It gives clear guidance on the types of equipment, programmes and measures that need to be in place if the requirements of the policy are to be met. The central aim of the policy is to provide a broad, balanced and challenging range of ICT opportunities for the students – to effectively prepare them for a future role in society ⁽²⁾.

An effective ICT policy must be a concise and accessible document that informs and directs the teaching of ICT within the school. The policy must be subject to initial agreement by the governing body and the staff, and they should undertake regular reviews in common with all the other school policies. The priorities need to be reflected in the school's ICT development plan, and the ICT priorities and associated budget requirements need to be identified in the school development plan ⁽³⁾.

Kozma further suggested a classification of these components in a framework for policy formulation, into two categories, namely: strategic components and operational components (Kozma, 2008).

Strategic components, such as national policies, are needed to provide a rationale, a set of goals, and a vision for how education systems might look with the introduction of ICT, and how students, teachers, parents, and the general population might benefit from its use in schools.

1 Thierry Karsenti, Pr. Simon Collin et Toby Harper-Merrett (2011). *Intégration pédagogique des TIC : Succès et défis de 87 écoles africaines*. Ottawa, IDRC. Récupérée de: http://africaict.org/docs/publications/Livre_Integration_PedagogiqueTIC.pdf.

2 Asian Development Bank (ADB), (2005), Kingdom of Nepal: *Preparing the Education Sector Development Program*. Technical Assistance Report. Retrieved from: <http://www2.adb.org/Documents/TARs/NEP/35174-NEP-TAR.pdf>

3 Robert B. Kozma (2008). *Comparative Analysis of Policies for ICT in Education*. *International Handbook on Information Technology in Education*, pp. 1083-1087.

Operational policies, are a means of turning the visions provided by strategic policies into reality. Operational policies—typically framed as action plans, programmes, or projects—often consist of the following components: content development; pedagogical and curricular change; technical support; teacher training and Infrastructural development.

2.9.3. Using Computers in Education.

Computer use is no longer viewed as a goal in itself, but is introduced as a powerful means of fulfilling information needs and of facilitating learning and other instructional tasks. Computing and communication technology continue to make an ever increasing impact on all aspects of cognition, education and training, from primary to tertiary and in the growing open and distance learning environment. There are many studies which emphasizes the importance of using computer in education:

According study made by Meredyth, D., et al., (1999)⁽¹⁾ on computer use in schools, *Real Time: Computers, Change and Schooling*, commissioned by the former Commonwealth Department of Education, Training and Youth Affairs, found that many students are competent and experienced computer users who do not depend on schools to access information or develop technological skills. In surveying the basic and advanced computer abilities of primary and secondary students, the research also showed that many computer skills are picked up at home and that girls and boys have different patterns of computer use. While there are areas of disadvantage among Indigenous students and students in rural and isolated areas, approximately 60% of Australian households now own a personal computer and 30% have a home connection to the Internet.

1 Denise Meredyth, et al., (1999), *Real Time: Computers, Change and Schooling*, Commonwealth of Australia, Canberra, Retrieved from: <http://www.dest.gov.au/archive/schools/publications/1999/realtime.pdf>.

According to W.Setzer and Monke (2001)⁽¹⁾ The various uses of computers in education may be classified into four broad categories:

- Makes use of computer programming as a developmental or “authoring” tool.
- Using computers in education is “programmed instruction” The computer presents a subject, often using sound and animation (multimedia). After this phase, questions are posed to the student, and the answers lead to other topics of investigation or the repetition of previous ones that were not properly “learned.”
- Simulating experiments. Instead of observing and doing something real, either in a laboratory or in the field, students explore simulations on the computer screen.
- Teaching general software, such as word processors, electronic spreadsheets, graphic, database, and communication systems.

In the same context, Varank, et al., (2001)⁽²⁾ also emphasized that: Seven major uses of computers in education. They included: “Drill and practice, tutorial, problem solving, simulation, inquiry, testing and programming”. For the drill and practice a teacher may teach a concept one day such as verb conjugation and use the computer games the following class that test the students’ understanding. In the tutorial “computer introduces and explains concepts and skills in which it gives practice”. In problem solving the computer gives questions in which the students are expected to answer. The computer structures the question in a way in which students have to show answers step by step. An example of simulation is teaching students’ geometry and having them map their course across the Atlantic; making adjustments along the way for winds and currents. Inquiry is probably the most widely known use of computers; we have access the worldwide web which presents

1 Valdemar W.Setzer and Lowell Monke (2001). An Alternative View on Why, When and How Computers Should Be Used in Education, Retrieved from: <http://www.ime.usp.br/~vwsetzer/comp-in-educ.html>.

2 Varank, Ilhan, et al., (2001). Issues in Integrating Computers into Classroom, ERIC, [ED 445669]. Retrieved from: <http://www.eric.ed.gov/PDFS/ED470178.pdf>

a wealth of information. "Computers are also ideal for presenting and scoring tests. They can automatically adjust the difficulty of a test based on students' responses.

Rosalind G. Muir-Herzig (2004)⁽¹⁾ see that technology can help facilitate the knowledge-constructed classroom. Computers as having an influential effect on the teaching and learning processes. Many of studies state that with the use of computers in the classroom, schools would become more student-centered and that more individualized learning would take place than ever before. In the student-centered classrooms of today, with the aid of the computer, students are able to collaborate, to use critical thinking, and to find alternatives to solutions of problems. Also Sonia J., (1999)⁽²⁾ emphasized that; there is a positive relationship between instructional use of computers and students' scores, particularly for those students most in need. The studies show that positive effects are related to how the computers are used, a variable linked to the quality of educators and their professional development.

According to Condie, et al., (2007)⁽³⁾ Technologies can be used to improve learning and instruction in schools by development of basic literacy and numeracy skills. Different forms of technology such as computers or CD-ROMs can be used to store, process and retrieve lessons and curriculum resources on demand. Also learning has been enhanced where computers and presentational software were combined with other technologies. Educators have found ICTs to be a crucial tool for supporting drill or practice in previously taught skills or concepts in class, and assistive for pupils with special needs.

1 R. G. Muir-Herzig (2004). Technology and its impact in the classroom, *Computers & Education*, doi:10.1016/S0360-1315(03)00067-8 Retrieved from <http://te886.pbworks.com/f/Tech+in+the+Classroom.pdf>

2 Sonia Jurich, (1999), *Computers in the Classroom: How Effective?*, *TechKnowLogia*, November/December, 1999 © Knowledge Enterprise, Inc. Retrieved from: http://www.techknowlogia.org/TKL_active_pages2/CurrentArticles/main.asp?%20IssueNumber=2&FileType=HTML&ArticleID=43

3 Rae Condie et al., (2007) *The impact of ICT in schools- a landscape review*, Quality in Education Centre, University of Strathclyde, Retrieved from: http://www.skolverket.se/polopoly_fs/1.140568!Menu/article/attachment/impact_ict_schools2007.pdf

According to Gene (2007)⁽¹⁾ Learning through computer simulation mirrors the technology-based foundation of most legal practice settings today and enables participants to experience non-linear decision making closest to real-world casework. Also continuing legal education providers, technology providers, and law schools all have a role to play in ensuring that Students are prepared for a technologically-mediated world. To meet this challenge, these organizations must understand what to teach and how to teach it. In many ways the opportunity demands an entrepreneurial approach: relentless experimentation to sharpen both practice and the pedagogy of practice.

2.9.4. ICT implementation in schools: The extent of use.

In at least three important respects, the dramatic changes in education implied or already brought about by ICT differ from any previous reform. First, earlier curriculum reforms arose within education, as educators attempted to put their own house in order. ICT has arisen outside the world of education, but with an irresistible case for adoption within schools. Secondly, and remarkably, it often happens that those who are taught are more comfortable with the new developments than their teachers. Finally, the pervasive nature of ICT has profound implications across the ethos and organization of the whole of the learning environment ⁽²⁾.

ICT infrastructure in a school is understood to comprise a basic computer system configuration with a systems unit, monitor, keyboard and mouse together with generic operating system and application software. Some schools have gone beyond the basic configuration and have added connectivity and additional peripheral devices such as multimedia speakers, CD ROM drives, scanners, and data view projectors, etc.

1 Gene Koo (2007). *New Skills, New Learning: Legal Education and the Promise of Technology*, Berkman Centre for Internet & Society, Retrieved from <http://cyber.law.harvard.edu/publications>.

2 Centre pour La Recherche et L'innovation dans L'enseignement, (2001). *Les nouvelles technologies à l'école: apprendre à changer*, p. 10, OCDE, Paris, France.

These have been and are being used variously by teachers and students. There are a number of indicators of use, student to computer ratio being the basic one. Another way is to group several indicators together and consider an overall picture of use. According Report prepared at the request of the General Council of Industry, Energy and Technology (CGIET), (Ministry of Economy, Industry and Employment) and the Regulatory Authority for Electronic Communications and Postal (ARCEP) in France, In June 2009, 94% of 12-17 year olds have at least one computer at home, against 62% of the sixties, 79% have broadband Internet at home ⁽¹⁾. The Organization for Economic Cooperation and Development (OECD) (2007)⁽²⁾ data in Figure (13) gives the frequency of use of computers by students in schools across several countries. On average there were more students who used computers at home than those who did not. The contrary is true at school. In general students tended to use computers more at home than at school. There is a study made by D. Meredyth et al., (1999) ⁽³⁾. Indicates that students who first acquired a skill at home were considerably more likely to judge their ability to use computers at school as 'excellent' (31 per cent to 39 per cent), when compared with students who first acquired the skill at school (15 per cent to 18 per cent). Those students who first acquired the skill at school were more likely to perceive themselves as 'not good' at using computers at school.

1 Régis Bigot et Patricia Croutte (2009). La diffusion des technologies de l'information et de la communication dans la société française (2009), Centre de Recherche pour l'Etude et l'Observation des Conditions de Vie. Paris. Récupérée de: http://www.arcep.fr/uploads/tx_gspublication/etude-credoc-2009-111209.pdf.

2, Retrieved from: http://news.bbc.co.uk/2/shared/bsp/hi/pdfs/02_04_07oecdactbook07_III.pdf

3 Denise Meredyth et al., (1999), Real time computers, change and schooling, Commonwealth of Australia, p. 90, Retrieved from: <http://www.dest.gov.au/archive/schools/publications/1999/realtime.pdf>.

Computer usage by 15-year-old students⁽¹⁾

Percentage of 15-year-old students using computers frequently, 2003

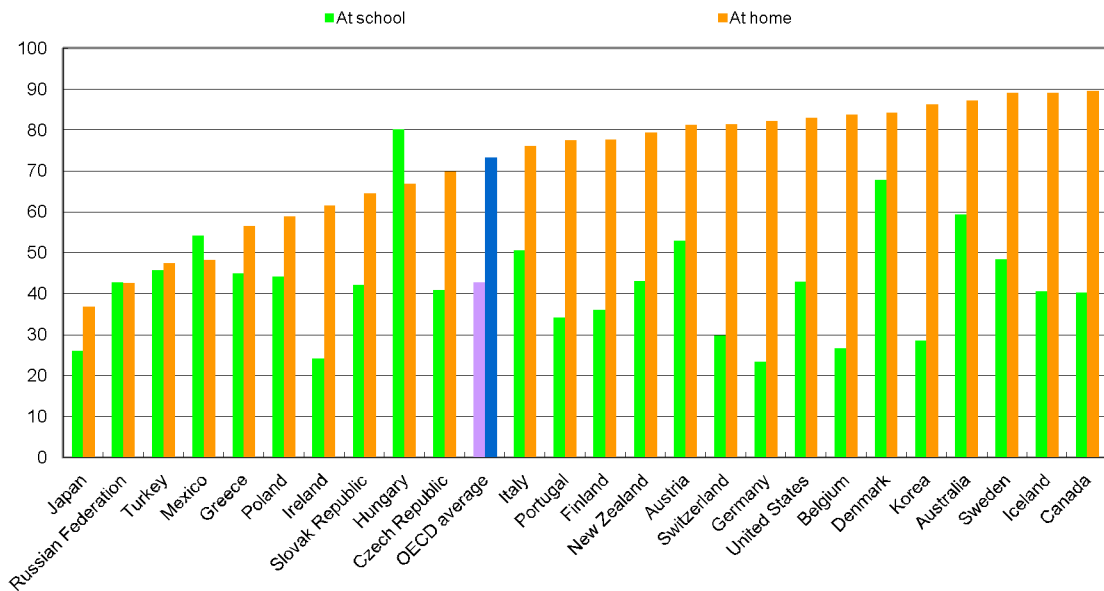


Figure (13) Computer use by students in selected countries.

In the pursuit of educational success, the desirability of strong, fruitful links between schools and homes has long been recognized. Moreover, home and social background are known to be among the most powerful factors shaping educational achievement and determining the nature of the educational provision. Now ICT sharpens the focus on these interrelationships and adds to their importance. The increasing prevalence of home ownership of computers is changing access to knowledge and information, promoting significant learning beyond the programmes, the premises and the hours of formal education, and greatly adding to the possible links between home and school. It is, moreover, in the nature of ICT to facilitate learning beyond the bounds of the school. Self-directed learning with ICT at home or in the community becomes an integral and important aspect of the total

¹ Retrieved from: <http://dx.doi.org/10.1787/327204574111>.

learning experience. More than hitherto, there is a dynamic complementarity between learning in school and learning at home ⁽¹⁾.

According to Ronald L. Greene (2001)⁽²⁾, Allowing the learner to work independently or collaboratively either in school or at home is a good way to get students to learn. Out-of-class study time can be utilized to improve student learning of basic physics concepts. Doing more requires individualized instruction and productive out-of-class effort on the part of the student. Depending on the students' learning preference, learning in the computer laboratory can take the form of one-to-one with the computer or in pair-work. All students can benefit from the interactivity and immediacy of a well-designed computer-aided educational system compared to other traditional learning tools, such as textbooks.

2.10. Potential Benefits of ICT in Education.

The potential benefits of ICT for teaching and learning are expressed as reasons for increasing use of ICT in schools. Among the reported benefits are gains in increased motivation, improvement in teacher training by providing access to more and better educational resources, offering multimedia simulations of good teaching practice and increasing productivity of non-instructional tasks ⁽³⁾. The belief that access to hardware and software can transform the education sector has caused educational authorities worldwide to promote ICT literacy among teachers and students and, consequently, to invest significantly in computers and software for schools. Cemil YÜCEL et al., (2010) ⁽⁴⁾, in their investigation of the stages of ICT integration among Turkish teachers, noted teachers' feelings of inadequacy in using ICT, which was related to their level of perceived knowledge of computing and their attitudes towards using ICT in teaching and learning. They concluded that the personal ICT knowledge of teachers is the most important variable contributing to

1 Centre pour La Recherche et L'innovation dans L'enseignement, (2001). Les nouvelles technologies à l'école: apprendre à changer, p. 87, OCDE, Paris, France.

2 Ronald L. Greene (2001). Physics Illuminations: Supplementing Instruction via Web-Based Self-Study. New Orleans, Retrieved from: <http://www.physics.uoguelph.ca/phyjlh/Green/illum-tpt.pdf>

3 National Council for Curriculum and Assessment (NCCA), (2004), Curriculum Assessment and ICT in the Irish context. Retrieved from: <http://www.ncca.ie/uploadedfiles/Publications/CurriculumAssessmentandICT.pdf>

4 Cemil Yücel et al., (2010). A model to explore Turkish teachers' ICT integration stages. The Turkish Online Journal of Educational Technology, 9(4), pp. 1-9.

full attainment of ICT integration. Howie and Blignaut (2009)⁽¹⁾ propose that a positive and willing attitude is key to the successful application of technology in education. In the same context, McGarr (2009)⁽²⁾ claim that the potential of technology in education has not been fully exploited. In international studies, changes are suggested in the infrastructure of schools and educational systems. White or black boards, chalk, pen and paper and overhead projection should be used in conjunction with computers, e-learning and the Web, as teachers and students make use of available software and hardware as supplementary media. There are some of the General benefits which ICT brings to education ⁽³⁾:

- Greater efficiency throughout the school.
- Communication channels are increased through email, discussion groups and chat rooms.
- Regular use of ICT across different curriculum subjects can have a beneficial motivational influence on students' learning.

This section addresses potential transformation in specific areas, such as motivational factors, the impact of ICT on students and educators; and finally, effective pedagogy and the learning environment. All these factors can contribute to the enhancement of teaching and learning, yet have associated complexities. This section also notes the reservation of some researchers who do not believe that the integration of ICT in education improves teaching and learning.

2.10.1. Increase Student Productivity.

In the past students have spent a lot of time doing repetitive, low-level tasks particularly involving writing, drawing and computation. While it may be necessary for students to develop these skills at some time on most occasions they are pre-requisite to some higher level task. Unnecessary repetition of low-level tasks is inefficient, non-motivational and may obscure the real purpose of the learning

1 Sarah J. Howie and A. Seugnet Blignaut (2009). *ibid*

2 Oliver McGarr (2009). The development of ICT across the curriculum in Irish Schools: A historical perspective. *British Journal of Educational Technology*, 40(6), pp. 1094-1108.

3 SchoolNet SA (2012), Enseigner et apprendre par les technologies de l'information et de la communication (TIC). Récupérée de: www.schoolnet.org.za/PILAfrica/fr/docs/ict_pedagogy.doc.

activity. Many computer applications provide the tools to support students in quickly completing these lower-level tasks so that they can focus on the main purpose of the activity. Word processors, graphics packages, database packages, spreadsheets and other software support the performance of students. The use of scaffolds and tools can help students to solve problems that may have previously been considered to be too difficult for them. Studies have shown that students often learn more in less time, that is their productivity increases, when they use computer support appropriately ⁽¹⁾. Such scaffolding tools are often referred to as Electronic Performance Support Software.

McGarr (2009) ⁽²⁾ also claim that the potential of technology in education has not been fully exploited. In international studies, changes are suggested in the infrastructure of schools and educational systems. White or black boards, chalk, pen and paper and overhead projection should be used in conjunction with computers, e-learning and the Web, as teachers and students make use of available software and hardware as supplementary media. There have also been efforts to reduce teaching time by encouraging teachers to replace certain bookwork exercises by using technology for practical activities such as drill-and-practice exercises.

2.10.2. Motivation and Support for Educators.

There is substantial evidence that, in the right hands and used appropriately for specific purposes in specific contexts, ICT can be an effective tool in supporting teaching and learning. However, it is now firmly established that its introduction into schools does not by itself improve the quality of education or raise attainment. Encouragingly, there is growing and widespread awareness that the pedagogical and technical expertise of the teacher is absolutely critical here ⁽³⁾. For successful integration of ICT in the classroom, good access to technology is a major prerequisite. Access is, indeed, one of the greatest problems for teachers needing

1 Johan Schacter (1999). The impact of education technology on student achievement: what the most current research has to say. Santa Monica, CA.: Milken Exchange on Education Technology.

2 McGarr, O. (2009). *ibid.*

3 Sara Hennessy et al., (2010), Teacher Factors Influencing Classroom Use of ICT in Sub-Saharan Africa. *Itupale Online Journal of African Studies*, 2 (2010) pp. 39- 54 Retrieved from: http://www.cambridgetoafrica.org/resources/Hennessy%20etal_FINAL.pdf

computers in their own classrooms. Yet even where this obstacle has been overcome, the motivation to apply ICT as an integral part of education remains a challenge ⁽¹⁾. The majority of teachers have positive views about the potential of ICT to improve teaching and learning outcomes; one of their main concerns was finding time to fully explore this potential ⁽²⁾.

As in corporate organizations, where employee motivation is part of organizational policy, motivation for teachers and students to use ICT in the classroom is also subject to the school culture, policies and level of support. Stakeholders may be resistant to the associated changes. School authorities have the responsibility to encourage both teachers and students to accept ICT and e-learning, but must also provide infrastructural support and training ⁽³⁾.

In order to encourage teachers the effective development of ICT skills and knowledge and enhanced use of ICT in schools, requires a holistic approach comprising appropriate training in terms of skills, knowledge, relevance to educational goals, and priorities, and delivery, ready access to ICT resources and ongoing support and advice to encourage progression beyond any formal training⁽⁴⁾.

Debra Hayes (2007)⁽⁵⁾ emphasises that positive effects and benefits result for the entire school when all stakeholders are involved in the process, instead of just a few individuals. Incentives could include promotion, certification, financial benefits, training, and recognition within the school. Tangible rewards, such as these, provide so-called extrinsic motivation. In addition, intrinsic motivation can encourage and stimulate educators. Alessi and Trollip (2001)⁽⁶⁾ describe intrinsic motivators as the

1 Oliver McGarr, (2009). The development of ICT across the curriculum in Irish Schools: A historical perspective. *British Journal of Educational Technology*, 40(6), pp. 1094-1108.

2 Terry Haydn (2009), Teacher education and ICT: some points for consideration from the UK. Retrieved from: <http://www.oecd.org/edu/cei/41674026.pdf>.

3 Muhammad Zain; Hanafi Atan and Rozhan M. Idrus (2004). The impact of information and communication technology (ICT) on the management practices of Malaysian Smart Schools. *International Journal of Educational Development*, 24(2), pp. 201-211.

4 Salomon T., Ngamo (2007), *Stratégies organisationnelles d'intégration des TIC dans l'enseignement secondaire au Cameroun: Étude d'écoles pionnières*, thèse de doctorat en sciences de l'Éducation, Université de Montréal, Récupérée de: http://www.rocara.org/These_Salomon_VersionDepotFinal.pdf

5 Debra Hayes (2007). ICT and learning: Lessons from Australian classrooms. *Computers & Education*, 49(2), pp. 385-395.

6 Stephen M. Alessi, and Stanley R. Trollip,(2001). *ibid.*

kind of motivation that comes from within a person, such as one's personal interests and satisfaction in achievement, and they believe these are more beneficial than extrinsic motivators. In this way, a motivated teacher can set a good example, for other teachers as well as for the students. Instruction, in turn, is intrinsically motivating if students consider it to be fun.

2.10.3. ICT Impact on Students and Educators.

When considering the impact of ICT in education there tends to be a focus on whether and to what extent, ICT can raise pupil attainment. Yet, it is often difficult to establish hard evidence of improved pupil attainment as a result of using ICT. Isolating the impact of ICT from all other factors that can affect achievement can be problematic. However, positive relationships between ICT use and improvement in subject-related learning have been found in several subject areas ⁽¹⁾.

The use of ICT in teaching and learning can change the ways that students learn, as it impacts on aspects such as teamwork, critical thinking, independent learning, concentration and cognitive processing ⁽²⁾. There is no certainty, however, that the use of educational technology improves students' achievements. A further relevant matter is the teacher's attitude, and its impact on teaching.

All European countries have national strategies in place to foster the use of ICT in different areas including a specific strategy devoted to education. In many cases, these strategies aim to provide the necessary ICT skills to pupils (in particular literacy skills) as well as provide ICT training for teachers. Another defining feature is the provision of up-to-date technology and infrastructure at schools. The target groups for the measures in all countries are teachers/trainers and the activities focus on primary and secondary school education ⁽³⁾.

1 Anja Balanskat, Roger Blamire and Stella Kefala (2006), The ICT Impact Report: A review of studies of ICT impact on schools in Europe. European Communities, Retrieved from: http://ec.europa.eu/education/pdf/doc254_en.pdf.

2 Loréal L. Maguire (2005). Literature review: Faculty participation in online distance education: Barriers and motivators. Online Journal of Distance Learning Administration, 8(1), Retrieved from: <http://www.westga.edu/~distance/ojdl/spring81/maguire81.htm>

3 Eurydice, (2011), Chiffres clés de l'utilisation des TIC pour l'apprentissage et l'innovation à l'école en Europe 2011. Éducation, audiovisuel et culture, Récupérée de: http://eacea.ec.europa.eu/education/eurydice/documents/key_data_series/129FR.pdf.

According to Stephen Crowne (2007)⁽¹⁾, Teachers and students are highly positive about the impact that using technology can have on motivation and engagement. This is especially true of the impact of interactive whiteboards. The impact on attainment relates to the precise nature or amount of use and the extent of embedding into learning and teaching practices. The use of technology to support flexible learning is growing in the flexible education sector. There is a noticeable increase in remote access to learning, which suggests a trend to allow learners access to their programmes at a time and in a place to suit them. However, learning platforms are still used to 'push' resources to learners, rather than to allow learners to use them flexibly.

2.10.3.1. Active engagement and cognition.

When interacting actively with a computer, many students are more engaged in the learning process and pay better attention ⁽²⁾. Students are able to get personally involved in experimentation and visually discover important concepts by doing the necessary work. The use of the computer with the Study Works lessons helps to create an interactive learning environment in which students are more likely to construct their own mathematical understanding. What was once a passive atmosphere is now a more active one ⁽³⁾.

When interacting actively with a computer, many students are more engaged in the learning process and pay better attention. The student centred approach is one of the most significant benefits of e-learning. Other studies show that benefits go beyond technology, and also impact on pedagogic and social factors. With regards to pedagogy and cognition, students can use computers as cognitive tools and presentation tools, for example, they can manipulate scientific data on spreadsheets,

1 Stephen Crowne (2007), *Harnessing Technology Review 2007: Progress and impact of technology in education*, Becta.
Retrieved from: http://dera.ioe.ac.uk/1426/1/becta_2007_htreview_summary.pdf.

2 Christopher B. Mugimua (2010). *The State of Higher Education in Africa, Comparative & International Higher Education*, Vol 1, pp.5-6.

3 Bernard Parzysz (2008), *Apprentissage des mathématiques avec les TICE. Enjeux didactiques et évolutions*, Dans Gohin, V., et Moisan, J., (dir.). (2008). *Utilisation des outils logiciels dans l'enseignement des mathématiques*. Récupérée de: http://media.education.gouv.fr/file/Formation_continue_enseignants/18/6/actes_math_et_tice_110186.pdf.

store and access facts in databases, and present their work using presentation software ⁽¹⁾.

2.10.3.2. Collaboration

Collaborative learning is an instructional method in which students' team together on an assignment. In this method, students can produce the individual parts of a larger assignment individually and then "assemble" the final work together, as a team ⁽²⁾. To achieve full benefits, it is not only necessary for students to work together but, more importantly, that they analyze and solve problems at a computer, using cognitive skills and discovering how to approach problems in a cooperative way. Collaborative learning, which is currently encouraged in many sphere of education, can be enhanced through the use of ICT.

2.10.3.3. Impact of ICT on Students' Performance.

Literature shows mixed results. On one hand, several researches demonstrate that there's a real impact of ICT on students' achievement and technology demonstrates its greatest benefit if it helps students to perform better in examinations and tests. An early study by James A. Kulik (1994)⁽³⁾ meta-analysis study revealed that on average, students who used ICT-based instruction scored higher than students without computers. The students also learn more in less time and they like their classes more when ICT-based instruction was included.

Attwell and Battle (1999)⁽⁴⁾ examined the relationship between having a home computer and school performance, for a sample of approximately 64,300 students in the United States. Their findings suggest that students, who have access to a computer at home, for educational purposes, demonstrate improved scores in reading and math.

1 Mugimu, C.B. (2010). *ibid.*

2 Veronica Diaz et al., (2010), Collaborative Teaching and Learning Strategies, EDUCAUSE, Retrieved from: <http://net.educause.edu/ir/library/pdf/ELI80085.pdf>.

3 James A. Kulik (1994), "Meta-analysis study of findings on computer-based instruction". In E. L. Baker and HF. O'Neil Technology Assessment in education and training, Hillsdale, NJ: Lawrence Erlbaum.

4 Paul Attewell and Juan Battle (1999), "Home computers and school performance". The Information Society 15, pp. 1-10.

Fuchs and Woessman (2004)⁽¹⁾, show that while the bivariate correlation between the availability of ICTs and students' performance is strongly and significantly positive. The analysis of the effects of these methodological and technological innovations on students' attitude towards the learning process and on students' performance seems to be evolving towards a consensus according to which an appropriate use of digital technologies can have significant positive effects both on students' attitude and achievement.

On the other hand results from other studies reflect uncertainty on the impact of technology on student achievements. Leuven et al. (2004)⁽²⁾, conclude that there's no evidence relationship between increased educational use of ICT's and students' performance. In fact, they find a consistently negative and marginally significant relationship between ICT's use and some student achievement measures.

Students may use ICT to increase their leisure time and have less time to study. Online gaming, increased communications channels do not mean necessarily increased achievement. Many other explanations were advocated.

R. E. Clark, (1994)⁽³⁾, believe that media cannot influence learning, he argues that media do not influence learning and that there is no significant difference in the end-performance of those who learned with educational technology and those who did not. Clark saw, that media are merely a means to convey instructional methods and content, and concludes that they do not directly influence learning. In contrast to Robert B. Kozma (1994) ⁽⁴⁾ argues that media and methods are interconnected. For Kozma, both media and methods are part of the instructional design. 'Media must be designed to give us powerful new methods and our methods must take appropriate advantage of media's capabilities'.

1 Thomas Fuchs and Ludger Woessmann (2004), "Computers and student learning: bivariate and multivariate evidence on the availability and use of computers at home and at school", CESifo Working Paper, 1321.

2 Leuven, Edwin et al., (2004), "The effect of extra funding for disadvantaged pupils on achievement", IZA Discussion Paper, No. 1122. Retrieved from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=542462.

3 Richard E. Clark (1994), Media will never influence learning. *Educational Technology research and Development*, 42 (2), pp. 21- 29.

4 Robert B. Kozma (1994). The influence of media on learning: The debate continues. *School Library Media Quarterly*, 22(4), 233-239.

While this debate continues, Most report no significant difference in learning effectiveness between technology-based and traditional classroom delivery. Researchers remain unable to state with certainty whether technology can, or will, improve the traditional ways of teaching and learning. The perceived usefulness of technology in the classroom. While there is limited evidence that the use of technology and e-learning improves the students', exposure to e-learning and interaction with technology benefits students in a much broader sense. Condie, et al., (2007)⁽¹⁾ Technologies can be used to improve learning and instruction in schools by development of basic literacy and numeracy skills. While there is no direct link between using ICT and student learning the weight of evidence now clearly shows that indirectly there can be a significant positive impact. Over the past 30 years there has been an increasing amount of research conducted to investigate this impact with increasingly clearer findings of positive impacts when ICT is used appropriately ⁽²⁾.

2.10.3.4. Impact of ICT on Teaching and Teachers.

It is obvious that the influence of ICT over teaching is a common topic to scholars. This issue comes along with the pace of progress of teachers. It is possible to divide the development and progress of teachers in relation with the integral use of ICT in their lessons into several stages or phases. Different researchers tend to use different criteria to label them, such as the advancement in their technical knowledge, degree of integration of ICT resources in teachers' lessons and teaching approach in relation to the use of ICT ⁽³⁾. So the successful application of e-learning depends to a large extent on how educators and trainers view and use ICT personally. Motivation to use ICT has been addressed in Section 2.10.2. Teachers with positive attitudes towards technology, who use it in preparing their work professionally and efficiently, are more likely to use e-learning tools effectively to

1 Rae Condie et al., (2007) The impact of ICT in schools- a landscape review, Quality in Education Centre, University of Strathclyde, Retrieved from: http://www.skolverket.se/polopoly_fs/1.140568!Menu/article/attachment/impact_ict_schools2007.pdf

2 C. Paul Newhouse (2002), The IMPACT of ICT on LEARNING and TEACHING, Specialist Educational Services Perth, Western Australia, Retrieved from: <http://www.det.wa.edu.au/education/cmisis/eval/downloads/pd/impactreview.pdf>.

3 Joseph Hui, Wai-keung, (2003), The impact of ICT on teaching practices : a case study, Master of Science in Information Technology in Education, University of Hong Kong, Retrieved from: <http://hub.hku.hk/handle/10722/30982>.

benefit students and to influence them, in turn, towards a positive approach to technology⁽¹⁾. At the very least, it is essential for teachers to be technologically literate.

2.10.4. Pedagogy and Learning Environment.

The development of information and communication technology (ICT) is changing the way in which people work, communicate and learn. Co-operative and collaborative environments will allow group work, group conferences in knowledge building ⁽²⁾. Therefore, the success of e-learning also depends on appropriate shifts in pedagogy, as well as content, when teachers use subject-related e-learning applications, such as tutorials and simulations related to the curricula. The use of ICT in education must be based on a sound pedagogic and theoretical approach to improve learning ⁽³⁾. The new approach is strengthened by a move towards the constructivist paradigm which encourages personal construction of knowledge, rather than simply following previous practices in a different manner. Many e-learning tutorials, however, are appropriately based on the behaviourist paradigm, as they guide students through well-structured subject matter. A combination of learning-theory foundations is appropriate, depending on the context and content.

Hepp K., et al., (2004)⁽⁴⁾ emphasized that ICT can and should play a variety of roles inside a school. Some of the more important ones are pedagogical, cultural, social, professional and administrative. ICT, if sensibly deployed and with carefully selected software, can positively affect many aspects of school life. Teachers and students can take advantage of the growing availability of educational resources as software packages and Web pages. Teachers will need curricula-related content and

1 Per-Olof Erixon (2010). School subject paradigms and teaching practice in lower secondary Swedish school influenced by ICT and media. *Computers & Education*, 54(4), pp. 1212-1221.

2 Wilfred Rubens et al., (2005), Design of web-based collaborative learning environments. Translating the pedagogical learning principles to human computer interface. *Computers & Education* 45 (2005), pp. 276-294. Retrieved from: <http://www.tlu.ee/~kmeta/haridustehnoloogiaTLU/cscldesigning.pdf>

3 M.R. De Villiers, (2006). A learning theory approach in support of outcomes-based e-learning. Conference on Information Technology in Tertiary Education, Pretoria, South Africa, 18 – 20 September 2006.

4 Pedro Hepp K., et al., (2004). Technology in Schools: Education, ICT and the knowledge society. Retrieved from: http://siteresources.worldbank.org/EDUCATION/Resources/278200-1099079877269/547664-1099079947580/ICT_report_oct04a.pdf.

clear strategies and examples to effectively use these materials in the classroom. They will find that students can become highly motivated towards learning.

Hepp K., identifies a variety of reasons for applied ICT in education, some of these reasons:

- A new society requires new skills: new generations need to acquire the necessary skills to access to computers and networks during their school life.
- Productivity enhancement: ICT should be fundamental management tools on all levels of an educational system, from classrooms to ministries.
- A quest for quality learning: Schools should profoundly revise present teaching practices and resources to create more effective learning environments and improve life-long learning skills and habits in their students. ICT should be present in every classroom, library and teacher room.

2.10.4.1. Active Learning.

Active learning gets students involved in activity in the classroom rather than passively listening to a lecture. This activity can be reading, writing, discussing, solving a problem, or responding to questions that require more than factual answers. The value of active learning is already realized and implemented through laboratories, or in computer science, through programming projects. The ideas present here are to expand this to include activities in the classroom ⁽¹⁾. Active learning involves meaningful interaction with computers, which may play the role of tutor or of tool. Alexander De Cosson (2009) ⁽²⁾, suggest using the internet, online resources, asynchronous communication and email to achieve interaction and collaboration. Instructors can encourage active learning with computer programs research and virtual classes. They could use the computer to promote feedback and

1 Jeffrey J. McConnell, (1999), Active Learning and its use in Computer Science, SIGCSE Bulletin, vol. 28, Special Issue, pp. 52-54. Retrieved from: http://cs.canisius.edu/~mcconnel/Papers/sigcse_sigcse.html.

2 Alexander De Cosson (2009), Technology in the Arts and Humanities Classroom, Retrieved from: <http://www.brannonhamilton.com/wp-content/uploads/2010/11/Literature-Review.pdf>.

timeliness while promoting high expectations and diversity. BAYRAK, (2007)⁽¹⁾, Computer based learning is a method, which uses computers in a learning media and strengthens students' motivation and educational processes. It gives opportunities to both students and teachers to learn and teach more quickly and to combine active learning with computer technology.

Karen Swan, et al., (2005) ⁽²⁾ maintain that active and participative technology-enhanced learning can transform the educational landscape and stimulate improvements in students' performance. E-learning provides a platform to investigate, construct and analyse information in such a manner that students do not view issues in an abstract way, but rather as part of a relevant, authentic and real world. E-learning approaches and hands-on interaction can motivate students as they engage actively and constructively in the learning process. Jim Callan (2001)⁽³⁾ has emphasised that teachers should create active learning opportunities and activities for students and that using ICT can lead to more student- centred, active learning. Also ICT can afford pupils the opportunity to engage in their own learning through a variety of active and interactive learning tasks.

2.10.4.2. Collaborative Learning

Collaboration has been defined as “A systematic process in which we work together, interdependently, to analyze and impact professional practice in order to improve our individual and collective results” (Dufour, Dufour, and Eaker cited in Michael Fullan, 2008) ⁽⁴⁾. Collaborative learning and team work are associated with the social constructivist approach to learning ⁽⁵⁾. Teachers often work together to develop class materials and ICT can help in this collaboration through the use of

1 Bekir Bayrak, (2007), To compare the effects of computer based learning and the laboratory based learning on students' achievement regarding electric circuits, The Turkish Online Journal of Educational Technology (TOJET) volume 6 Issue 1. Retrieved from: <http://www.tojet.net/articles/v6i1/612.pdf>

2 Karen Swan et al., (2005) Teaching and learning in a ubiquitous computing classroom. Columbus, OH: SchoolNet.

3 Jim Callan (2001), Schooland curriculum development initiative (scd), papers presented at conference national university of ireland maynooth, 19th october 2001. Retrieved from: <http://www.nuim.ie/publications/education/scd.pdf>.

4 Michael Fullan (2008) Six Secrets of Change, Retrieved from: http://www.michaelfullan.ca/resource_assets/handouts/08_Long_Handout_A4.pdf

5 Jacques Perriault (2002), éducation et Nouvelles Technologies; Théori et pratiques. Nathan/ VUEF, P. 51.

email, Google Docs, etc ⁽¹⁾. Working together using ICT can lead to “better class and group dynamics ⁽²⁾. And in relation to student collaboration, it must be noted that group work is not always involved, as students working individually on a computer software resource can be said to be working collaboratively with the software. In addition to promoting collaborative learning, contemporary pedagogy aims to foster student autonomy in learning ⁽³⁾.

2.10.4.3. Learner Autonomy.

The term learner autonomy has been generally defined as a developing capacity on the part of learners to accept responsibility for their learning ⁽⁴⁾. The teacher’s role in helping to develop this capacity is onerous. As students can access material wherever, whenever and as often as they wish, technology can help students become autonomous learners. Technology can also enable students to access learning materials outside of school hours at a time that suits them. Just-in-time learning is an emerging trend which can be facilitated by ICT ⁽⁵⁾. The students have responsibility for their learning but through scaffolding, this entails a capacity and willingness to act independently and in co-operation with others, as a socially responsible person. The teacher takes more responsibility than in a traditional class.

According to A., Țurloiu, and I., Stefánsdóttir, (2011)⁽⁶⁾, for successful implementation of learner autonomy, it is important that all those concerned are aware of the rationale behind the different working, learning and assessment methods. Learners choose topics and projects for their studies, and the teacher serves both as a facilitator and a counsellor. Group work is a key factor in the learner autonomous classroom and something that many teachers struggle with.

1 Alin Jallett, (2004). *l'école à l'ère numérique, des espaces numériques pour l'éducation à l'enseignement à distance*. L'harmattan, Paris.

2 Stephen Crowne (2007) *ibid*.

3 Rosemary Luckin (2003) “Between the lines: documenting the multiple dimensions of computer-supported collaborations”. *Computers & Education* 41, pp. 379-396.

4 Leni Dam (2003) “Developing learner autonomy: the teacher’s responsibility”, in Little, D., Ridley, J. and Ushioda, E. (Editors) *Learner autonomy in the Foreign Language Classroom* 135-146, Dublin: Authentik.

5 Becta (2008a) “Harnessing Technology: Preliminary Identification of trends affecting the use of technology in education”, Research Report, Coventry: Becta.

6 Adela Turloiu and Ína Sif Stefánsdóttir (2011), *Learner Autonomy Theoretical and practical information for language teachers*, Retrieved from: http://skemman.is/stream/get/1946/7668/19634/1/B.Ed._loka%C3%BAtg%C3%A1fa.pdf.

This is the part we find teachers need to prepare themselves for especially. Naoko Aoki (2008)⁽¹⁾ mentioned that learners do not instinctively know how to successfully work in groups. They need training, and the teacher has to be vigilant in his supervision of group work in the beginning. Assessment methods in an autonomous classroom differ from traditional forms. It seen as a collaborative process between the teacher and the learners. In the learner autonomous classroom teachers let go and learners take responsibility for their own learning and realize it is up to them if they want to learn. No teacher can force, threaten or beg their learners to learn; at least they will not be successful.

2.10.4.4. Interactivity and Interaction.

Interactivity and interactions are critical in underpinning the learning process. Interactions serve a diverse range of functions in the educational process which include, for example ⁽²⁾:

- promoting active and participative learning on a one to one basis or within a group or learning community through social dialogue;
- enabling effective facilitation of learning to suit individual learner's needs and learning styles;
- allowing learner input to the learning process as well as enabling learners to take ownership and control of their learning;
- enabling the development of higher order knowledge and abilities, for example critical thinking, problem solving, judgement -/decision-making skills, reflection, etc.;
- Providing effective feedback to inform on the teaching and learning process as well as enhance the quality and standards of the learning experience.

Diagnostic and remedial feedback, such as provided in e-learning tutorials, is a powerful influence on student achievement. Other technologies that are highly

1 Naoko Aoki (2008). Teacher stories to improve theories of learner/teacher autonomy. *Independence* (43), pp. 15-17.

2 Brent Muirhead and Charles Juwah (2004). Interactivity in computer-mediated college and university education: A recent review of the literature. *Educational Technology & Society*, 7 (1), pp. 12-20. Retrieved From: http://www.ifets.info/journals/7_1/3.pdf.

interactive and responsive are simulations and educational games. (JA Hattie cited in Gary M Velan et al., 2008) ⁽¹⁾.

Research has shown that the use of ICT and multimedia improve and facilitate learning through reducing cognitive load. It provides the right context and an integrated learning environment that combines the use of the Web and an appropriate mix of multiple- and/or multi-media e.g. animation, audio, images, video, CD, print and hypertext to give a rich, stimulating and interactive learning environment. The media mix enhances learner motivation and has the potential of meeting the needs of the different learning styles – visual (images), auditory (sound), tactile (touch) and kinesthetic (whole being). However, it is critical that in designing a learning environment in which ICT is used to support learning that such an environment has the ability to synchronise and coordinate diverse multimedia elements ⁽²⁾.

2.11. The necessary human mediation.

2.11.1. Introduction.

Teachers are critical in facilitating learning and in making it more efficient and effective; they hold the key to the success of any educational reform; and they are accountable for successful human development of the nation and for preparing the foundation for social and economic development. The teacher as a part of an entire school organisation. Published literature concerning implementation processes of innovations (in general and of ICT in particular) point out relevant factors within the school organisation which influence a successful implementation of ICT ⁽³⁾.

1 Gary M Velan et al., (2008). Integrated online formative assessments in the biomedical sciences for medical students: Benefits for learning. *BMC Medical Education*, 8(1).

2 Juwah, C. I. (2002). Using Information and Communication Technology to Support Problem Based Learning. A commissioned article by the Institute for Learning and Teaching in Higher Education (ILTHE). Retrieved from: https://www.ilt.ac.uk/portal/showarticle.asp?_article=3581.

3 A.K. Jager and A.H. Lokman, (1999), Impacts of ICT in education. The role of the teacher and teacher training. Paper Presented at the European Conference on Educational Research, Lahti, Finland 22 - 25 September 1999. Retrieved from: <http://www.leeds.ac.uk/educol/documents/00001201.htm>.

2.11.2. The importance of human mediation.

Studies show that human mediation still a main factor in the acquisition of knowledge. While the role of trainer's develops and mediations take more diverse forms (the distance tutoring for example), it is clear that the action of the trainer is still essential and no one can imagine replacing it with technology ⁽¹⁾. In large measure it is teachers who mediate to students the wealth of learning opportunities afforded by ICT. To be effective in fulfilling this role, they need opportunities for professional development on a continuing basis, first to establish sufficient technical competence and familiarity, but then to know how to weave the new techniques into their teaching and learning strategies ⁽²⁾. According to John D. Bransford et al., (2002)⁽³⁾, The findings from research on learning suggest roles for teachers that differ from their roles in the past. Education reform efforts in the United States cannot succeed without an effort to help teachers and administrators assume these new roles. Osborne and Hennessy (2003)⁽⁴⁾ emphasise the importance role of the teacher, in creating the conditions for ICT use and for selecting and evaluating appropriate ICT tools, and, moreover, in designing teaching and learning activities. Also determining how effectively ICT is used in practice to motivate pupils and enrich science teaching and learning.

A teacher who is at the first Level of the integration process of teaching ICT in the classroom, using ICT as a learning object. He teaches his students to appropriate what the computer tool in its various components. he explores with them in class, various software and tools (processing text, drawing, tutorials,

1Catherine Roupie, (2008), Tutorat Et Lien Social Dans Un Dispositif De Formation Hybride, Universite De Rouen, Retrieved from: http://www.univ-rouen.fr/civiic/memoires_masterICF/textes/T_ANDREO-ROUPIE.pdf

2 Centre pour La Recherche et L'innovation dans L'enseignement, (2001).Les nouvelles technologies à l'école: apprendre à changer, p. 87, OCDE, Paris, France.

3 John D. Bransford, et al. (2002). How people learn: brain, mind, experience, and school. Washington, D.C., National Academy Press. p. 199. Retrieved from: <https://www.msu.edu/~towlehje/How%20People%20Learn.pdf>.

4 Jonathon Osborne and Sara Hennessy (2003). Literature Review in Science Education and the Role of ICT: Promise, Problems and Future Directions. Bristol: Futurelab. Retrieved from: <http://hal.archives-ouvertes.fr/docs/00/19/04/41/PDF/osborne-j-2003-r6.pdf>

exercise, etc.). They also learn to navigate Internet (Web) to search answers of their questions and able to exchange messages in the form of electronic mail (email) ⁽¹⁾.

Many looked into how teachers have used ICT in teaching specific subjects; into how they have employed Internet resources in teaching; how they have used email in communicating with students and other teachers; and whether they have developed their own homepages. In Australia, for example, teachers make use of self-paced learning materials on ICT use in CD-format. In other countries, preference is given to teacher applicants who are already computer literate, such as in the case of the Philippines. In Korea and Australia, teachers are provided with PCs ⁽²⁾. Mark E. Chamberlain (2004)⁽³⁾ said, “the teacher will become a facilitator, guide, co-learner, while the student will be an explorer, producer, and teacher or mentor to other students”. In other words, by integrating technology in interactive lesson plans, teachers are able to engage students in a participatory process that facilitates effective learning.

According to Chia-Lin Chang et al., (2005)⁽⁴⁾, Computer and information technologies have the potential to transform how and what we learn throughout our lives. Effective teachers in the new century, with the help of computer and information technologies, can serve as a valuable source of feedback, guidance and answers to questions, and not just disseminators of information. They are facilitators and counsellors to students', in this way enables learners to augment learning through discussion with other learners as well as with a facilitator, which answers questions from learners and helps solve problems and evaluate assignments. Whilst the learners submit completed homework through the

1 Thierry Karsenti (2009). *Intégration pédagogique des TIC : Stratégies d'action et pistes de réflexion*. Ottawa : CRDI. pp. 122-180. Retrieved from: <http://www.rocare.org/guide-tic/>

2 UNESCO Bangkok, (2003), *Developing and Using Indicators of ICT Use in Education*, . Retrieved from : http://www.unescobkk.org/fileadmin/user_upload/ict/e-books/ICTedu/ictedu.pdf

3 Mark E. Chamberlain (2004). *Middle school students' perception of the teaching and learning initiative: LAPTOPS FOR EVERY STUDENT*. PhD Thesis, Faculty of Virginia Polytechnic Institute, Blacksburg, Virginia. Retrieved from: <http://scholar.lib.vt.edu/theses/available/etd-04252004-103734/unrestricted/CHAMBE~5.pdf>.

4 Chia-Lin Chang, et al., (2005), *The Application of Web Resources into English Instruction For Junior High School*, first international conference, National Institute of Education, Nanyang Technological University, Singapore retrieved from: <http://conference.nie.edu.sg/paper/Converted%20Pdf/ab00314.pdf>

collaborative facilities. (As shown in Figure 14)⁽¹⁾. The use of computer and information technologies will not cause any threat to the survival of teachers. Instead, we believe that the best potential of these technologies “lies in adding quality to teaching and learning environments rather than in replacing them.

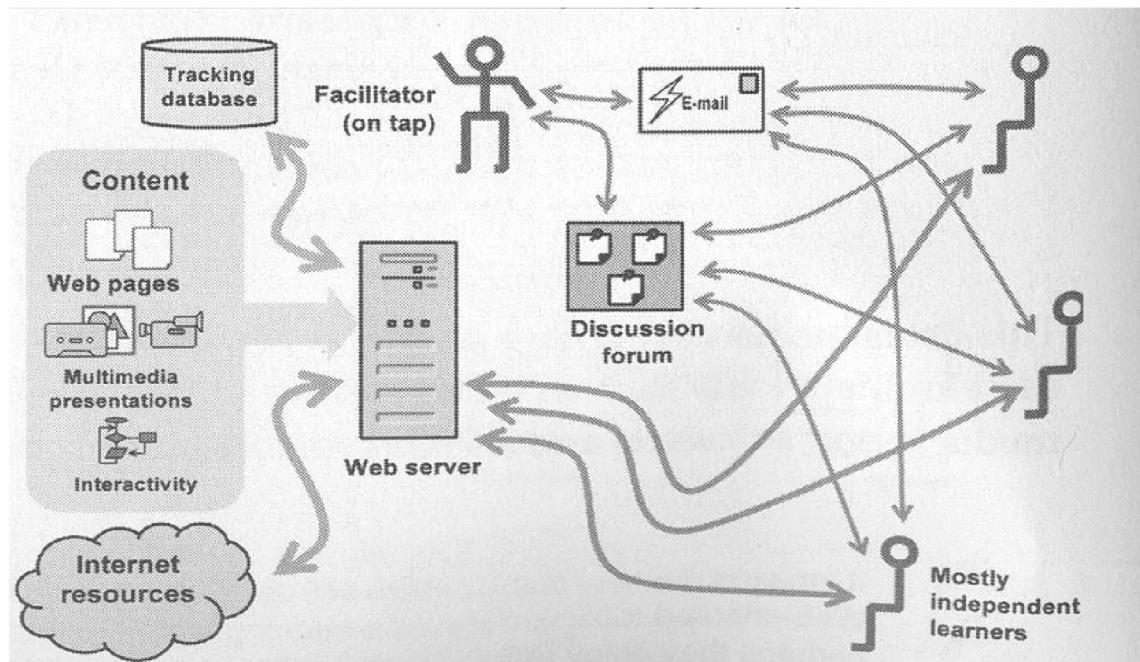


Figure (14) Teacher as a Facilitator.

2.11.3. Roles and professionalism of teachers.

In order to use ICT effectively for teaching, there is a common agreement in literature that teachers must possess basic ICT skills. Teachers’ professional development has been identified as a key factor in the successful integration of ICT in schools ⁽²⁾. Teachers are central to the way ICT is adopted and used at the classroom and student level. The supposition that teachers might be displaced by the technology has been largely discounted, even though the media and popular opinion seem still to characterise the technology as valuable independent of teachers. Not only does this fail to understand the key role of the teacher in using

1 N., Tsapatoulis, (2005), Learning Principles and Approaches: Summary of Learning Theories. University of Athens, Greece. Retrieved from: <http://www.cs.ucy.ac.cy/~nicolast/courses/cs654/lectures/LearningTheories.pdf>.

2 Ivan Webb, (2007). Key factors in the use of ICT in Primary Schools. PhD. Thesis, University of Tasmania. Retrieved from: http://www.educ.utas.edu.au/users/ilwebb/Research/otherdocs/PHD_Ivan_Webb_819502.pdf.

ICT in schools, but by disempowering the teacher and stressing the technology, it undermines the educational potential of the technology itself ⁽¹⁾.

According Carolyn D., (2003) ⁽²⁾ Human teachers characteristically perform a wide range of activities that we subsume under the general heading of 'teaching'. These include planning and designing, demonstrating, guiding, telling, questioning, testing, recording, motivating, criticizing- even learning. Many of these aspects of a teacher's role require significant expertise and the making of finely tuned and sensitive judgments based on both breadth and depth of experience. This is important, for instance, in relation to the provision of appropriate scaffolding to learners. It can also be argued that the human teacher is in a strong position, in particular by virtue of overall life experience and sophistication as a communicator, to both model and facilitate co-operative learning behaviours. And who better than a 'real' teacher to recognize and develop 'authentic' contexts for learning?

On the other hand, Computers - and the power they bring to the student to access, manipulate, modify, store and retrieve information - will promote greater autonomy in learning. Inevitably, the use of ICT in the classroom will change the role of the learner, enabling students to exert more choice over how they approach study, requiring less direction from teachers. Students will be able to direct their own studies to a greater extent, with the teacher acting as a guide or moderator rather than as a director Forsyth (1996)⁽³⁾. This facilitation will take on many facets and will also radically change the nature of the role of the teacher as we currently understand it. According to P., Tearle (2004) ⁽⁴⁾ the key general point is the need for a teacher to be motivated to use the technology note:

1 Centre pour la recherché et l' innovation dans l'enseignementI. (2001) Les Nouvelles Technologies à l' école : Apprendre à change, p 77, OCDE, Paris.

2 Carolyn Dowling (2003), The Role of the Human Teacher in Learning Environments of the Future. This paper was presented at the Conference entitled: ICT and the Teacher of the Future, held at St. Hilda's College, The University of Melbourne, Australia 27th-31st January, 2003. Retrieved from: <http://crpit.com/confpapers/CRPITV23Dowling.pdf>

3 Forsyth Ian (1996) Teaching and Learning Materials and the Internet. London: Kogan Page

4 Penni Tearle, (2004), The implementation of ICT in UK secondary schools, University of Exeter, Retrieved from: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.105.6268&rep=rep1&type=pdf>.

- They [teachers] must believe that use of the technology can more effectively meet learning objectives or reach a higher level goal than could otherwise have been achieved
- By using the technology other goals perceived as more important are not dislodged
- The teacher must feel s/he has the confidence, ability and access to necessary resources to apply the technology to her/his teaching situation

Raymond A. Zepp, (2005)⁽¹⁾, confirms that many discussions of the teacher-technology interface treat the matter as an exclusive 'either-or' question, that is, which is better, teachers or technology. In fact, the more appropriate question should be, "how can teachers and technology interact to the optimal advantage?" For example, teachers, videos, and interactive computer programs might join together to improve a child's self-esteem, or to promote interpersonal social skills.

In the same context, Maria del (2006)⁽²⁾ See The teacher will have to develop skill related to the learning contexts that changes in teaching and learning paradigms require Thus, the teacher's role is multiplied and shifts from being a single transmitter of knowledge to become facilitator and guide of the learning process, integrator of new ICT media, researcher and designer of suitable learning scenarios, collaborator (with other teachers and students), orchestrator, learner and evaluator. Similarly, E., Malcolm and F., Godwyll (2009)⁽³⁾ see that international experience has shown that teachers play an important role in diffusing and utilizing ICTs in classrooms. Teachers' attitudes and beliefs affect the way technological innovation is applied in education. They tend to use technology in ways shaped by their own personal perspectives on the curriculum and on their pedagogical practices. Also, teachers who have positive attitudes toward technology feel more comfortable using it and usually incorporate it into their teaching.

1 Raymond A. Zepp (2005). Teachers' Perceptions on the Roles on Educational Technology. *Educational Technology & Society*, 8 (2), 102-106. Retrieved from: http://www.ifets.info/journals/8_2/9.pdf

2 Maria del Mar Camacho (2006), Teacher Training In ICT-Based Learning Settings: Design And Implementation Of An On-Line Instructional Model For English Language Teachers, Retrieved from: <http://gradworks.umi.com/3350007.pdf>.

3 Ebenezer Malcolm and Francis Godwyll, (2009), Diffusion of Information Communication Technology in Selected Ghanaian Schools, Ohio University, USA, Retrieved from: <http://tiup.dfid.gov.uk/uploads/public/documents/Key%20Documents/Diffusion%20of%20ICT%20in%20selected%20Ghanaian%20schools.pdf>.

Also Asma Tanveer, (2010) ⁽¹⁾ mentioned that the effective usage of the ICT tools depends on the teacher, special teacher training programmes. Once the teachers have become ICT trained, they would be expected to facilitate learning through use of ICTs, and make knowledge meaningful to individual learners rather than just provide knowledge and skills. An ICT centred classroom would have flexibility and the provision of self-directed learning. It would promote increased participation amongst learners through online communication. It would lead to easier management of large classes and provide access to a wider student body in different school branches across the country.

Educational technology is not and never will be, transformative on its own. It requires teachers who can integrate technology into the curriculum and use it to improve student learning. In other words, computers cannot replace teachers, teachers are the key to whether technology is used appropriately and effectively (NCREL 2000). The effective teacher, as in any other profession, plays a number of roles: she/he is not only a classroom practitioner but is also a manager, a planner, and a learner. For the teacher this means updating their subject knowledge as well as their skills and knowledge of new approaches to teaching, managing and planning. In other words, the effective teacher must also be an effective learner ⁽²⁾.

1 Asma Tanveer, (2010), Integration of ICT in Curriculum: Expected Achievements and Challenges, [ED513337], Retrieved from: <http://www.eric.ed.gov>.

2 NCREL. (2000) North Central Educational Laboratory. Providing Professional Development for Effective Technology. Retrieved from: www.ncrel.org/

2.12. Challenges in Using ICT for Learning.

Attempts to integrate technology in education provoke a variety of responses from teachers that range from enthusiasm and skepticism to fear and uncertainty. A long history of technology use in education reveals that the first reaction is to use new technology in the same traditional ways as the old technology ⁽¹⁾.

Barriers may exist which can hamper the whole ICT integration process. If these are not identified and addressed, efforts at integration could be futile from the outset. One way to overcome such challenges is to integrate ICT into the curriculum, not the converse ⁽²⁾. Old curricula and pedagogical approaches should be reformed, and if necessary replaced, to take advantage of the affordances of the new media. Research has shown that computers are used less often in the classroom than in other organizations. In order for education innovations to succeed, systemic approaches and the collaboration of all stakeholders, including teachers, are required ⁽³⁾. Also it is important to identify potential obstacles and barriers, and explicitly plan and work to overcome them.

2.12.1. Professional Development of Teachers in ICT.

The integration of ICT into the curriculum has implications for the professional development of teachers. The use of ICT in education can increase a teacher's self confidence and make them feel good. Henry J. Becker, and Jason Ravitz, (1999) ⁽⁴⁾ reported that teachers who continuously updated their skills and who used technology consistently in their classes were comfortable experimenting with new technology.

1 ZemDirckinck-Holmfeld L., et al., (2010), Teacher Use of ICT: Challenges and Opportunities. Proceedings of the 7th International Conference on Networked Learning 2010. pp. 439- 445. Retrieved from: <http://www.lanacs.ac.uk/fss/organisations/netlc/past/nlc2010/abstracts/PDFs/Vrasidas.pdf>.

2 Rodney S. Earle (2002). The Integration of instructional technology into public education: Promises and challenges. *Educational Technology*, 42 (1), pp. 5-13.

3 ZemDirckinck-Holmfeld L., et al., (2010), *ibid*.

4 Henry J. Becker, and Jason Ravitz, (1999) 'The influence of the Computer and Internet use on Teachers' Pedagogical Practices and Perceptions', *Journal of Research on Computing in Education*, 31(4), 356-384.

Shafika Isaacs (2006)⁽¹⁾ defines Teacher Professional Development (TPD) as ‘a This refers to more systematized, initial and continuous, coherent and modular process of professional development of African educators in accordance with professional competency standards and frameworks. Teacher professional development also includes training in the adaptation to the evolution and change of the profession of teachers and managers of education systems. This definition recognizes that the teaching profession is being transformed by the introduction of new technologies into the education system and that teacher development in ICT should therefore equip teachers not just with basic ICT skills, but should encourage the evolution towards integrating these technologies into teaching subjects and practices. In other words, this definition implies that teacher training in ICT is not just about how to use new technologies, but also about why and when to use them in transforming teaching practices. ICT are being integrated in the teaching-learning process in many learning institutions of the world ⁽²⁾. It has been learnt that the integration of ICT in education, inter alia, does promote autonomous learning, curriculum differentiation, student-centred learning, higher order thinking, problem-solving, cooperative learning ⁽³⁾. Clarification of abstract concepts and transformation of the understanding of the subject matter. Such uses helped to clarify difficult concepts, save time, make learners active, and simplify teachers’ work. In general, teachers did not use ICT to radically change their pedagogical practices, instead, ICT in some cases were used to maintain teachers’ traditional pedagogical practices ⁽⁴⁾.

1 Shafika Isaacs (2006). Towards a GeSCI Initiative on Teacher Professional Development in Africa. Internal GeSCI Report. Dublin, Global e-Schools and Communities Initiative (GeSCI). Retrieved from:

<http://www.gesci.org/assets/files/Towards%20a%20GeSCI%20initiative%20on%20TPD%20in%20Africa.pdf>

2 Sadiq Abdulwahed A. Ismail et al. 2010, 'Teachers' perceptions of the use of technology in teaching languages in United Arab Emirates' schools', *International Journal for Research in Education* vol. 27, no. 1, pp. 37-56.

3 Bangert, Arthur (2008), 'The influence of social presence and teaching presence on the quality of Online critical inquiry', *Journal of Computing in Higher Education*, vol. 20, no. 1, pp. 34-61.

4 Alcuin Mwalongo, (2011). Teachers' perceptions about ICT for teaching, professional development, administration and personal use. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 2011, Vol. 7, Issue 3, pp. 36-49.

2.12.1.1. Limitation.

There are many studies (Bosley and Moon, 2003⁽¹⁾, Becta 2003⁽²⁾, Bingimlas 2009⁽³⁾); which explaining the barriers that exist in schools that prevent teachers from making full use of ICT in their work. As set out in Section 2.5.1, teachers may be restricted by various obstacles. Some of these are unfamiliarity with hardware and software or computers in general; insufficient time to prepare for ICT-mediated instructions; or personal issues that are fundamentally rooted in their own beliefs about teaching and learning (Peggy A. Ertmer, 2005) ⁽⁴⁾. Larner and Timberlake (1995)⁽⁵⁾ found that teachers were worried about showing their pupils that they did not know how to use the equipment, and that it was the teachers who experienced this kind of anxiety who were less willing and / or able to make use of computers in their teaching. In addition, pupils' attitudes and expectations of their teachers' competence in ICT are likely to contribute to this teacher anxiety.

2.12.1.2. Main Strategies

Teachers' efforts to integrate ICT into the school curricula are often limited by barriers that are either extrinsic to teachers (for example, lack of access to hardware and software and insufficient time to plan ICT-mediated instructions) or fundamentally rooted in teachers' beliefs about teaching and learning or both. There is greater urgency to identify obstacles and formulate models to address them. Educators require support and appropriate strategies to overcome the problems. As teachers face changing needs, the strategies designed to meet them must also change. Furthermore, different strategies are likely to be more or less effective for people with different levels of efficacy. It is important not to discourage teachers who have low levels of confidence by surrounding them with others who are much more experienced and confident. By designing development programs that start

1 Chris Bosley and Sue Moo. (2003). Review of existing literature on the use of Information and Communication Technology within an educational context. Derby: Centre for Guidance Studies, University of Derby.

2 Becta (2003). Primary schools – ICT and Standards. An analysis of national data from Ofsted and QCA by Becta. Coventry: Becta. Retrieved from: <http://www.becta.org.uk/research/research.cfm?section=1&id=538>

3 Bingimlas, (2009). *ibid*

4 Peggy A. Ertmer (2005). Teacher pedagogical beliefs: The final frontier in our quest for technology integration. *Educational Technology Research and Development*, 53(4), pp. 25-39.

5 Larner, David K. and Timberlake, Laura (1995). Teachers with limited computer knowledge: variables affecting use and hints to increase use. The Curry School of Education, University of Virginia.

with the concerns that these teachers have, and helping them experience some initial success in solving their own problems. Ertmer (2001)⁽¹⁾ proposes pedagogic strategies as well as technical and organizational approaches such as: initially introducing teachers to relatively simple uses of technology; engaging teachers in explicit belief exploration; and providing opportunities to examine new practices supported by different beliefs. These strategies can help teachers progress beyond initial low-level uses and should support them in the adoption of higher-level uses.

In order to manage barriers to information and communication technologies (ICT) integration. Lim, Cher Ping and Khine, Myint (2006)⁽²⁾. examine six strategies that can be adopted to overcome contextual issues, These strategies included:

- Appointment of technical support staff by the school. Their responsibilities included troubleshooting hardware and software problems, testing out equipment and installing software prior to the conduct of the ICT-mediated lesson, and maintaining hardware and cataloguing software.
- The training of students by teachers and technical assistants to be ICT helpers.
- The collaboration of teachers to produce ICT-mediated lessons and share ICT resources and lesson plans.
- The support given by school leaders in addressing teachers' ICT concerns. School leaders.
- The creation of a shared ICT vision and integration plan gave school leaders and teachers a vehicle for coherent communication about how ICT could be effectively used.
- Demonstrations of exemplary ICT-mediated lessons by other teachers, mentors or seasoned practitioners helped on how to incorporate ICT into classroom instruction.

1 Ertmer, Peggy A. (2001). Responsive instructional design: Scaffolding the adoption and change process. *Educational Technology*, 41(6), pp. 33-38.

2 Lim, Cher Ping and Khine, Myint (2006). Managing teachers' barriers to ICT integration in Singapore schools. *Journal of Technology and Teacher Education*, 14 (1), pp. 97-125.

2.12.1.3. Training.

ICT is constantly changing, the type of computers (Desktop, Laptop or Notebook) are being modernised and made smaller. New versions of software come on the market every year. These changes can make familiar operations that the teacher has become accustomed to using look different. Hardware and software changes can cause major confusion to teachers who have just enough ICT skills to get by ⁽¹⁾. Leading on from this it is important that any teacher training provided would be specific to the teachers needs and not full of technical information as many teachers find that too much information is given at formal training courses ⁽²⁾. Concurr with this stating that some teachers fail to use ICT skills even though they have completed ICT training courses. This may in part be explained by differences between what student-teachers have learned to use whilst at teacher training college and the hardware and software available in schools. This mismatch may not even be consistent within schools, with the rapid changes in technology. Schools are re investing in ICT more frequently than in any other subjects. This can lead to different ICT equipment being available within a school. It is incorrect to assume that the same versions of modern ICT resources will be available from school to school.

C. Adams (2005)⁽³⁾ proposes regular scheduled professional development to keep teachers up to date and aware of the need to continually improve their technological practices. Strategies to enhance the development of teachers should address technical and pedagogic aspects, such as the operation and maintenance of tools used in ICT-mediated instruction; the management of policies to implement ICT in the curriculum; and the evaluation of courseware.

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- 1 Kathleen T. O'Shaughnessy (2011). The Factors affecting the Use and Integration of Information Communications Technology in an Irish Adult Education and Training Centre. Digital Media Development for Education, University of Limerick. Retrieved from:
http://ulir.ul.ie/bitstream/handle/10344/1822/2011_0%27Shaughnessy%2cK.pdf?sequence=6.
 - 2 Anjali Khirwadkar (2007). Integration of ICT in Education: Pedagogical Issues. Center of Advanced Study in Education, University of Baroda, India. Retrieved from: http://www.journal.au.edu/edu_journal/jan2007/article06_vol1no1.pdf.
 - 3 C. Adams, (2005). The teacher learning academy - transforming teaching and learning through teacher learning. Retrieved from: <http://www.gtce.org.uk/Newsfeatures/features/tlaspeech>.

The professional development of teachers has traditionally been addressed by holding brief workshops, sometimes as short as one day. Teachers have criticised the lack of correlation between workshop activities and real-world classroom practices ⁽¹⁾. As education planners consider ways of overcoming the obstacles to ICT integration, they should also pay special attention to ensure that the teacher's role changes, being not only an instructor but also becoming a facilitator, a mentor and a collaborator in learning ⁽²⁾.

2.12.2. Time Allocation for Teachers' Use of ICT Resources.

One of the major barriers preventing teachers from using ICT in the classroom was a lack of teacher time could also be lessened if organizations have sufficient support services. If teachers had sufficient support services they would not be losing time through trying to fix ICT problems that are occurring in their classrooms ⁽³⁾.

A study carried out by O'Shaughnessy, K., (2011)⁽⁴⁾ found that 23.1% of all teachers in the AETC (Adult Education and Training Centre) found integrating ICT time consuming. In this study a small number of teachers (30.8%) would concur with Gomes (2005) and Cuban et al. (2001) when they stated that some teachers thought that using ICT was a waste of time. Most teachers in the AETC (69.2%) felt that integrating ICT into their teaching takes time but when the lesson is prepared they will have a resource that they can use again and again.

In his decade-old study of schools from 26 countries, Pelgrum (2001)⁽⁵⁾ noted that insufficient time allocation for teachers was among the top ten problems associated with e-learning integration in schools. Teachers are given little opportunity to become accustomed to the ICT approach before they have to start managing it.

1 Tina N. Hohlfeld et al., (2010). Connecting schools, community, and family with ICT: Four-year trends related to school level and SES of public schools in Florida. *Computers & Education*, 55(1), pp. 391-405.

2 Markus Mostert and Lynn Quinn. (2009). Using ICT's in Teaching and Learning: Reflections on Professional Development of Academic Staff. *International Journal of Education and Development using ICT*. Retrieved from: <http://ijedict.dec.uwi.edu/printarticle.php?id=860&layout=html>.

3 Steve Lewis (2003). Enhancing teaching and learning of science through use of ICT: Methods and materials. *School Science Review*, 84 (309), pp. 41-51.

4 O'Shaughnessy, K., (2011). *ibid.*

5 Pelgrum, W.J. (2001). *ibid.*

It will take persistence on the part of classroom teachers to keep current with computer technology, both hardware and software. But, by doing so, they will also be preparing themselves and their students for the future. The task is easier when we work together to share resources and technology that works for us individually⁽¹⁾.

2.12.3. Infrastructural Support and Technological Issues.

The term 'infrastructure' describes everything that supports both the flow and processing of information, including but not limited to, hardware, software, protocols etc ⁽²⁾. Jerry Wellington (2005)⁽³⁾ asks how we can ever achieve uniformity between school ICT and workplace ICT when technology is constantly changing. It is not possible for education to match industry because of monetary constraints. Unless schools can match and keep up to date with technology in the workplace, how can students be prepared to go to work? Empirica report says Irish teachers had the lowest satisfaction with ICT infrastructure in schools in Europe ⁽⁴⁾.

It is apparent to enhance ICT in the classroom; Schools need to have infrastructures in place so that ICT will be effective and not a hindrance. The characteristics of these infrastructures are outlined by Michael Neuman (2006)⁽⁵⁾. Some of these characteristics include the fact that a network must be managed and planned, require a significant amount of financial capital in the physical network, be able to handle peak data flow when needed, and be flexible enough to grow and be able to deliver diverse services to an organization.

1 Jamieson-Proctor, et al., (2006). ICT integration and teachers' confidence in using ICT for teaching and learning in Queensland state schools', *Australasian Journal of Educational Technology*, 22(4), 511-530.

2 Kerry Blinco, et al., (2004). Trends and Issues in E-learning Infrastructure Development. Retrieved from: http://www.jisc.ac.uk/uploaded_documents/Altlib04-infrastructureV2.pdf.

3 Jerry Wellington (2005). Has ICT come of age? Recurring debates on the role of ICT in education, 1982-2004. *Research in Science & Technological Education*, 23(1), pp. 25-39.

4 Empirica (2006) *Benchmarking Access and Use of ICT in European Schools 2006: Final Report from Head Teacher and Classroom Teacher Surveys in 27 European Countries*, Bonn: European Commission.

5 Michael Neuman (2006). Infiltrating infrastructures: On the nature of networked infrastructure. *Journal of Urban Technology*, 13 (1), pp. 3-31.

2.12.4. Resistance to change on the part of educators.

The technology integration into the classroom is perceived as a complex and challenging procedure by teachers. Roger Guir (2002) ⁽¹⁾ cites the example of blackboards who took 20 years to be used in the classroom. However, as educators become more experienced on educational technology competencies they see the ease and usefulness of the technology integration into the classroom ⁽²⁾.

Computers are promising educational tools facilitating teachers' tasks and improving students' performance. Moreover, technology plays a central role in educational change. However, educators still exhibit reluctance to integrate computers into their practices ⁽³⁾.

Technology has changed the teachers' classical role in classroom. Susan Mandell et al., (2002)⁽⁴⁾ indicate that with technology, classrooms have been changed from a teacher- centered educational environment to a student-centered environment. Current theories emphasize the role of a teacher as a facilitator helping students to create their own knowledge by providing students with opportunities to discover and create knowledge; technology permits the teacher to take on the role of facilitator. According to study entitled Attitudes of Egyptian Teachers towards Computers, made by Samira M. Bakr (2011) ⁽⁵⁾ The study aimed to investigating Egyptian teachers' attitudes towards computers in terms of gender and years of teaching experience. Findings showed that the Egyptian public school teachers' attitudes towards computers are positive. There were no significant differences in terms of gender and teaching experience.

1 Roger Guir (2002) *Pratiquer les TICE, former les enseignants et les formateurs à de nouveaux usages*. Ed. De Boeck.

2 Monique Linard (1990), *Des machines et des hommes. Apprendre avec les nouvelles technologies*. Editions Universitaires, Paris. p. 112.

3 Ihan Varank and Dogan Tozoglu (2006) *Why Are Teachers Resistant To Change? Key Issues And Challenges In Technology Integration*. *Sosyal Bilimler Dergisi*, Afyon Kocatepe University. pp. 193- 207. Retrieved from: <http://www.aku.edu.tr/AKU/DosyaYonetimi/SOSYALBILENS/dergi/VIII1/ivarank.pdf>.

4 Susan Mandell et al., (2002). *Tips for technology integration*. *Tech-Trends for Leaders in Education and Training*, 46(5), pp. 39-43.

5 Samira M. Bakr (2011), *Attitudes of Egyptian Teachers towards Computers*, *CONTEMPORARY EDUCATIONAL TECHNOLOGY*, 2011, 2(4), pp.308-318 retrieved from: <http://www.cedtech.net/articles/24/244.pdf>

Although teachers have positive attitudes towards technology and want to improve their teaching performance through technology implementations, they are not able to accomplish the successful technology integration. They are either lacking the knowledge to use the machine, and/or do not have any kind of familiarity with computer based or computer managed instruction (Onika cited in VARANK, I., and TOZOGLU, D., 2006)⁽¹⁾ . The reason is that experienced teachers have not had appropriate training on how to effectively use the computer in the classroom and on technology, skills, ideas and ways to integrate instructional technology into the curriculum. In addition, new teachers have very limited (if any) knowledge about educational computer use. Teacher students do not have adequate exposure to instructional technology because many educational institutions and faculties within those institutions have not adopted technology. The more teachers have exposure to and experience with computers the better they can integrate computers into their teaching. The above-mentioned reasons called Environmental factors. There are also three major personal factors: anxiety about technology, teachers' or faculties' personalities, and attitudes towards technology integration (VARANK and TOZOGLU).

According to Robert Bibeau (2007)⁽²⁾, there is resistance to change. Throughout the West, school systems are shaken - questioned- and before this insecurity school administrators and teachers confused, they do not want to be disrupted or rushed. The teacher of the present time is a tired man band - and this schematization of his performance (Figure 15) begins its resilience and helps to discourage.

1 VARANK, I., and TOZOGLU, D., (2006) ibid

2 Robert Bibeau, (2007), Les Technologies de l'Information et de la Communication peuvent contribuer à améliorer les résultats scolaires des élèves. Récupérée de: http://www.pearltrees.com/#/N-u=1_518868&N-p=40261460&N-play=1&N-fa=4266636&N-s=1_4808401&N-f=1_4808401.

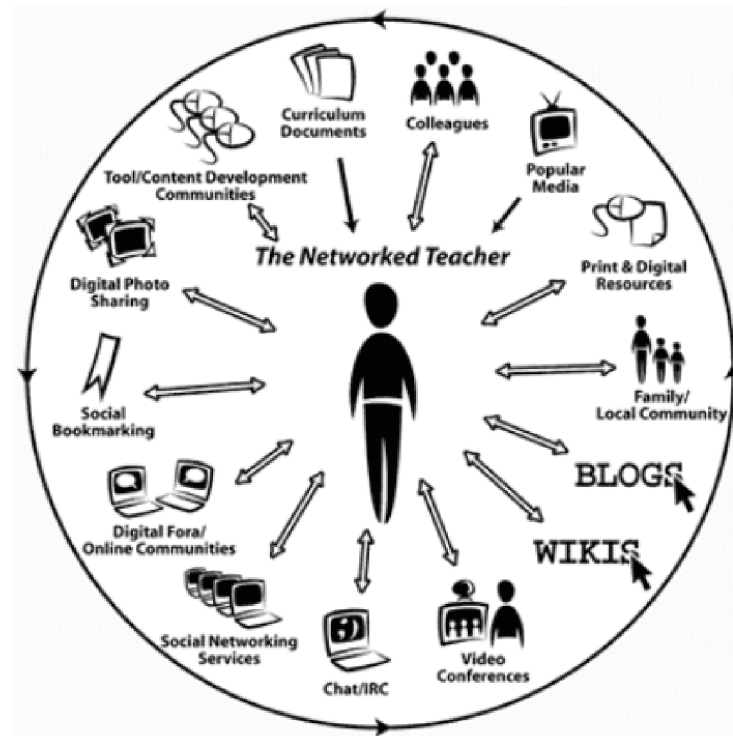


Figure (15), the "super" teacher network.

To overcome these factors and to increase the technology use in schools:

- Providing adequate hardware and software is an important factor in promoting technology integration.
- Schools and departments need more computers and computer peripherals, such as scanners and data projectors.
- Support also plays an important role in technology diffusion in education. The support may be in three different forms: technical support, pedagogical support and management support.
- Technology coordinators are generally responsible for informing teachers of how to use certain equipment and programs.
- Administrators from different management levels are key people making strategic and executive decisions within schools or school systems and universities, involve teachers in the technology adaptation process, provide necessary hardware and software.

- Train administrators on educational technology and make them comfortable computer users so that their attitude towards technology is improved and they provide more help teachers integrate technology in their lessons.

2.13. Conclusion.

This chapter has provided an overview of literature on digital mediations in education. In addition, the factors that impact on ICT integration in teaching and learning and the effects on students. The chapter also mentions previous studies on forms of e-learning, rationale for ICT integration, perceived benefits of ICT in education, Brief history of computers in education, the necessary human mediation. As well as obstacles and challenges in using ICT for learning.

The next chapter, a literature overview on e-learning in the legal culture or civic education as a part of social studies curriculum, investigates fundamental philosophies and theories of formal learning and applies them to technologically-aided teaching and learning, particularly in social studies. The discussion focuses on three main theoretical categories: behaviourism, cognitive theory and constructivism as theories of learning. Thereafter, attention is focussed on the use of ICT and e-learning in legal culture or civic education.

Chapter Three: Civic Education and Social Science in the Light of Experiences of some developed countries.

3.1. Introduction.

Civic education remains an important means of teaching the populace about individual rights and what duties and responsibilities the governed and leaders should do. Introduce the teaching of civic education inculcates in students, national values and consciousness from the foundation level. The national values of honesty, obedience, hard work, tolerance and faith which are germane to stabilising national life are important for determining the development and progress of a nation as they regulate the life of the nation and project good image for the country. In addition, the introduction of Civic Education as a subject to be taught in Egyptian secondary school is expected to further deepen democratic culture and encourage qualitative participation of the average Egyptian in the governance process ⁽¹⁾.

Within this context, Legal Studies is designed to foster intellectual, social and moral development by empowering students to think critically on the role of law and legal institutions in society. Also, it has a significant impact on student's confidence in approaching and accessing the legal system and provides them with a better appreciation and understanding of the relationship between social and legal structures in society. It also provides a flexible learning structure. It allows students to acquire skills in analysis, independent research and the development of coherent arguments. All of these help to prepare students for further education, training and employment. It allows for full and active participation as citizens by encouraging diverse opinions, open rational debate, respect for persons and equality before the law and involvement in democratic processes and structures ⁽²⁾. In addition, Legal Studies provides students with an analytical evaluation of the processes of law-making and the methods of dispute resolution. Students are able to develop an understanding of the impact the legal system has upon the lives of citizens and the

1 Jekayinfa, Alice Arinlade et al, (2011). Implementation Of Civic Education Curriculum In Nigeria: Challenges For Social Studies Teachers. Retrieved from: <http://www.unilorin.edu.ng/publications/jekayinoluwa/41.pdf>.

2 Board of Studies NSW (New South Wales Government) (2009): Legal Studies, Sydney, Australia, Retrieved from: <http://www.boardofstudies.nsw.edu.au>.

implications of legal decisions on the society. This study will also assist in the development of the students' knowledge of their basic legal rights and responsibilities.

According to Adenipekun (2010)⁽¹⁾, the new Senior Secondary School Education Curriculum (SSEC) that contains civic education and whose implementation, has thrown up a big challenge to teacher educators in the nation's Colleges of Education, Polytechnics and Universities as they have to review their teacher preparation programmes in the context of knowledge of subject matter, teaching skills and competencies. Since that is yet to be done, the responsibility of teaching the new civic curriculum may rest squarely on the Social Studies teachers.

3.2. The concepts of Learning and Teaching.

3.2.1. What is learning?

Obviously, many researchers have attempted to define the concept of learning and no single definition can be said to be conclusive or correct. However, all attempts at a definition shed new light on the subject of learning. For example, according to Wakefield (1996)⁽²⁾ learning can be described as a relatively permanent change in the behaviour of an individual based on his/her experiences or discoveries. Thus the processes of experience and discovery lead to a new understanding of the world and ourselves, and enable us to apply the acquired knowledge in new situations. Knowledge acquisition, then, involves processes that transform data from experience into organised information. Within this context, Learning is defined by William G. Huit (2011)⁽³⁾ as the relatively permanent change in an individual's behavior or behavior potential (or capability) as a result of experience or practice. Huit considers that 'Learning might not manifest itself in observable behaviour until sometime after the educational program has taken place'.

1 Olubusuyi Adenipekun (2010). Government Drives Tertiary Institutions to Develop New Teacher Education Programmes. Vanguard, Retrieved from: <http://www.vanguardngr.com/2010/04/fg-drives-tertiary-institutions-to-develop-new-teacher-education-programmes>.

2 John F. Wakefield (1996). Educational Psychology: Learning to be a Problem-Solver. Boston: Houghton Mifflin.

3 William G. Huit (2011). Why study educational psychology? Educational Psychology Interactive. Valdosta, GA: Valdosta State University. Retrieved from: <http://www.edpsycinteractive.org/topics/intro/whyedpsy.html>

3.2.2. What is teaching?

Teaching is a social process on which the political system, social philosophy, values and culture of every nation leave their impression. Yogendra K. Sharma (2002) ⁽¹⁾, gives the definitions as suggested by some scholars in order to make the meaning of teaching is more clear:

- H.C. Morrison (1964): "has defined teaching from this point of view as "Teaching is an intimate contact between a more mature personality and a less mature one which is designed to further the education of the later." the teacher is like a friend. At the time of teaching, the pupil is more active than the teacher.
- Edmund Amidon (1967): "Teaching is an interactive process primarily involving class-room talk which takes place between teacher and pupil and occurs during certain definable activities."
- Ryburn: "Teaching is a relationship which helps the child to develop his powers."
- B.O. Smith: "Teaching is a system of actions to induce learning."

Teaching can be thought of as consisting of three distinct aspects, namely, planning, interaction and assessment. During the planning phase, teachers think about the outcomes of the interaction and the needs of the learners that they will be teaching so that they can design learning experiences and activities in which the learners will be involved ⁽²⁾.

The teacher can generally include the following elements in his planning outcomes: instructional approach, declarative/procedural knowledge, learning materials, activities and assessment methods ⁽³⁾.

Interaction refers to what takes place between the teacher and the learners. Thus the learning situation should be structured in such a way that the interaction

1 Yogendra K. Sharma, (2002), *Fundamental Aspects of Educational Technology*. Madan Sachdeva for Kanishka Publishers, Distributors. New Delhi, INDIA. Retrieved from: <http://www.scribd.com/doc/57768891/31/Definitions-of-Teaching>.

2 Michael J. Dunkin (1988). *The International Encyclopedia of Teaching and Teacher Education*. Pergamon Books Ltd. Retrieved from: <http://zhaomr01.jxcg2011.nwnu.edu.cn/source/lw/L1%20Definition%20of%20teaching.pdf>.

3 Michael J. Dunkin (1988) *ibid*

between the adult and learner will result in realising the learner's potential for cognitive development. Finally, teaching also implies that the teacher assesses each learning experience created with the aim of improving and developing strategies for assisting those learners who did not achieve the outcomes set. Assessment can be done during the learning experience or after ⁽¹⁾.

3.2.3. Difference between Teaching and Learning.

In order to understand the real meaning of learning and teaching, it is essential to understand the difference between them:

In teaching, an interaction occurs between the teacher and the pupils. As a result of which, the pupils are diverted towards the objectives. In other words, the main elements of teaching, i.e. the mutual relationship or the interaction between the teacher and the pupils advance the pupils towards objectives. Overall, teaching is what teachers do ⁽²⁾.

But in Learning: Learning means: (a) activities, and (b) experience. Both teaching and instruction influence learning through various activities and experiences. Hence, the learning and teaching mean the modification of pupils' behaviour through activities and experiences. So Learning is what students do ⁽³⁾.

1 World citizens, (2004), Learning theories: Insight into the move towards outcomes based education. Retrieved from: <http://www.worldcitizens.net/freestate/resources/fs/LEARNING%20THEORIES.pdf>.

2 Department of Physics (2006), Definitions of Teaching. Department of Physics Illinois State University. Retrieved from: www.phy.ilstu.edu/pte/310content/teachlearn/teaching_learning.ppt.

3 David N. Perkins and Gavriel Salomon (1992), Transfer of Learning. International Encyclopedia of Education, Second Edition. Oxford, England: Pergamon Press. Retrieved from: <http://learnweb.harvard.edu/alps/thinking/docs/traencyn.htm>.

3.3. Learning Theories.

The purpose of education is learning. Several theories have been raised about learning, which have tried to explain how learning occurs. They help teachers to choose teaching methods, prepare learning environment and determine students' activities ⁽¹⁾. This research utilised a tutorial program which were integrated as a new pedagogy to the teaching practices. The application used was designed by the author. It was therefore necessary to look at the learning theories to determine what theory the new technologies would model. Bednar, A., et al., (1995) ⁽²⁾ argued, "Instructional strategies and tools must be based on some theory of learning and cognition".

Over the past century, educational psychologists and researchers have posited many theories to explain how individuals acquire, organize and deploy skills and knowledge. Learning theories attempt to describe the way people learn, thus facilitating understanding of the complex process of learning. Tsapatsoulis, N., (2005) ⁽³⁾ describe how theories on the ways people learn, have undergone major changes over the years. Educators should understand the theories of learning that support instruction, and should apply them optimally when using educational technology. Learning theories (also termed learning paradigms) are grouped into three basic categories:

3.3.1. Behaviorist learning theories.

The behaviourist school of thought, influenced by Thorndike (1913), Pavlov (1927) and Skinner (1938), postulates that learning is a change in observable behaviour caused by external stimuli within the environment. This school of thought therefore, looks at overt behaviours that can be observed and measured (Thomas L Good, 1990) ⁽⁴⁾. Term "behavior" coined in 1913 by the American Watson from the word behavior meaning "comportement" in french - the psychology became the

1 Shahla Abolhasani et al., (2012), Application of Learning Theories in Clinical Education. Iranian Journal of Medical Education, Vol., 11. No., 9. pp. 1290- 1298. Retrieved from: http://ijme.mui.ac.ir/browse.php?a_id=2049&sid=1&slc_lang=en.

2 Bednar, A., et al., (1995) Theory in practice: How do we link? In Anglin, G. (eds) (1995) Instructional technology: Past, present, and future 2nd edition. Englewood, CO: Libraries Unlimited.

3 N., Tsapatsoulis, (2005), Learning Principles and Approaches: Summary of Learning Theories. University of Athens, Greece. Retrieved from: <http://www.cs.ucy.ac.cy/~nicolast/courses/cs654/lectures/LearningTheories.pdf>.

4 Thomas L Good. (1990) Educational psychology: A realistic approach. 4th ed. White Plains, NY: Longman.

science of behavior ⁽¹⁾. The behaviourist school of thought sees the mind as a clean slate (tabula rasa) and behaviour is shaped through positive reinforcement or negative reinforcement. Forrester and Jantzie (2004) ⁽²⁾ labelled behaviourism as directed instruction. The behaviourist paradigm focuses on learning and behaviour in a scientific way, with three main aspects:

- Focus on observable behaviour.
- Shaping of behaviour by the environment.
- How the learning process is reinforced by contiguity and reinforcement⁽³⁾.

Behavioural learning theorists consider that all behaviour is learned and that learning occurs as a result of the effect of one's behaviour on the environment. A learner's actions and responses are in some way either rewarded or punished, and thereby strengthened or weakened. One underlying principle within behavioural theory is that when an action or response produces a pleasant or rewarding outcome that behaviour is likely to be repeated and the more the response is repeated the more it is strengthened. In contrast, responses that bring displeasure or pain are likely to weaken and fade. These simple but powerful principles govern much of what goes on in various ways in typical classrooms ⁽⁴⁾.

Consequently, an important aspect of behaviourist learning theory is centred on how environmental stimuli elicit behaviour and responses. In a stimulus-response-reinforcement pattern, good behaviour is rewarded by positive reinforcement or reward, and improper behaviour is followed by negative effects ⁽⁵⁾. Behaviorism theory has practical advantages because it helps develop standardized procedures ⁽⁶⁾. Alessi and Trollip (2001) ⁽⁷⁾ argue that 'repeatedly pairing a neutral stimulus with a natural stimulus... will cause the neutral stimulus also to elicit the

1 Gérard Barnier (2008). Théories de l'apprentissage et pratiques d'enseignement. IUFM d'Aix-Marseille Université. Récupérée de: http://www.aix-mrs.iufm.fr/formations/fit/doc/apprent/Theories_apprentissage.pdf.

2 Darren Forrester & Noel Jantzie (2004) 'Learning Theories', Journal, University of Limerick, Digital Media.

3 Pauline Grippin, Sean Peters (1984). Learning theory and learning outcomes. New York: University Press of America.

4 Oon Seng Tan et al., (2003). Educational psychology: A practitioner-researcher model of teaching. Belmont, CA: Wadsworth-Thomson.

5 Alessi and Trollip (2001). Ibid.

6 Jean Vincent, (2002). Les TICE à l'école. Bordas/ VEUF. Paris. P. 28

7 Alessi and Trollip (2001). Ibid.

response'. Learning is therefore viewed as a passive process that occurs as an adaptation, or response, to the 'demands' of the environment ⁽¹⁾.

This learning theory is relatively simple to understand because it relies only on observable behaviour and postulates universal laws of behaviour. Its positive and negative reinforcement techniques can be effective both in animals and in the treatment of human psychological issues. Behaviourist theories are often applied by teachers in rewarding or punishing students' behaviour. The weakness of this paradigm is that students may find themselves in a situation where the expected stimulus for the right response does not occur, and thus they might not respond correctly. The strength is, however, that the student can focus on a specific goal or objective and respond to the appropriate signal to achieve the given goal ⁽²⁾. Mark K. Smith (2003)⁽³⁾ cites 'activity' as most important among key principles. He argues that learning is better when the student is active rather than passive. 'Learn by doing' is important as a guideline, because certain skills are acquired only with frequent practice.

3.3.2. Cognitive-Information Processing Theories.

In contrast to behavioural psychologists who are concerned with observable behaviour change as evidence of learning, cognitive psychologists are interested in studying learning as an internal mental phenomenon. Eggen and Kauchak (2003)⁽⁴⁾ state that from a cognitive perspective, learning is a change in 'mental structures'. Cognitive learning theories deal with the issue of how people process and store information to gain an understanding of themselves and the environment, and how their thinking and reasoning influence their actions and reactions ⁽⁵⁾. Cognitive psychology explores interrelationships among variables

1 Jonassen, David H. (1990). Thinking technology: Toward a constructivist view of instructional design. *Educational Technology*, 30(9), pp. 32-34.

2 Fiona O'Sullivan (2010). The Internet as a Learning Tool for Effective Project Based Learning in the Teaching of the Geography Primary Curriculum. Media Development for Education, University of Limerick, Ireland. Retrieved from: <http://ulir.ul.ie/bitstream/handle/10344/451/FOSmthesis.pdf?sequence=3>

3 Mark K. Smith (2003). 'Learning theory', the encyclopedia of informal education, infed. Retrieved from: www.infed.org/biblio/b-learn.htm

4 Paul D. Eggen and Donald P. Kauchak (2003). *Educational psychology: Windows on classrooms* (6th edn). Upper Saddle River, NJ: Merrill.

5 Kenneth T. Henson and Ben F. Eller (1999). *Educational psychology for effective teaching*. Belmont, CA: Wadsworth.

involved in learning, such as perception, attention, memory, language, motivation, concept development, reasoning and problem solving ⁽¹⁾.

This approach attempts to describe how information enters through the senses and is perceived, encoded and stored in memory. Ideally, it is retained and used. Cognitivism proposes looking at the whole rather than its parts, and at patterns instead of isolated events (Ormrod, 2004)⁽²⁾. Changes in behaviour do occur, but they are indirect outcomes of learning. This paradigm emphasises the cognitive processes, higher-order thinking skills and mental representations constructed by students when they are actively acquiring information (Lim and Hang, 2003) ⁽³⁾. Cognitivists maintain that attainment comes from the application of critical thinking skills and the understanding of essential concepts.

One major group of cognitive theories may be classified as cognitive-information processing learning theories. According to the cognitive information processing (CIP) view, the human learner is conceived to be a processor of information, in much the same way a computer is. When learning occurs, information is input from the environment, processed and stored in memory, and output in the form of a learned capability. However, unlike behaviorists, they assume an intervening variable between the environment and behavior. That variable is the information processing system of the learner. Most models of information processing can be traced to Atkinson and Shiffrin (1968)⁽⁴⁾ who proposed a multistage theory of memory in which information received by the processing system undergoes a series of transformations before it can be permanently stored in memory. This flow of information, as it is generally conceived, from three basic components of memory (i.e., sensory memory, short-term memory, and long-term memory) along with the processes assumed to be responsible for transferring information from one stage to the next. This system

1 M.W. Eysenck, & M.T. Keane, (2000). *Cognitive psychology* (4th edn). Hove: Psychology Press.

2 J.E.Ormrod, (2004). *Human learning*. (4th edn.). Upper Saddle River, NJ: Pearson Education, Inc.

3 Cher Ping Lim and David Hang (2003). An activity theory approach to research of ICT integration in Singapore schools. *Computers & Education*, 41(1), pp. 49-63.

4 R.C., Atkinson, R.M. Shiffrin, (1968). "Chapter: Human memory: A proposed system and its control processes". In Spence, K.W.; Spence, J.T.. *The psychology of learning and motivation* (Volume 2). New York: Academic Press.

provides the basic framework for all learning theories classified under the cognitive-information processing category.

Many instructional designers 'began to take cognitive principles into consideration' ⁽¹⁾. A consequence of this paradigm shift was that hybrid instructional approaches emerged, in which application of the cognitive theory of attention and perception, along with a combination of student control and program control, is reflected in certain current screen designs and interactive multimedia. Under the cognitive paradigm attention is also paid to motivational aspects. Paritosh (2004) ⁽²⁾ argues that many students have limited knowledge and much of what they know is implicit learning. He suggests that students learn by inducing from experience, more than by being told. Multimedia technology can assist students in both implicit and explicit modes of learning by the way that graphics, text, audio and video present visual and verbal example and rules, both situated and abstract. The prior knowledge that students bring with them to the learning experience includes informal representations and strategies. This is partial knowledge and unarticulated, so students need to learn representational syntax and semantics, perceptual knowledge, metacognitive skills; all easily presented through technology.

3.3.3. Cognitive-constructivist learning theories.

Constructivism is derived mainly from the works of Piaget (1969), Bruner (1962, 1979), Vygotsky (1962, 1978), Dewey (1915, 1962) and Papert (1980) ⁽³⁾. Constructivists believe that the learner is the centre of the learning, constructing their own knowledge and teachers are the facilitators for the students' learning rather than the instigators ⁽⁴⁾. In the knowledge constructed classroom, the students

1 Stephen M. Alessi, and Stanley R. Trollip,(2001). *Multimedia for learning: Methods and development*. (3rd edn.). Boston: Allyn & Bacon, p. 580.

2 Paritosh, P.K. (2004). *Symbolizing quantity*. In K.D. Forbus, D. Gentner & T. Regier (Eds.), *Proceedings of the 26th Annual Conference of Cognitive Science Society*, Chicago, 4-7 August 2004 (pp. 1083-1088). Chicago, IL: Cognitive Science Society.

3 Sasson, G.M. (2001). *The retreat from inquiry and knowledge in special education*. *Journal of Special Education*, 34, 4, pp. 178-193.

4 Duffy, T. M. and Cunningham, D. J. (1996) *Constructivism: Implications for the Design and Delivery of Instruction*. In D., H., Jonassen (Ed), *Handbook of Research for Educational Communications and Technology*. New York: Simon and Schuster. Macmillan.

work together, sharing the process of learning not only with their peers but with parents and others ⁽¹⁾.

Constructivist learning theory postulates that learning is an active and constructive process in which the student is personally a constructor of information. It rejects the approach of treating the student as an empty vessel into which knowledge is poured, and rather recommends that students should actively construct their own representations of reality, and should interpret knowledge instead of accepting an absolute reality as taught in behaviourism ⁽²⁾. The role of the teacher in the constructivist paradigm is that of entering into a discussion with the students, helping them to appreciate the meaning of the material to be learned and refine their understanding. In this situation, the educator is a facilitator rather than an instructor.

Papert (1980)⁽³⁾ expressed ambitious aims for classroom computers. He wanted education to provide the learner with appropriate tools to take ownership of their learning process. He understood the importance of digital media and how it could be used to enable children to learn better within a constructivist learning environment. He believed that in order for children to assemble and modify their ideas, the traditional tools such as pencils, copies and texts were inadequate. He felt that computers were the appropriate tool to enable the learner to take control of the learning process. A complementary relationship exists between technology and constructivism, the implementation of each one benefiting the other. Recent attempts by educators to integrate technology in the classroom have been within the context of a constructivist framework ⁽⁴⁾.

Koohang et al. (2009)⁽⁵⁾ believes that learning through the Internet is very compatible with constructivism. Constructivism assumes that learners are active

1 Sandholtz, J., Ringstaff, C. and Dwyer, D. (1997) *Teaching with technology: creating student-centered classrooms*. New York: Teachers College Press.

2 Stephen M. Alessi, and Stanley R. Trollip,(2001). *Multimedia for learning: Methods and development*. (3rd edn.). Boston: Allyn & Bacon, p. 580.

3 Papert, S. (1980) *Mindstorms: Children, Computers and Powerful Ideas*. New York: Basic Books.

4 Nanjappa, A. and Grant, M.M. (2003) *Constructing on Constructivism: The Role of Technology*. *Electronic Journal for the Integration of Technology in Education*. Retrieved from: <http://ejite.isu.edu/Volume2No1/nanjappa.htm>.

5 Koohang, A., Riley, L., Smith, T. & Schreurs, J. (2009). *E-Learning and Constructivism: From Theory to Application*. *Interdisciplinary Journal of E-Learning & Learning Objects*, 5(1), pp. 91-109.

and curious and the process of knowledge construction on the Internet is in keeping with these paradigms. The Internet is a powerful resource to support learners' natural curiosity. The Internet rethinks the idea of the teacher as the sole source of knowledge, by providing a vast world of information. By using the Internet, teachers can focus less on being the centre of learning and allow for more discovery on the part of the student. Instead of being passive recipients listening to their teachers, students can devise their own ways of gathering information. Effective use of the Internet can help teachers move toward facilitating constructivist learning environments. Furthermore, resources on the Internet come in multi-media format, including texts, graphics, videos and audio materials. If teachers assign collaborative projects, and require students to work in groups, different resources can be used by different group members, resulting in a greater variety in total. Having developed personal areas of expertise, students can share their skills in a collaborative environment, supporting each other in constructing knowledge. Work on computers thus allows for the deepening of individual skills, as well as enhancing group dynamics, and developing communication skills ⁽¹⁾.

Kerr (2007) ⁽²⁾ asserts that “ In the educational domain, a multitude of Web applications are being used to enhance the learner experience, particularly in terms of collaboration and communication. New learning environments are informing present and future trends from which both educators and students stand to benefit. Moreover, the way in which global networks and communities of interest are currently being formed through emerging technologies is encouraging young people, in particular, to develop new, creative, and different forms of communication and knowledge creation outside formal education. Of course the number of learners who have been immersed in these technologies all their lives will grow, as the young are more predisposed to use the latest technologies and will displace the learners who have grown up with books and pen and paper as resources for learning.

1 Isman, A., Yaratana, H. & Caner, H. (2007). How Technology is Integrated into Science Education in a Developing Country: North Cyprus Case. *The Turkish Online Journal of Educational Technologies (TOJET)*, 6(3): pp. 54-60.

2 Kerr, B. (2007). A Challenge to Connectivism. Transcript of Keynote Speech, Online Connectivism Conference. University of Manitoba. http://lrc.umanitoba.ca/wiki/index.php?title=Kerr_Presentation.

Research by Craig and Van Lom (2006) ⁽¹⁾ in Louisiana, USA, where students took part in a simulation game demonstrating the spread of a virus, when integrated into the classroom demonstrated that the combination of constructivist learning theory and the integration of mobile technologies resulted in:

- Students readily engaged with the simulation, and found it to be a rewarding and stimulating experience.
- Students successfully collaborated to answer the relevant questions about the simulation.
- The technology facilitated, rather than hindered, normal interactions between the students, the devices augmented rather than replaced normal channels of communication.
- Provided unobtrusive technology support students were able to test out experimental hypotheses within the simulation after observing specific behaviors.

3.3.4. Relevance of Learning Theories.

All the learning theories can be used by all the teachers for all the learning area or subjects. This means that there is relevance in all the learning theories. Learning theories have two chief values according to Hill (2002)⁽²⁾. One is in providing us with vocabulary and a conceptual framework for interpreting the examples of learning that we observe. The other is in suggesting where to look for solutions to practical problems. All theories focus on how a learner can acquire skills in teaching and learning. They came up with different method on how these skills can be acquired. All three paradigms incorporating behavioural, cognitive and constructivist concepts, as well as hybrids, as appropriate foundations for particular contexts and learning content. This applies not only to educational technology

1 Craig, T. & Van Lom, M. (2006). Impact constructivist learning theory and mobile technology integration. Theories of Educational Technology. Retrieved from: https://sites.google.com/a/boisestate.edu/edtechtheories/craig_and_vanlom.

2 Hill, W. F., (2002), Learning: A survey of psychological interpretation (7th ed). Boston: Allyn Bacon

artifacts and e-learning environments, but also to books and other media used as educational components ⁽¹⁾.

Each of the three paradigms described in this section has evolved over time. Recently, it has been very actively promoted, due probably to the advent of the Internet and Web, where the open-ended, hyperlinked nature of the environment leads itself to constructivist exploration ⁽²⁾.

When educational technology, integrated into a class situation, is founded on proper learning theory, a synergy is created that enhances learning ⁽³⁾. If instructional design is carefully planned to include a diversity of instructional methods and various technological tools, it can help both in supporting the learning of processes that are part of the subject matter and in helping students achieve associated outcomes. In particular, the natural convergence of constructivist learning theory and educational technology, when implemented in an interactive relationship, forms the foundation of a comprehensive reform system ⁽⁴⁾. Such educational practice can promote technology and learning theory concurrently and synergistically ⁽⁵⁾. Using technology in a constructivist way should strengthen the junction of learning theory with methods and knowledge.

3.3.5. Summary of Paradigms.

Section 3.3 overviews the three major learning paradigms of behaviourism, cognitivism and constructivism. Each has strengths and weaknesses. Some criticisms are:

- Some of the criticism of behaviourism relates to the following ⁽⁶⁾:

1 Alessi and Trollip (2001). Ibid.

2 Wang, K.H., et al., 2006). Learning styles and formative assessment strategy: Enhancing student achievement in Web-based learning. *Journal of Computer Assisted Learning*, 22(3), 207-217.

3 Branigan, C. (2002). Study: Missouri's ed-tech program is raising student achievement. Retrieved from <http://www.eschoolnews.com/2002/03/13/study-missouri-ed-tech-program-is-raising-student-achievement/>

4 Cicchinelli, L.F. (1999). What we know about comprehensive school reform. In Mid-continental Regional Educational Laboratory (McREL) (Ed.), *Noteworthy perspectives on comprehensive school reform*, pp. 1-4.

5 Bagley, C. & Hunter, B. (1992). Restructuring, constructivism, and technology: Forging a new relationship. *Educational Technology*, 32(7), pp. 22-27.

6 World citizens, (2004), *Learning theories: Insight into the move towards outcomes based education*. Retrieved from: <http://www.worldcitizens.net/freestate/resources/fs/LEARNING%20THEORIES.pdf>.

- Behaviourism views learning as something that happens to a person, with the person being passive. We all know that every learner is active, both mentally and physically, when engaged in learning.
- Behaviourism does not account for all types of learning, since it disregards the activities of the mind.
- Behaviourism does not explain some forms of learning such as the recognition of new language patterns by young children.
- Some implementations of the cognitivist paradigm can be criticised for paying inadequate attention to the principle of active learning. In cognitivist paradigm the learner knows a certain way to do things based upon specific cues, but that way may not be the best, most efficient or safest way to do something in the advent of different environmental stresses or scenarios ⁽¹⁾. Certain cognitivist educational software is dominated by reading, watching demonstrations and listening. The principles of collaboration, communication and transfer, although mentioned by proponents of this philosophy, are not always translated into practice in the learning environments they create ⁽²⁾.
- Constructivists are criticised for their claims that certain instructivist methodologies, for example, tutorials and drills, are inappropriate ⁽³⁾. Matthews, (1994) carried to the extreme, radical constructivism leads to solipsism, this can lead to a rejection of ethics: if the world is my own creation, why should I care what happens to others? Boyle (1996) takes radical constructivists to task for putting too much emphasis on an individual's cognition at the expense of the biological and social foundations upon which cognition must be based ⁽⁴⁾.

1 Ton de Jong, (2010), Cognitive load theory, educational research, and instructional design: some food for thought. Springerlink, Retrieved from: <http://users.edte.utwente.nl/jong/de%20jong%20cognitive%20load%20final%20IS.pdf>

2 Alessi and Trollip (2001). Ibid.

3 Alessi and Trollip (2001). Ibid.

4 Mordechai Ben-Ari, M., (1998), Constructivism in Computer Science Education. Journal of Computers in Mathematics and Science Teaching, presented at the Twenty-Ninth SIGCSE Technical Symposium on Computer Science Education, Atlanta, GA, 1998.

The three learning theories of behaviorism, cognitivism, and constructivism have been influencing education and guiding instructional practice since the 1800's. Learning theories provide a solid foundation for a multitude of strategies and reasoning techniques needed for instructional designers to create meaningful learning systems ⁽¹⁾. There are two main questions debated by theorists and researchers ⁽²⁾: "Where does knowledge come from, and how do people come to know?" These questions provide insight into the differences between learning theories but also demonstrate how each theory plays an important role in distance education. As suggested by Warries (as cited by Ertmer & Newbie, 1993) ⁽³⁾, theories based on strong research are much more reliable than (theories) based on instructional phenomena.

Despite the limitations of each learning theory, a successful and flexible learning environment should include a combination of e-learning technologies and varied forms of educational software, such as tutorials, hypermedia and Web-based communication, representing all three learning paradigms ⁽⁴⁾.

3.4. Social studies and civic education.

Social studies seek to examine and understand communities, from the local to the global, their various heritages, physical systems, and the nature of citizenship within them. Students acquire knowledge of key social studies concepts, including change, culture, environment, power, and the dynamics of the marketplace ⁽⁵⁾. They learn about the role of citizens in a democratic society within a culturally diverse and interdependent world. They also acquire skills of inquiry and communication through field studies and other research projects; through the use of maps, globes, and models; and through the consideration of various forms of historical evidence. Students apply these skills to develop an understanding of Canadian identity and

1 Crawford, J., (2009). Learning Theories that Encompass Distance Education. Boise State University. Retrieved from: http://edtech2.boisestate.edu/crawfordj/portfolio/files/5_Learn_theories.pdf.

2 Ertmer, P. A., & Newby, T. J. (1993). Behaviorism, Cognitivism, Constructivism: Comparing Critical Features from a Design Perspective. *Performance Improvement Quarterly*, 6 (4).

3 Ertmer, P. A., & Newby, T. J. (1993). *ibid*.

4 Alessi and Trollip (2001). *Ibid*.

5 Prickette, K., R., (2001). Planning Curriculum in Social Studies. Wisconsin Department of Public Instruction, Retrieved from: http://www.sdb.k12.wi.us/curriculum/standards/state/SocialStudies/SS%20Chapters/SocStudies_00FM.pdf.

democratic values, to evaluate different points of view, and to examine information critically in order to solve problems and make decisions on issues that are relevant to their lives ⁽¹⁾.

3.4.1. Why is civic education including in the social study?

Social studies classes help students understand their roots, see their connections to the past, comprehend their context, recognize the commonality of people across time, appreciate the delicate balance of rights and responsibilities in an open society, and develop the habits of thoughtful analysis and reflective thinking. Social studies instruction should help students assume their role as responsible citizens in constitutional democracy and as active contributors to a society that is increasingly diverse and interdependent with other nations of the world ⁽²⁾. National Council for the Social Studies emphasized that: the primary purpose of social studies is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world ⁽³⁾.

According to Hoge, J., (1988)⁽⁴⁾ Civic education is an established part of the curriculum in social studies. Content in government, law, and citizenship is woven into the typical elementary school social studies program.

In the same context Kuehne, D., et al., (2003)⁽⁵⁾, asserts that Public middle schools incorporate Civic Education into Social Studies or History courses, with few actually designated as “Civics”. Like private-parochial high schools, instruction is more likely to be through History than formal “Civics”. According to their reports, public middle schools provide frequent opportunities for Voter Education, Community Service, and Service Learning.

1 ministère de l'Éducation de l'Ontario, (2004). Le curriculum de l'Ontario – Études sociales, de la 1re à la 6e année – Histoire et géographie, 7e et 8e année, Récupérée de: <http://www.edu.gov.on.ca>.

2 New York State Education Department. (1999) Social Studies: Resource Guide with Core Curriculum. University of the State of New York. Retrieved from: <http://www.p12.nysed.gov/ciai/socst/pub/ssovervi.pdf>.

3 Barrett, B., Deitrich, M., (2010). Civic Education Attitudinal Trends of High School Students Post 9-11. National Social Science Association. Retrieved from: <http://www.nssa.us/journals/2010-34-2/pdf/34-2%2002%20Barrett.pdf>.

4 Hoge, John D., (1988), Civic Education in Schools. ERIC Clearinghouse for Social Studies, Retrieved from ERIC database. (ED301531).

5 Dale Kuehne, Tony Prizio, and Ken Relihan (2003), Civic Education Survey. New Hampshire Department of Education, Retrieved from: http://www.education.nh.gov/instruction/curriculum/social_studies/survey.htm

Civic education in elementary and secondary schools has been boosted toward law-related education (LRE). In USA, a nation-wide survey by (Hahn 1985)⁽¹⁾ reveals that, law-related education (LRE). has been added to the curriculum in more than half of the forty-six states involved in the study since 1975. They also ranked LRE fourth as a priority in social studies education: it ranked eleventh in 1975. Courses in LRE are widely offered as high school electives in more than twenty states.

3.4.2. The key concepts of the civic education in social studies curriculum.

The concept of Civic Education is that of Citizenship, the realisation of the civic, social and political dimensions in the life of the individual person through active participation in society. Through the units of study outlined should come to understand how the seven concepts listed below serve collectively, though not exclusively, to inform and clarify the concept of citizenship ⁽²⁾:

1. Democracy:

Pupils should be aware that through the democratic process, at all levels of society, every individual can exercise power through participation. Participation at an individual or group level represents a central right and responsibility in an ordered democratic society. Non-participation or exclusion can lead to alienation, apathy and lack of responsibility on the part of the individual.

2. Rights and Responsibilities:

Pupils should be aware that every individual is entitled to basic social, cultural, economic, civic, religious and political rights and to the safeguarding and protection of these rights. Denial of human rights results in the

1 Hahn, Carole L. "The Status of Law-Related Education in Public Schools of the United States: Retrieved from ERIC database. (EJ 315 999).

2 Gerry Jeffers (2007), Key Concepts in Civic, Social and Political Education (CSPE). The Standing Conference on Teacher Education, North and South (SCoTENS). Retrieved from: http://scotens.org/citizenship/documents/CSPE_Key_Concepts.ppt.

domination and oppression of people. Responsibilities go hand in hand with the rights accorded to individuals. Every person is responsible for their actions towards other people at all levels. Irresponsibility results in self-interested or careless actions which can be damaging to other people at all levels ⁽¹⁾.

3. Human Dignity:

Pupils should be aware of the dignity which every individual should be accorded as a human being, and of how provision of basic needs (e.g. food, health, security, education) is vital to human dignity. Failure to fulfill the basic needs of people results in loss of human dignity, deprivation etc.

4. Interdependence:

Pupils should be aware of the interrelatedness of all human life at the individual, community, national and global levels. The actions of an individual can have effects, sometimes in places and situations they have never seen e.g. the effects on economies, businesses and the environment of the purchases we make as consumers, the effects of our votes in elections on developments at local, national and international levels. Absence of an understanding of interdependence leads to an isolated, powerless and self-interested view of events ⁽²⁾.

5. Law:

Pupils should be aware that laws and rules serve important purposes in any community or society, including the peaceful resolution of conflicts, the protection of life and property etc. They order and set out common codes of conduct for relationships between individuals, and between individuals, groups and society as a whole. They are a means through which we ensure

1 Higher Diploma in Education (2005), Teaching and Learning Workshops Civic, Social and Political Education. National University of Ireland, Education Department. Retrieved from: [http://scotens.org/citizenship/documents/1\[1\]_CSPE_Syllabus_04-05.doc](http://scotens.org/citizenship/documents/1[1]_CSPE_Syllabus_04-05.doc)

2 Eleanor Stokes et al., (2001), Environmental education in the educational systems of the European Union. European Commission, Centre for Educational Research, London School of Economics and Political Science. Retrieved from: http://www.medies.net/_uploaded_files/ee_in_eu.pdf.

that the rights of individuals are protected and promoted. They inform us of our rights and of our responsibilities for the observance of those rights.

Laws and rules are subject to change. Changes in laws may reflect developments in society, or may result from the actions of individuals. A belief in justice and fairness is basic to the process of developing, implementing and valuing laws. Lawlessness and ignorance of the value of laws results in the denial of the rights of each and every individual and a decline in the quality of life in communities and society ⁽¹⁾.

6. Development:

Development can be defined as a process of improvement (social, economic, cultural, political) to meet the needs in people's lives at all levels (personal, local, national, international). Pupils should be aware that development is usually planned and can often be influenced through the democratic process. They should also be aware that the process of development is complex, often controversial, and one where planned solutions do not always meet the needs of all parties involved. Failure to develop leads to decline and under-development ⁽²⁾.

7. Stewardship

Pupils should be aware that as individuals born on the planet every person becomes a temporary owner or steward entrusted and empowered with its care and maintenance e.g. with constructive management of its finite resources, appreciation of the cultural diversity of its peoples etc. This stewardship will be passed on to future generations and includes complex decision-making on complex issues, particularly in the area of development, where compromise is often the only way forward for those involved.

Absence of stewardship leads to the belief that our role in relation to the natural world, the environment, other peoples and cultures is incidental or

¹ Jeffers, G., (2007) *ibid*

² Higher Diploma in Education (2005), Teaching and Learning Workshops Civic, Social and Political Education. National University of Ireland, Education Department. Retrieved from: [http://scotens.org/citizenship/documents/1\[1\]_CSPE_Syllabus_04-05.doc](http://scotens.org/citizenship/documents/1[1]_CSPE_Syllabus_04-05.doc)

inconsequential. This results in phenomena like unnecessary depletion of resources, pollution of the environment, diminishment of cultural heritage etc ⁽¹⁾.

3.5. The Role of Civic Education.

Societies have long had an interest in the ways in which their young are prepared for citizenship and in how they learn to take part in civic life. No country- Including developed countries- has achieved the level of understanding and acceptance of the rights and responsibilities among the totality of its citizens that is required for the maintenance and improvement of any constitutional democracy. So, there is no more important task than the development of an informed, effective, and responsible citizenry. Democracies are sustained by citizens who have the requisite knowledge, skills, and dispositions. Absent a reasoned commitment on the part of its citizens to the fundamental values and principles of democracy, a free and open society cannot succeed. It is imperative; therefore, that educators, policymakers, and members of civil society make the case and ask for the support of civic education from all segments of society and from the widest range of institutions and governments ⁽²⁾.

3.5.1. What is civic education?

Civic Education is a term used to describe various educational programs, with different names, such as: Citizenship Education and Ethics, Civic, legal education, Culture, Civic, legal and social education (Kuhn 2006)⁽³⁾, Civic engagement (United Nations Development Program 2004)⁽⁴⁾, Education for

1 Eleanor Stokes et al., (2001), *ibid*.

2 Margaret Branson (1998). *The Role of Civic Education*. Center for Civic Education. Retrieved from: http://www.civiced.org/papers/articles_role.html.

3 Kuhn, Hans-Werner (2006). "European Approaches to Civic Education for Promotion of Democracy". Paper presented at the German-American Conference "Democracy Promotion and International Cooperation", cosponsored by the Center of Civic Education and the Bundeszentrale für politische Bildung, September 24-29, 2006, Denver, Colorado, USA.

4 United Nations Development Program (UNDP) (2004). "Civic Education, Practical Guidance Note". Bureau for Development Policy. Working paper. retrieved from: <http://hdr.undp.org/en/nhdr/support/thematic/governance/>

Democratic Citizenship (Alan Smith, et al., (2002)⁽¹⁾). One international study (Kerr 1999 cited in Branka Vasiljevi, 2009)⁽²⁾ on comparison of CE in 16 countries showed great variability not only in their organization and implementation, but also in their names. For example in Australia it is referred as "Human society and environment", in Canada: "Social studies", in Hungary: "People and society" etc. Civic Education is sometimes being studied as a separate subject in elementary and secondary schools, and sometimes it is a distinct subject area, integrated in several subjects. There is no international consent on the content of curricula of Civic Education and its goals, so it is not easy to define it ⁽³⁾. However, the broadest possible description of Civic Education would be that it is aimed to "make good citizens", equipped with appropriate knowledge, skills and traits of character. For instance, there are some definitions as follows:

Civic Education is a process and a tool at same time, for citizens to learn how to effectively participate in the democratic and development processes of a country, both at local and national levels. It is an important means of enhancing the capacity of society by empowering and preparing its people for civic engagement ⁽⁴⁾.

Nancy Haas et al., (2009)⁽⁵⁾, also defined Civics as the curriculum whose primary purpose is to cultivate the knowledge, attitudes, and skills required for meaningful citizenship in a democracy. the goal of education in civics and government is informed, responsible participation in political life by competent citizens committed to the fundamental values and principles of constitutional democracy”.

Dahal, D. R., (2001) ⁽⁶⁾, mentioned that: civic education helps people get involved in their political system by informing people about how their government

1 Alan Smith et al., (2002). Civic Education in Primary and Secondary Schools of Serbia. An evaluation of the first year, 2001-2002, and recommendations. UNICEF Belgrade Office, UNESCO. Retrieved from: [http://www.unicef.org/serbia/Civic_Education\(1\).pdf](http://www.unicef.org/serbia/Civic_Education(1).pdf).

2 Branka Vasiljevi(2009), Civic Education as a Potential for Developing Civil Society and Democracy. Master Thesis, University of Tromsø, Norway.

3 Kuhn, Hans-Werner (2006). *ibid*.

4UNDP, (2001). What is civic education? United Nations Development Programme. Retrieved from: http://www.undp.org/fj/index.php?option=com_news&Itemid=45&task=view&id=172.

5 Nancy Haas et al., (2009). Study of Civic Education in Arizona. Center for Civic Education and Leadership, Arizona State University. Retrieved from: http://ccel.asu.edu/assets/documents/AZ_Civics_Study.pdf.

6 Dev Raj Dahal (2001). Civil Society in Nepal, Opening the Ground for Questions. Center for Development & Governance. Retrieved from: http://www.nepaldemocracy.org/civic_education/civil_society_in_nepal.PDF.

works, what government officials' responsibilities are, what areas of the political process are most open to citizen involvement and what kinds of things citizens can do to affect political outcomes.

Diana Owen (2004) ⁽¹⁾ assert that, Civic education, is an element of the political socialization process that involves the active development of citizenship orientations in young people.

Of course, the concept of "good citizen" is relative to the regime type and the political system of one's society. Democratic societies require democratic citizens, whose specific knowledge and competences would not be as well suited to other regimes. The situation of defining **civic education** is even more complex if we consider that there are multiple conceptions of democracy, which are a matter of considerable debate ⁽²⁾.

3.5.2. The importance of civic education.

Civic education is an important means of teaching the populace about individual rights and what duties and responsibilities the governed and leaders should do. The introduction of Civic Education as a subject to be taught in primary and secondary schools is expected to further deepen democratic culture and encourage qualitative participation in the governance process.

According to Marvin Berkowitz, (2009) ⁽³⁾ Teaching civic education in the schools, develop Character of students to become democratic citizens, responsible, social and respectful within our society. Some of the attributes often cited are:

1. Respect themselves, others and the world.
2. Responsibility.

1Diana Owen, (2004). Citizenship Identity and Civic Education in the United States. presented at the Conference on Civic Education and Politics in Democracies, 26 September- 1 October, 2004. San Diego. Retrieved from: <http://www.civiced.org/pdfs/OwenDiana.pdf>.

2 William A. Galston (2001) "Political Knowledge, Political Engagement and Civic Education" Annual Review of Political Science Volume 4 2001, pp. 217-234.

3 Marvin Berkowitz (2009). Coup d'oeil sur les programmes efficaces de développement du caractère. ministère de l'Éducation de l'Ontario. Récupérée de: http://www.edu.gov.on.ca/fre/literacynumeracy/inspire/research/Expert_PerspectivveFR.pdf

3. The desire and ability to be fair and just.
4. Concern for the well-being of others.
5. A commitment to honesty and transparency.
6. The desire to establish democracy in politics and everyday life.

Therefore, the character development is a process that taking place at school in order to instill these attributes in students.

Donald (1990)⁽¹⁾ assert that, this type of education in Alaska's secondary schools; increases student interest in the law; helps students become effective citizens; deters juvenile delinquency and youth crime; and encourages peaceful conflict resolution. This study suggests ways to implement this type of education in the curriculum, These include: involvement of outside resource persons; use of good teaching methods; small group activities; support by administrators; peer support for teachers; and focus on values clarification and moral development. Ten lesson plans for use in secondary classrooms, such topics as student rights, the Alaska court structure, jury deliberations, misdemeanour sentencing, the right to privacy, the Alaska Oil Spill, and comparative law.

Arguably, civic education is the study of the theoretical and practical aspects of citizenship, its rights and duties; the duties of citizens to each other as members of a political body and to the government ⁽²⁾. Therefore every citizen needs to know how the legal and political systems function, how the law affects them, and how they can affect it. Subsequently, civic education includes Legal culture.

Carolyn (1994)⁽³⁾ identify four reasons for including Law in the curriculum Illustrate the importance of civic education or legal culture for students these reasons are:

1 Donald Surgeon. (1990). A Low- Related Education for Alaskans. U. S. Alaska, ERIC Clearinghouse for Social Studies/Social Science Education [ED337086].

2 Beach, F., and Rines, G., cited in wikipedia (2012) Civics. Retrieved from: http://en.wikipedia.org/wiki/Civic_education.

3 Carolyn Pereira. (1994) Law-Related Education in Elementary and Secondary School. Youth for Justice: Staff Development and Awareness Training Manual, Retrieved from <http://www.crfc.org/pdf/aware.pdf>.

- A. The development of knowledge, skills, and attitudes needed for citizenship, that increases students' knowledge of the justice system, government, Sources of law, functions of law, legal processes, legal roles, and legal principles and the rights and responsibilities of citizenship in a constitutional democracy. There also is evidence that it contributes to development of skills in civic participation.
- B. Development of critical thinking and participation skills, and development of skills in civic participation and decision making, to evaluate those decisions in the light of other important social and political values and interests.
- C. Development of positive attitudes. Positive attitudes about the law, and the system of justice, and responsible citizenship may be enhanced through teach law in the curriculum.
- D. Prevention of delinquency, teaching law in the curriculum can reduce tendencies toward delinquent behaviour and improve a range of attitudes related to responsible citizenship. The research indicated that the students who have studied law are less likely to associate with delinquent peers or use violence as a means of resolving conflict.

In Seminar about Promoting Active Citizenship for Building Modern State, Participants stressed that students need to learn about civic education as well as civic responsibilities and people at large should know about it. They should also know about separation of power, and other topics such as constitution, sustainable development, civic education, civic responsibilities, fundamental rights and many more. we need to include the component of civic education in school curriculum as this will help to understand the notion of being a citizen of a state and citizenship values attached with this. They wondered, if we do not know about the fundamental human rights how could we build modern state ⁽¹⁾.

¹ Garuda, Rautahat (2011) Seminar Report on Promoting Active Citizenship for Building Modern State. Organised by Friedrich Ebert Foundation (FES). Retrieved from: http://www.fesnepal.org/reports/2011/seminar%20reports/report_fes-garuda.htm.

Recent studies [Nony (2006)⁽¹⁾, Lisa (2008)⁽²⁾, Haas, N., (2009)⁽³⁾, Fattahova (2011)⁽⁴⁾] asserts that, public legal education provides young people with the emotional and practical skills needed to manage risks and challenges, and help them acquire and learn to use the skills, knowledge, and attitudes that will prepare them to be competent and responsible citizens throughout their lives. The results indicate an urgent need to improve the quantity and quality of public legal education available as a key to improving life-chances and ensuring access to justice. As long as corruption exists, one needs to continue running educational and awareness programs among the population as a lever to hinder further growth of this negative phenomenon. By teaching a vast number of law-obedient and responsible citizens one can counter the proliferation and aggravation of this phenomenon. These studies recommended the following:

- All study courses should be aimed at raising legal awareness among the population and most importantly changing their behavior. We should follow a comprehensive and consistent approach to conducting education programs, setting up a link between Universities and vocational schools.
- Increasing the number of activities on raising awareness (trainings, sharing information, and consultations). This will help raise legal awareness of corruption. Legal culture should be formed in secondary and higher education institutions, where theoretical knowledge should be accompanied by enhancing practical skills.

3.5.3. The role of civic education in delinquency Prevention.

The lack of civic education and patriotic orientation is leading to disorientation in schools and the larger society. The consequence is feeling at all

1 Nony Ardill (2006). Public Legal Education: A Proposal For Development, Advice Services Alliance, Legal Action Group, Retrieved from <http://www.pleas.org.uk/uploads/Public%20Legal%20Education%20-%20%20a%20Proposal%20for%20Development.pdf>.

2 Lisa Wintersteiger (2008). Young people's experience of law-related events: The role of public legal education, Public Legal Education Network , Advice Services Alliance, Retrieved from http://www.lawcentres.org.uk/uploads/Young_Peoples_Experience_and_PLE.pdf.

3 Nancy Haas et al., (2009). *ibid*

4 Alfia Fattahova(2011): civic education in the Kyrgyz Republic: Achievements, Problems and Prospects for Development, Social Research Center, American University – Central Asia, Retrieved from http://www.akdn.org/publications/civil_society_kyrgyzstan_civic.pdf.

strata of the society. The prevalence of trend of corruption, indiscipline, disrespect for both elders and the rule of law, indifference to duty are some of the manifestations of negative trends in the society. But teach students civics, serve as early warning signs of violence, because education aiming at preventing future delinquency.

According to Little and Haley (1982)⁽¹⁾ A study conducted by the Social Science Education Consortium and the Center for Action Research, indicates that Law Related Education programs, when properly conducted, Leading to reduced reduce tendencies toward delinquent behavior and improve a range of attitudes related to responsible citizenship. For example, successful students of Law Related Education programs are less likely to associate with delinquent peers, use violence as a means of resolving conflict, and refrain from reporting criminal behavior to authorities.

A Study made by Carolyn (1995)⁽²⁾ entitled: “Linking Law-Related Education to Reducing Violence by and against Youth” states that: Law-related education helps young people develop into knowledgeable, skilled, and caring citizens. Young people with these qualities, who are given productive, responsible roles, are less likely to be involved in undesirable behavior, including violence. Law-related education can create a learning environment to nurture the skills, attitudes, and patterns of responsible behavior associated with the reduction of violence.

In the same context, George Perry (1995)⁽³⁾ emphasized that Young people who understand the law are more likely to develop into knowledgeable, responsible, and caring citizens. Research on national, state, and local law-related education programs through the last two decades have demonstrated the benefits of law-related education in preparing young people for participation in civic life and in preventing delinquency. An important element of successful law-related education programs is opportunities for interactive learning through which young people

1 Little and Haley, (1982). Implementing Effective Law Related Education Programs, ERIC Clearinghouse for Social Studies/Social Science Education, (ED233928).

2 Pereira, Carolyn (1995). Linking Law-Related Education to Reducing Violence by and against Youth. Retrieved from ERIC digest. (EDO-SO-95-5).

3 George S. Perry, (1995). Youth Summits: Youth and Adults as Partners in Violence Prevention. technical assistance bulletins, NO 14, American Bar Association, Retrieved from <http://abapubliceducation.org/publiced/tab14.pdf>.

reach a deep understanding of legal issues through discussion with adults, and their peers. Also equips Young people with strategies for their active involvement in solving national problems, particularly violence by and against youth. Early exposure to the principles and practices of law provides young people with insights into the legal system that lessen the chances of their becoming involved in crime, as perpetrators or as victims, now and later in life. Within this context, Leiterman and Nessel (1999)⁽¹⁾ states that: Law Related Education uses the power of active learning about the law to giving young people a better understanding of the law and equipping them with strategies for active involvement in solving national problems, particularly violence by and against youth. Early exposure to the principles and practices of law provides young people with insights into the legal system, which can ultimately lessen the chances of their becoming involved in crime. Researches confirmed that law-related education helps prepare young people for participation in civic life and helps prevent delinquency.

many studies (Caliber Associates, 2002 ⁽²⁾; Richard A. Dove et al., 2004 ⁽³⁾; Sung-Hyeok, 2008⁽⁴⁾) indicate civic education and law related education is one of the programs which reduce risk factors, enhance protective factors (and thus promote resiliency) are most likely to prevent delinquency. The results shows if these programs, properly implemented, can have significant positive effects on students' knowledge, attitudes, and behaviors, and fostering citizenship among youth as well.

1 Hannah Leiterman, H., and Nessel, P., (1999): Youth Summits: Engaging Young People in Violence Prevention. technical assistance bulletins, NO 18, American Bar Association, Retrieved from <http://abapubliceducation.org/publiced/tab18.pdf>

2 Associates, C., (2002) The Promise of Law-Related Education As Delinquency Prevention. Association Division for Public Education. Retrieved from: www.streetlaw.org/document/100.

3 Richard A. Dove et al.(2004): Law-Related Education and Violence Prevention Among Youth, Ohio Center for Law-Related Education (OCLRE), Report of the Tenth Annual Youth for Justice Summit May 11, 2004, Ohio Center For Law-Related Education, Retrieved from <http://www.ocle.org/YFJ/Past%20Reports/YFJ%20Summit%20Report%202004.pdf>.

4 Sung-Hyeok, Park, (2008): The Nature of Korean Legal Culture and Challenges of Law Related Education in Civic Education, Institut fur Orient und Asienwissenschaften, Universitat Bonn, Retrieved from: http://space.snu.ac.kr/bitstream/10371/71085/1/vol18_6.pdf

3.5.4. Civic Education Imperatives.

In an increasingly complex world, the challenges for civic education are compounded, as evidenced by the requirements of an enlightened citizen; students are introduced to various topics that will help them develop an understanding of the rights and responsibilities of citizens. Students will begin their studies with familiar things, such as rules and responsibilities in their home, school, and community in order to understand the basis of citizenship. They draw conclusions about why rules and responsibilities are important in the relationships of their daily lives. Students also explain how and why relationships, rules, and responsibilities may change over time, and in different places ⁽¹⁾. Civic education must convey the basics about the Constitution, government and political processes to provide young people with a foundation of knowledge that can serve as a source of political empowerment ⁽²⁾.

According to Jennifer R. McCracken (2011) ⁽³⁾ Civic education is concerned with three different elements: civic knowledge, civic skills and civic disposition. Civic knowledge refers to citizens' understanding of the workings of the political system and of their own political and civic rights and responsibilities (e.g. the rights to freedom of expression and to vote and run for public office, and the responsibilities to respect the rule of law and the rights and interests of others). Civic skills refer to citizens' ability to analyze, evaluate, take and defend positions on public issues, and to use their knowledge to participate in civic and political processes (e.g. to monitor government performance, or mobilize other citizens around particular issues). Civic dispositions are defined as the citizen traits necessary for a democracy (e.g. tolerance, public spiritedness, civility, critical mindedness and willingness to listen, negotiate, and compromise).

1 ministère de l'Éducation de l'Ontario, (2004). Le curriculum de l'Ontario – Études sociales, de la 1^{re} à la 6^e année – Histoire et géographie, 7^e et 8^e année, Récupérée de: <http://www.edu.gov.on.ca>.

2 Delli Carpini, M., and Keeter, S., (1996). *What Americans Know About Politics and Why It Matters*. New Haven, CT: Yale University Press.

3 Jennifer R. McCracken (2011). *Civic Education*. PG Exchange and CIVICUS World Alliance for Citizen Participation, Retrieved from: http://pgexchange.org/images/toolkits/PGX_B_Civic%20Education.pdf.

In a report issued by (MSAC) Minister's Student Advisory Council (2009) ⁽¹⁾, in Canada mentioned that students talked about the Civics course and feel that this kind of education should be introduced earlier in their schooling, starting in the later elementary years. These students want to see greater attention to the history of the political system and less on the legality and logistics of the system. Students want access to information in order to become knowledgeable voters. In addition, these students feel that there need to be more links with the political community so that they could gain practical experience to engage more with the subject matter.

According to Owen, D., et al., (2011)⁽²⁾, It is essential for citizens in a democratic polity to have sufficient knowledge of Constitutional principles as well as the structure, function, and processes of government. Knowledge of how the system works provides a basis for the development of a sense of political efficacy and civic duty that facilitates participation. Studies have demonstrated that higher levels of political knowledge are associated with greater acceptance of democratic principles, issue understanding, voting, and engagement in community affairs. Despite its importance for democratic engagement, Americans' political knowledge has remained at virtually the same low levels for more than half a century [(Pew Research Center, (2011) ⁽³⁾, Galston, (2001) ⁽⁴⁾].

Azebanwan (2010)⁽⁵⁾ opined that the curriculum content of civic education could cover but should not be limited to: The concept of Nationhood Democracy; The process of government; Types of government; Different arms of government and the balance of power; Unity in diversity; Dealing with conflict; The legal system; Security; Political Parties and the elective process; The role of the Legislature;

1 The Canadian Ministry of Education & Student Success/Learning to 18. (2009), Minister's Student Advisory Council Summary of May 2009 Reports, Training and Evaluation Branch Ministry of Education. Retrieved from: <http://www.edu.gov.on.ca/eng/students/speakup/MSACreport09.pdf>.

2 Diana Owen et al., (2011), Civic Education and Knowledge of Government and Politics. Paper prepared for presentation at the Annual Meeting of the American Political Science Association, Seattle, Washington. Retrieved from: <http://www.civiced.org/pdfs/Civic%20Education%20and%20Knowledge%20of%20Government%20and%20Politics.pdf>.

3 Pew Research Center for the People & the Press. (2011). Political Knowledge Update. Research Report. Washington. Retrieved from: <http://pewresearch.org/pubs/1944/political-news-quiz-iqcongress-control-obesity-energy-facebook>.

4 Galston, William A. (2001). Political Knowledge, Political Engagement, and Civic Education. Annual Review Political Science, vol. 4. pp. 217-234.

5 CHRIS Azebanwan (2010). Integrating Civic education in schools and strategy for Implementation. Retrieved from: <http://www.nigerianobservernews.com/02122009/features/indexa.html>.

Devolution of Powers; Child Labour ; The Media and Public Opinion; Human Rights; Local Government; Crime and Society; Young People and the Law; Freedom of Speech. Civic Education focuses on topical everyday issues that concern young people as citizens - that is, as members of society with legal rights and responsibilities, e.g. education, health, public transport, policing and law enforcement, immigration, international relations and the environment.

Within this context, in Seminar about Promoting Active Citizenship for Building Modern State “in Friedrich Ebert Stiftung, Nepal”, Participants stressed that students need to learn about civic education as well as civic responsibilities and people at large should know about it. They should also know about separation of power, and other topics such as constitution, sustainable development, civic education, civic responsibilities, fundamental rights and many more. we need to include the component of civic education in school curriculum as this will help to understand the notion of being a citizen of a state and citizenship values attached with this. They wondered, if we do not know about the fundamental human rights how could we build modern state ⁽¹⁾.

3.5.5. How should civic education be taught?

There is debate in the literature about the extent to which law should be taught separately or integrated with the rest of the curriculum.

According to the European Commission, (2012) ⁽²⁾, Civic education is part of national curricula in all countries. It is delivered in schools through three main approaches: as a stand-alone subject, as part of another subject or learning area, or as a cross-curricular dimension. However, a combination of these approaches is often used. Twenty countries or regions dedicate a separate compulsory subject to citizenship education, sometimes starting at primary level, but more usually at secondary level. The length of time during which citizenship education is taught as a separate subject varies considerably between countries, ranging from 12 years in France to one year in Bulgaria and Turkey.

1 Garuda, Rautahat (2011). Ibid.

2 Commission Européenne, (2012). *L'éducation à la citoyenneté en Europe*. Commission EURYDICE. Retrieved from: http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/139FR_HI.pdf.

A study by Carolyn (1988)⁽¹⁾ entitled: “Law-Related Education in Elementary and Secondary Schools” states that: There are three obvious approaches to inclusion of Law in the curriculum:

- Special events, such as Law Day, annually provide opportunities to draw attention to Law and to provide special programs. Teachers might invite lawyers to participate in classroom or school wide activities. Other special events include mock trial competitions, field trips to courtrooms, and essay contests.
- A separate unit or course on Law is often included in the secondary school curriculum. Separate units typically appear in government and civics courses. Law and citizenship courses are also offered as electives in many schools. In some schools, there is a required Law course. Separate units on law are often found at various levels in the social studies curriculum of elementary schools.
- The infusion of Law into standard courses in the social studies is common. Courses in American history, world history, and government are the most likely objects for infusion of significant content about the law.

It appears that a semester course on Law makes a positive difference in knowledge, skills, and attitudes. However, some law-related educators believe that the preferred approach is systematic infusion; they contend that a carefully integrated strand of Law throughout the elementary and secondary curriculum will yield the best results in terms of the quantity and quality of instruction.

Within this context, a survey study by Torney and Amadeo (2004)⁽²⁾ in four countries are: Chile, Colombia, Portugal, and the United States, The results shows that all countries, on average, teachers agreed that civic education should be integrated into social science subjects and into all subjects taught at the school. To a

1 Pereira, Carolyn (1988). Law-Related Education in Elementary and Secondary Schools. Retrieved from ERIC database, ERIC Clearinghouse for Social Studies/Social Science Education, (ED296948).

2 Judith Torney-Purta and Jo-Ann Amadeo (2004). Strengthening Democracy in the Americas through Civic Education: An Empirical Analysis Highlighting the Views of Students and Teachers. Washington, D.C.: Organization of American States. Retrieved from: http://www.oas.org/udse/ingles2004/civic_education.pdf.

slightly lesser extent, they also reported that civic education should be offered as a specific subject.

Kathy, et al. (1995)⁽¹⁾ also refers to Law-Related Education as a program which teaches the responsibilities and rights of citizens in the constitutional democracy. The integration of Indian law into all curriculum areas, especially Law-Related Education and Social Studies, serves to further improve citizenship.

Accordingly a study made by Zine-eddine (2003)⁽²⁾ attempted to shed some light on civic education in the teaching curriculum of the Algerian fundamental school. Through a sample consisting of 136 teachers, who were randomly drawn and who took part in a survey on teaching public opinion on the issue. A questionnaire consisting of 40 items was used. The result showed the importance of including civic education as a subject-matter in the official curriculum.

In the same context Suzy, et al. (2005)⁽³⁾ also emphasized that: Educators say that teaching law separately helps them to define and control content, but may challenge students' stamina. Integrated teaching has the benefit of emphasising application and practical skills. In practice, programmes tend to introduce law as a separate subject and then develop it later within other modules. The number of hours specifically devoted to law varies widely.

Letitia Fickel, (2006)⁽⁴⁾ also mentioned in his Report entitled "Advancing Civic Learning in Alaska's Schools" Issued by Alaska Teaching Justice Network that: There is an urgent need to address the low level of civic engagement in America. Civic education should be seen as a core subject and as a separate subject. Well-defined state standards and curricular requirements are necessary to ensure that civic education is taught effectively at each grade level ... Strengthening the civic mission

1 F. .Kathy et al.(1995): Indian Law-Related Education Curriculum Guide, Montana Office of Public Instruction, Retrieved from <http://www.opi.mt.gov>.

2 Zine-eddine, M., (2003): The Importance of Teaching Civic Education According to the Opinion of Teachers' Field Study in East of Alegria, Journal of Educational Psychological Scinces (JEPS), College of Education, University of Bahrain Vol. 3, No. 4.

3 Suzy B., et al.(2005): Teaching, learning and assessment of law in social work education, University of Sussex and University of Luton, Retrieved from <http://www.policypress.org.uk>.

4 Letitia Fickel (2006): Advancing Civic Learning in Alaska's Schools, Final Report and Policy Brief November 2006, Alaska Teaching Justice Network (ATJN). Retrieved from <http://www.courts.alaska.gov/outreach/civicslearn.pdf>

of schools must be a shared responsibility of the public and private sectors at the community, local, state, and national levels.

3.6. Experiences of some developed countries:

3.6.1. Introduction:

The world is made of different countries with different rules, regulations and laws. Within each country the rules, regulations and laws for that country apply. Different countries have different cultures which have different ways of expressing their civic duties, or sense of responsibility towards neighbors and fellow countryman. Developed countries felt that the civic education and legal culture was an important component of education that cultivates citizens to participate in the public life of a democracy, to use their rights and to discharge their responsibilities with the necessary knowledge and skills. On the contrary, the developing countries are not interested seriously in teaching legal culture and civic education in public schools is well. So it was important to know the experiences of the advanced countries in this field, and benefit from it, in commensurate with the Egyptian Environmental.

According WANG Dong-xiao, (2005)⁽¹⁾ the experience of civic education in developed countries and to adopt and study critically the measures they have taken. It is the only way to develop the theory and practical system, guiding the integration of national education and civic education. Undoubtedly, the blend of education on national and western civilisations in our country will greatly strengthen the nation's power. It can also enhance political vitality and cultural productivity and make new contribution to the development of civilised societies. The integration of national education and civic education is therefore inevitable in a historical perspective.

1 WANG Dong-xiao, (2005). The Inevitable Integration of National Education and Civic Education in a Historical Perspective. International Symposium on National Education, 7, 8 June 2005, Hong Kong. Retrieved from: http://www.cpce.gov.hk/national-education/pdf/Wang-Dong-xiao_Eng_Abstract.pdf.

3.6.2. The French experience ⁽¹⁾:

3.6.2.1. The French educational system: Education is compulsory in France from the ages of 6 to 16, but a large majority of children start school well before the minimum age, often as young as two years old.

- **Ecole Maternelle** take pupils from age 2 to age 6, and prepares them for entry into primary school. There are three classes, "les petits", "les moyens" and "les grands". The curriculum includes reading and writing, numeracy and even sometimes a foreign language, as well as artistic and creative activities.
- **Ecole primaire, or Ecole élémentaire:** Five classes, ages 6 to 11, (CP, CE1, CE2, CM1, and CM2), Pupils have an average of 28 hours classes per week, Monday to Friday, with Wednesday free.
- **Collège:** (middle school) normally for pupils aged 11 - 15. The "collège unique" is the backbone of the French school system. The four classes are called sixième, cinquième, quatrième and troisième. The collège is designed to provide all pupils with a fundamental secondary education. The curriculum in collège includes French, maths, history, geography, technical education, art/music, physical education, civic education, some science, and at least one foreign language.
- **Lycée:** High School. There are two main types of traditional lycée, **the lycée général** (or lycée classique), and the **lycée technique**. The three classes (grades 10 to 12) are known as seconde, première and terminale. At

1- Researcher used the following references:

- Ministère de l'Éducation nationale, Histoire, Géographie et Éducation civique, Bulletin officiel spécial n° 2 du 19 février 2009, Retrieved from: <http://www.education.gouv.fr/pid20873/special-n-2-du-19-fevrier-2009.html>.
- Ministère de l'Éducation nationale, Éducation formations, L'histoire-géographie, l'éducation civique, aujourd'hui, n° 76 [décembre 2007], Retrieved from: <http://media.education.gouv.fr/file/93/5/20935.pdf>.
- National Foundation for Educational Research (NFER), Citizenship Education: Some Lessons From Other Countries, Autumn 2000, issue 24, Retrieved from: http://www.nfer.ac.uk/nfer/PRE_PDF_Files/00_24_12.pdf.
- About France, Schools in France - from "maternelle" to "lycée", Retrieved from: <http://about-france.com/primary-secondary-schools.htm>.
- Christine Guimonnet, (2005), L'éducation civique au collège et au lycée. Fondation Res Publica. Récupérée de: http://www.fondation-res-publica.org/L-education-civique-au-college-et-au-lycee_a52.html.

secondary school, about 20% of pupils are in private schools, against slightly less than 80% in public state school.

Lycée professionnel: Vocational high school. Provides an essentially non-academic syllabus for young people intending to work in manual or clerical jobs, such as "lycée du bâtiment" where pupils specialise in one of the many trades of the building and construction sector. There are also agricultural high schools, "lycées agricoles" and even horticultural high schools, "lycées horticoles".

THE STRUCTURE OF THE SCHOOL SYSTEM				
Primary <i>(école primaire)</i> 3 - 11 years old	Nursery school <i>(école maternelle)</i> 3 - 6 years old	<i>Petite section</i>	cycle 1	
		<i>Moyenne section</i>		
		<i>Grande section</i>		
	Elementary school <i>(école élémentaire)</i> 6 - 11 years old		<i>Cours préparatoire (CP)</i>	cycle 2
			<i>Cours élémentaire 1^{ère} année (CE 1)</i>	
			<i>Cours élémentaire 2^e année (CE 2)</i>	cycle 3
			<i>Cours moyen 1^{ère} année (CM 1)</i>	
	<i>Cours moyen 2^e année (CM 2)</i>			
Secondary <i>(secondaire)</i> 11 - 18 years old	Lower secondary <i>(collège)</i> 11 - 15 years old	6 ^e		
		5 ^e		
		4 ^e		
		3 ^e		
	Upper secondary <i>(lycée)</i> 15 - 18 years old (*)	Generale route Technological route	<i>Seconde</i>	<i>Seconde</i>
			<i>Première</i>	<i>Première</i>
			<i>Terminale</i>	<i>Terminale</i>
			<i>Baccalauréat général et technologique</i>	<i>Baccalauréat professionnel</i>

Figure (16) the structure of the school system in France.

3.6.2.2. Civic education in France.

Civics education has been part of the statutory curriculum for compulsory education in France for some considerable time, and aims to teach what the French call 'Republican values', such as equality, democracy, rights and duties. Lessons cover such items as the Declaration of Human Rights, appropriate behaviour at home and school, moral and ethical issues, and acting responsibly. Additional measures were introduced in 1998 to 'improve living together and good citizenship at school' from maternelle to lycée. Such measures included a new charter for every school, to be signed by teachers, students and parents, defining everyone's rights and duties, and a 'book of life' for each maternelle child to tell parents how their child is doing at school.

3.6.2.3. The civics education programme in Lycées:

Class	Themes	Topics
Seconde	A. Themes compulsory: Rights and duties of the educational community members.	<ul style="list-style-type: none"> - Instances of high school life. - The right of expression in high school. - The procedure rules of second class.
	B. Themes optional: Individual and collective commitments. OR Equality, differences, Discrimination. OR The citizen and the media.	<ul style="list-style-type: none"> - Associations. - Political parties. - Trade unions. - An example of exclusion related to racism, sexism or handicap. - Men and women Salaries. - Affirmative action. - The power of images. - Freedom of expression and new media. - Opinion polls.
Première	A. Themes compulsory:	<ul style="list-style-type: none"> - Electoral Systems. - The drafting of a law.

	<p>The Constitution and the exercise of powers</p> <p>B. Themes optional:</p> <p>Rights and duties of citizens.</p> <p>OR</p> <p>French citizen, European citizen.</p> <p>OR</p> <p>The citizen and justice.</p>	<ul style="list-style-type: none"> - The role of the President of Republic. - The civic course (census day and call defense preparation). - Taxes. - The universal health coverage. - The right to vote. - The European Court of Justice. - To acquire French nationality. - Be sworn in criminal court. - The right, law, freedom. - Be a citizen in jail.
Terminale	<p>A. Themes compulsory:</p> <p>Human Rights and International Action.</p> <p>B. Themes optional:</p> <p>Citizenship, science and ethics.</p> <p>OR</p> <p>Citizenship and environment</p> <p>OR</p> <p>Work and citizenship</p>	<ul style="list-style-type: none"> - Humanitarian Intervention. - The role of nongovernmental organizations (NGOs). - UN. - Medically Assisted Procreation. - Cloning. - Computing and Freedom. - Genetically modified organisms (GMOs) - Nuclear energy and waste management. - Biodiversity. - The right to strike and pursuit. - Flexibility and employment security. - The bargaining enterprise.

3.6.3. The Germany experience⁽¹⁾:

3.6.3.1. The German educational system:

In Germany education for pupils between 6 and 18 years olds is free and compulsory. Primary education (Grundschule) lasts for four years in most Länder except Berlin and Brandenburg where it lasts for six years. All children enter in the same program, but at the age of 10, they go to one of four types of schools (Hauptschule / Realschule / Gymnasium / Gesamtschule). Students enrol in the Hauptschule beginning in the fifth grade and continue their education at the Hauptschule through the ninth grade. The Realschule provides students with an education which combines both liberal and practical education from the 5th through the 10th grade. The Gymnasium provides students with a liberal education and traditionally leads to study at the university. Students may enrol in the Gymnasium at the lower secondary level (5th grade) or may transfer to the Gymnasium after the completion of the Realschule (11th grade). The final 3 years of Gymnasium (grades 11-13 in most states) are called the Oberstufe (upper level). Gesamtschulen enrol students of all ability levels in the 5th through the 10th grades. Students who satisfactorily complete the Gesamtschule through the 9th grade receive the Hauptschule certificate, while those who satisfactorily complete schooling through the 10th grade receive the Realschule certificate.

1- Researcher used the following references:

- Framework Gymnasiale upper right customer (price structure) 1998 edition Hessian Ministry of Culture. [Rahmenplan Gymnasiale Oberstufe Rechtskunde (Kursstrukturplan) Ausgabe 1998 Hessisches Kultusministerium]
- Team 26576 for ThinkQuest, The school system in Germany, Retrieved from: <http://library.thinkquest.org/26576/schoolpage.htm>.
- Mark A. Ashwill, et al, (1999), The Educational System in Germany, Retrieved from: <http://www2.ed.gov/pubs/GermanCaseStudy/chapter1a.html>
- European Commission, Organisation of the education system in Germany 2010, Retrieved from: http://eacea.ec.europa.eu/education/eurydice/documents/eurybase/eurybase_full_reports/DE_EN.pdf.
- Philip Heyde, (2010), Legal framework Education Plan high schools, State Institute for Teacher Training and School Development, Hamburg, Retrieved from: <http://www.hamburg.de/contentblob/2447694/data/recht-gyo.pdf>.

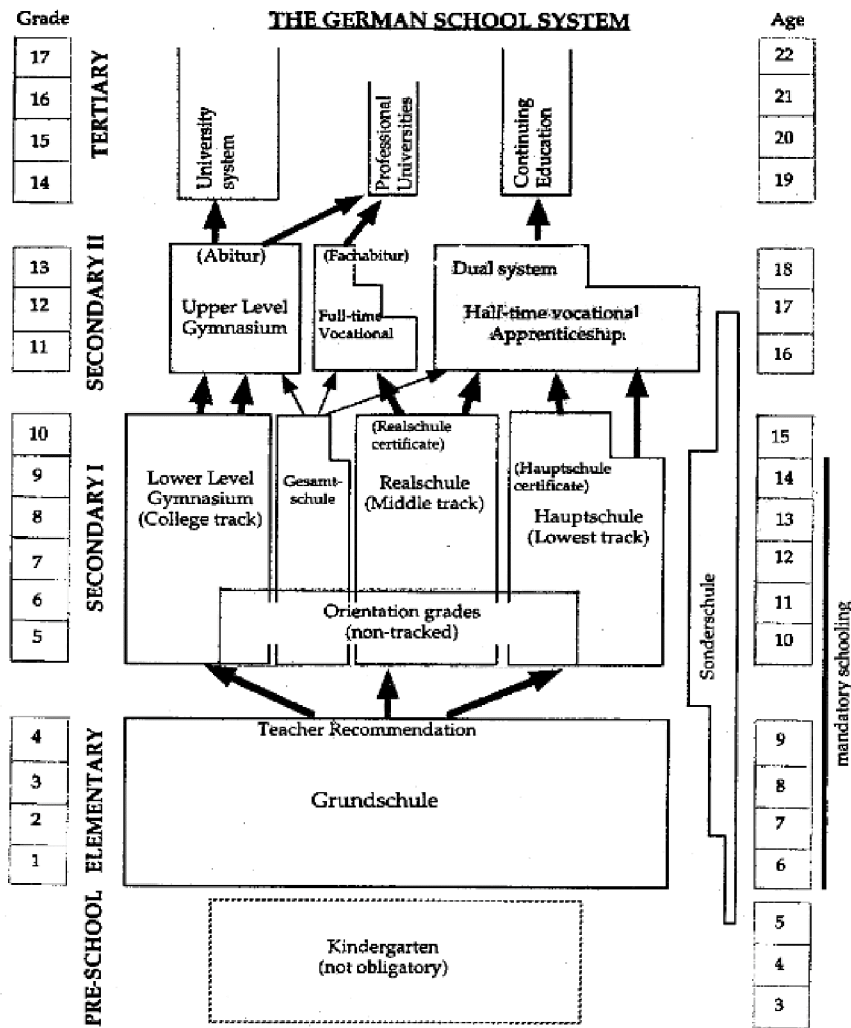


Figure (17) the structure of the school system in Germany.

3.6.3.2. Civic education in Germany.

Civics education (Sozialkunde) is included in the curricula of all the German Länder (federal states) as a subject in its own right and as part of other subjects. It is an obligatory subject throughout compulsory education. At primary level it functions as a subsidiary subject or as component of another subject. At upper secondary level it can be chosen to fulfil the requirements for obtaining the general university entrance certificate.

Civics education aims to provide students with an understanding of structural and institutional aspects of a democratic society at the local, regional and national level; the interrelationship of the various sectors of society; and the

relevance of social/civic policy-making for the individual and society as a whole. It is also intended to endow the students with the ability to take effective actions and decisions as responsible citizens and to be conscious of their rights and duties as a member of society, as a citizen of the state and as a member of the community.

The following aspects of a general theory of law will be treated as a thematic core areas in grade 11:

- The language of law and the establishment of legal standards for deciding rules: subsumption.
- Legal origin in the system of separation of powers.
- Natural law and positive law.
- The hierarchy of the legal system.
- The classification of legal.
- The organization of the judiciary.
- Comparison of Civil Procedure and Criminal Procedure.

3.6.3.3. The civics education programme in German secondary schools.

Themes	Topics
Citizens and governance Fundamental Rights, Criminal Law and Justice	
Understanding the Basic of law and interpretation the Basic legal.	Human rights – basic rights and protection of fundamental rights application, the position of the Federal Constitutional Court. Fundamental rights: only defensive rights or performance rights?
Privacy Policy	Context of new technologies with new rules development tasks. As the Constitutional Court derives from Article 1 and 2 of the Basic Law, the “fundamental right to informational self-determination as” Privacy in the school, for example Question of the admissibility of personal student data in private computers of teachers.
Property	Compare 903 BGB and Article 14 of Basic Law Protection of fundamental rights of various property types Social commitment and expropriation, extension of the protection conferred by Article 14 GG-rich by-law of the

<p>criminal Law</p>	<p>Constitutional Court.</p> <ul style="list-style-type: none"> • Protection of legal rights as the purpose of criminal law. • Principle of guilt and sentencing. • Crime Statistics. • Difference from juvenile and adult criminal. • Difference between indictable offenses and actions.
<p>Comparison of civil and criminal.</p>	<p>Proceedings, procedures and policies as compared with the reasons: private autonomous party rule in civil proceedings – rights of the accused/ defendant in criminal proceedings.</p>
<p>The hierarchy of legal norms.</p>	<p>Can of human dignity (Article 1 of the Basic Law) to the administrative act of a case study, eg from the school law, an association of constitutional law, statute, regulation, etc. Are shown; Position of Community law of the European Union</p>

3.6.4. The Australia experience ⁽¹⁾:

3.6.4.1. Australian education system:

The Education System in Australia consists of a total of 12 years. Primary schools and high schools are based on the age of the student, so that every room has the same age group. The majority of the children start in the primary school at the age of 5 years (year 1) and the child studies in the primary school until they are around 12 years old (year 7).

Primary and Secondary Schools of Australia- There are many types of education for children up to 5 years, but the main ones are the "Child Care"

1- Researcher used the following references:

- Victorian Curriculum and Assessment Authority (2011), Legal Studies Victorian Certificate of Education Study Design. Retrieved from: <http://www.vcaa.vic.edu.au/vce/studies/legalstudies/legalstudiesd-2011.pdf>
- Team CAROLE L. HAHN, (2010) Comparative civic education research: What we know and what we need to know, Citizenship Teaching and Learning, Volume 6 Number 1.
- yesaustralia: Educational System in Australia Retrieved from: <http://www.yesaustralia.com/cursoestudo-sistemaensinoing.htm>
- The consultz: Education System In Australia, Retrieved from: <http://www.theconsultz.com/Education/Australia/EducationSystemInAustralia.aspx>.
- Suzanne Mellor, S., (2003), Improvement of Civic Education in Australia. Journal of Social Science Education (JSSE). Retrieved from: <http://www.jsse.org/2003/2003-1/australia-mellor.htm>.

High School- the student goes for secondary school at age 12/13 years (year 8), and is he/she is only compulsorily required to stay to year 10, receiving a junior high school certificate but not a high school certificate. The year 11 and 12 are optional but are required to be successfully completed to attain a high school diploma.

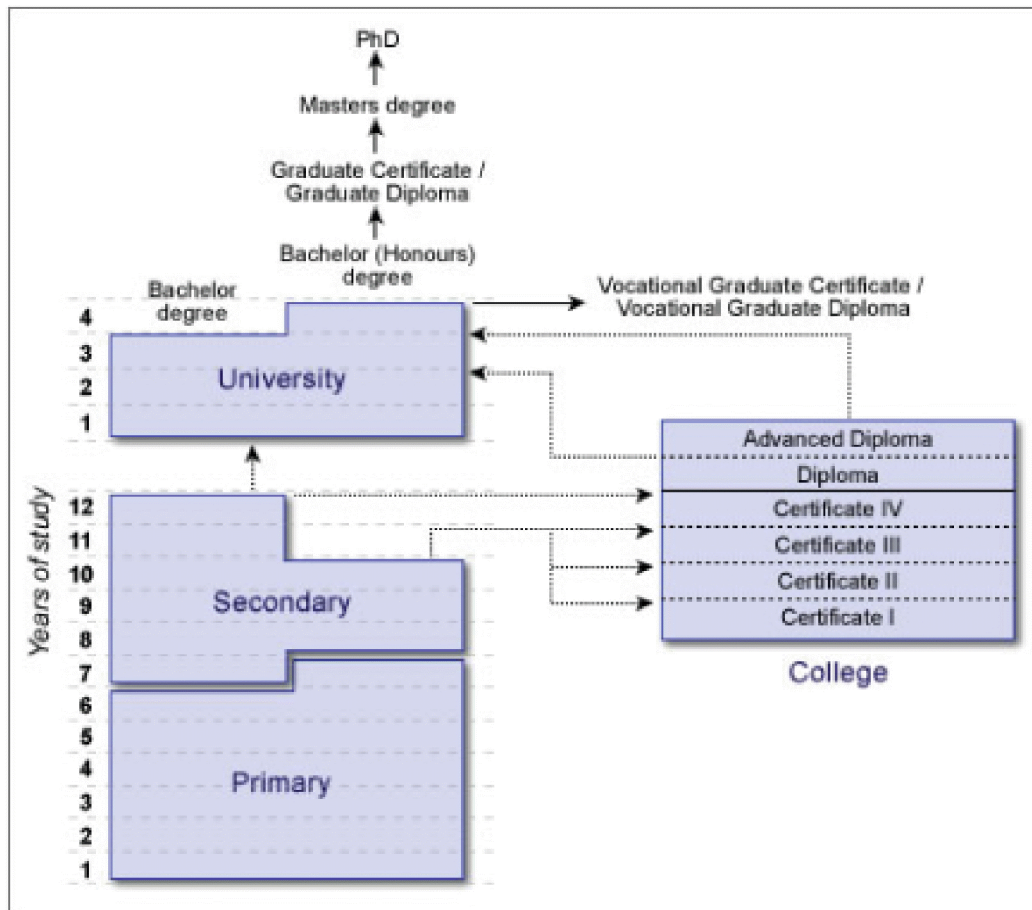


Figure (18) the structure of the school system in Australia.

3.6.4.2. Civic education in Australia.

Civic education is a policy priority for government. Successive Australian governments in the 1990s had provided powerful impetus for the introduction of formal civic education in Australian schools. Consequent, populace become more independent and unified national identity. Legal Studies investigates the ways in which the law and the legal system relate to and serve individuals and the community. This knowledge is central to understanding the workings of

contemporary Australian society. Legal Studies examines the processes of law-making, dispute resolution and the administration of justice in Australia. Students develop an understanding of the impact of the legal system on the lives of citizens, and the implications of legal decisions and outcomes on Australian society. The study provides students with an appreciation of how individuals can be involved in decision-making within the legal system, encouraging civic engagement and helping them to become more informed and active citizens.

3.6.4.3. The civics education programme in Australian secondary schools.

Unit	Topics
<p>Unit 1: Criminal law in action</p>	<ul style="list-style-type: none"> • The difference between legal and non-legal rules. • The need for laws. • Characteristics of an effective law. • The distinction between criminal law and civil law. • An overview of the role and characteristics of parliament and subordinate authorities in lawmaking. • Principles of criminal liability, including elements of a crime, the presumption of innocence, the burden and standard of proof, age of criminal responsibility and participants in crime. • Crimes against the person and related defenses. • Crimes against property and related defenses. • The criminal investigation process, including police powers and individual rights and responsibilities in dealing with police. • Sanctions under criminal law and their effectiveness. • Trends in crime, sentencing and recidivism. • A comparison of one aspect of sentencing in Victoria with that of an international jurisdiction. • The impact of criminal acts on individuals and society. • Alternative avenues for seeking compensation for victims

	of crime.
Unit 2: Issues in civil law	<ul style="list-style-type: none"> • The need for civil law. • Key principles of civil law. • The distinction and relationship between civil law and criminal law. • An overview of law-making through the courts. • Torts, including negligence, defamation, and related defenses. • The law in focus. • Contract law. • Family law. • Consumer protection laws. • Workplace laws. • Wills and inheritance. • Sports and the law. • Tenancy law. • Environmental law. • Any other relevant area of civil law.
Unit 3: Law-making	<ul style="list-style-type: none"> • Principles of the Australian parliamentary system: representative government, responsible government, and the separation of powers. • The structure of the Victorian Parliament and the Commonwealth Parliament and the roles played by the Crown and the Houses of Parliament in law-making. • The reasons why laws may need to change. • The role of the Victorian Law Reform Commission • The means by which individuals and groups influence legislative change, including petitions. • Demonstrations and use of the media. • The legislative process for the progress of a bill through

	<p>parliament</p> <ul style="list-style-type: none">• Strengths and weaknesses of parliament as a law-making body.• The division of law-making power between state and Commonwealth parliaments under the Commonwealth Constitution, including specific (concurrent and exclusive) and residual powers, and the impact of Section 109.• Restrictions imposed by the Commonwealth Constitution on the law-making powers of the state and Commonwealth parliaments.• The process of change by referendum under Section 128 of the Commonwealth Constitution and factors affecting its likely success.• The way in which one successful referendum changed the division of law-making powers.• The role of the High Court in interpreting the Commonwealth Constitution.• The significance of two High Court cases involving the interpretation of the Commonwealth Constitution in terms of their impact on the law-making power of the state and Commonwealth parliaments.• The capacity of the states to refer law-making power to the Commonwealth Parliament.• The means by which the Commonwealth Constitution protects rights, including structural protection, express rights, and implied rights.• The significance of one High Court case relating to the constitutional protection of rights in Australia.• Australia's constitutional approach to the protection of
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	rights and the approach adopted in one of the following countries: Canada, New Zealand, South Africa, or the United States of America.
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3.6.5. The United States experience⁽¹⁾:

3.6.5.1. U.S. educational system:

The education system in USA divides into three levels: (Elementary school (K-5), middle school (6-8), high school (9-12)). The majority of U.S. children begin their educations prior to entering regular school. Parents who send their children to pre-schools/nursery schools (age 2-4) and kindergartens (age 5-6) have to finance these institutions privately. Children learn the alphabet, colors, and other elementary basics.

American children start school at the age of five. The first year at school is called kindergarten. It is required of all American children enrolled in the American education system. The second year at school is considered the first year of primary school and is referred to as first grade. In America, the word grade has two meanings: (1) the score achieved on an exam or in a course, and (2) a year of education in primary or secondary school. Primary school most commonly consists of five years of education, referred to as first through fifth grades.

Secondary school: Upon completion of fifth grade (the last year of primary school), American children enrolled in the American education system advance to secondary school. Secondary school most commonly consists of a total of seven years, referred

1- Researcher used the following references:

- Danielle colardyn, (2009), La High School aux États- Unis, Quelles leçons pour l'éducation en europe? Groupe de Boeck s.a., Bibliothèque Nationale, Paris.
- USA Study Guide, (2012), Overview of the American Education System, Retrieved from: <http://www.usastudyguide.com/overview.htm>.
- Diana Owen (2004), Citizenship Identity and Civic Education in the United, Retrieved from: States, <http://www.civiced.org/pdfs/OwenDiana.pdf>.
- Center for Civic Education (2009), We the People: The Citizen & the Constitution, Level 3, Retrieved from: http://www.civiced.org/pdfs/WTP/0805bkwtphsstdnt_toc.pdf.
- Texas Education Agency (2004), Grade 10 TAKS Social Studies Information Booklet, Retrieved from: <http://legacy.lcisd.org/Departments/Academics/Curriculum/SocialStudies/SocialStudiesInformation/TAKSReview/images/Gr10%20TAKS%20Info%20for%20Teacher.pdf>

to as sixth through twelfth grades. The ninth through twelfth grades are most commonly referred to as high school. Upon completion of twelfth grade, American students are awarded a certificate called the high school diploma. In the American education system, students must have obtained a high school diploma before they are admitted into college or university. The united states among the first countries to have won the bet high school open to all. The foundations of education explain that long more than eight people sue ten complete secondary education.

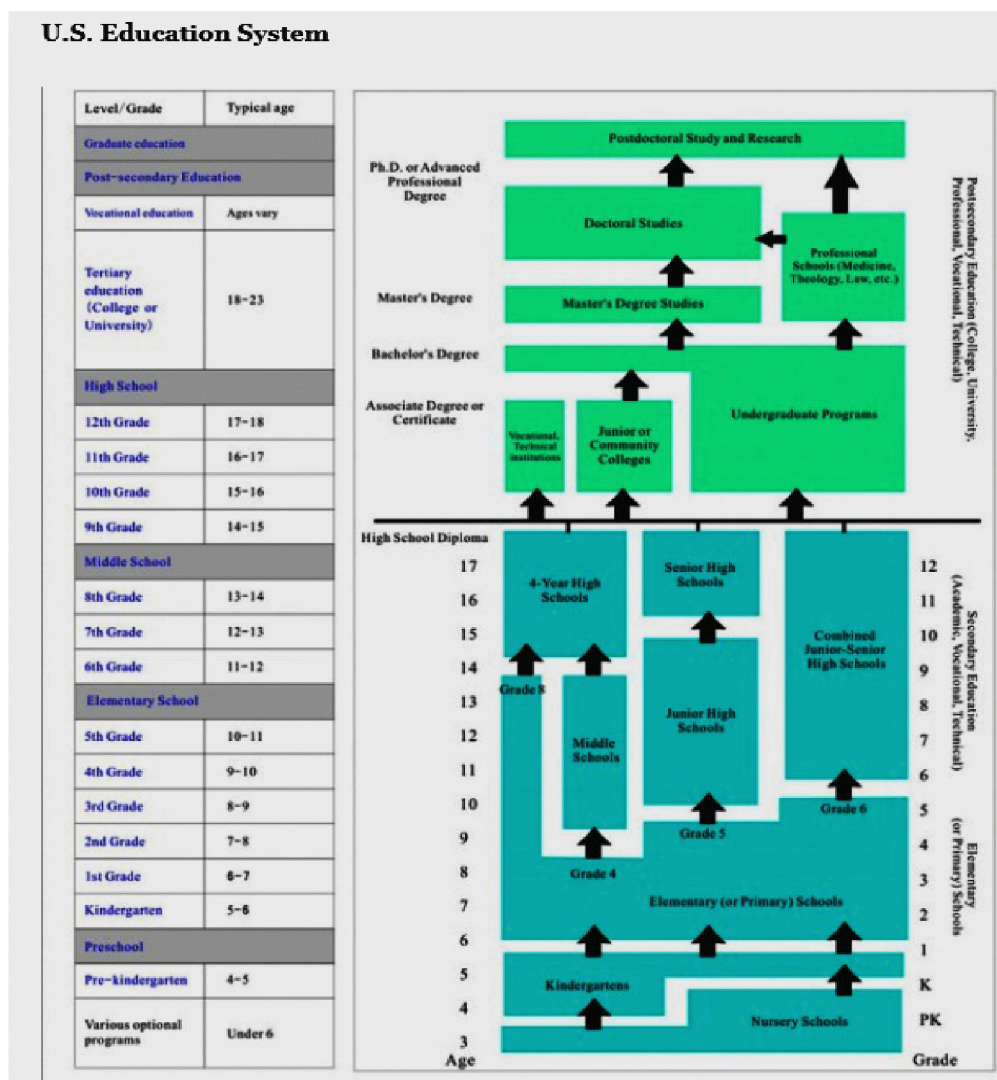


Figure (19) the structure of the school system in USA.

3.6.5.2. Civic education in United States.

The Civic Education Study provides information on U.S. student's knowledge of democratic practices and institutions. In addition, also Civic Education Study provides data about U.S. students' attitudes toward democracy, national identity, international relations, and social cohesion and diversity.

3.6.5.3. The civics education program in U.S. secondary schools.

Unit One: What are the philosophical and historical foundations of the American political system?

- What Did the Founders Think about Constitutional Government?
- What Ideas about Civic Life Informed the Founding Generation?
- What Historical Developments Influenced Modern Ideas of Individual Rights?
- What Were the British Origins of American Constitutionalism?
- What Basic Ideas about Rights and Constitutional Government Did Colonial Americans Hold?
- Why Did American Colonists Want to Free Themselves from Great Britain?
- What Basic Ideas about Government and Rights Did the State Constitutions Include?

Unit Two: how did the framers create the constitution?

- What Were the Articles of Confederation, and Why Did Some Founders Want to Change Them?
- How Was the Philadelphia Convention Organized?
- Why Was Representation a Major Issue at the Philadelphia Convention?
- What Questions Did the Framers Consider in Designing the Three Branches of the National Government?
- How Did the Delegates Distribute Powers between National and State Governments?
- What Was the Anti-Federalist Position in the Debate about Ratification?
- What Was the Federalist Position in the Debate about Ratification?

Unit Three: How has the constitution been changed to further the ideals contained in the declaration of independence?

- How Have Amendments and Judicial Review Changed the Constitution?
- What Is the Role of Political Parties in the Constitutional System?
- How Did the Civil War Test and Transform the American Constitutional System?
- How Has the Due Process Clause of the Fourteenth Amendment Changed the Constitution?
- How Has the Equal Protection Clause of the Fourteenth Amendment Changed the Constitution?
- How Has the Right to Vote Been Expanded since the Adoption of the Constitution?

Unit Four: how have the values and principles embodied in the constitution shaped American institutions and practices?

- What Is the Role of Congress in American Constitutional Democracy?
- How Does Congress Perform Its Functions in the American Constitutional System?
- What Is the Role of the President in the American Constitutional System?
- How Are National Laws Administered in the American Constitutional System?
- What Is the Role of the Supreme Court in the American Constitutional System?
- How Does American Federalism Work?

Unit Five: What rights does the bill of rights protect?

- What Are Bills of Rights and What Kinds of Rights Does the U.S. Bill of Rights Protect?
- How Does the First Amendment Affect the Establishment and Free Exercise of Religion?
- How Does the First Amendment Protect Free Expression?

- How Does the First Amendment Protect Freedom to Assemble, Petition, and Associate?
- How Do the Fourth and Fifth Amendments Protect against Unreasonable Law Enforcement Procedures?
- How Do the Fifth, Sixth, and Eighth Amendments Protect Rights within the Judicial System?

3.6.6. The Canada experience ⁽¹⁾:

3.6.6.1. Canadian educational system.

Great value is placed on the education of adults and children. Canadian law states that every child aged between 5 and 15-16 (depending on the province) must attend school. It is important for parents to understand the law and to be aware of their responsibilities in terms of their children's education. It is also helpful for them to be familiar with the basic structure of the Canadian educational system in order to better understand and participate in the lives of their children.

The Canadian education system covers elementary, secondary and post-secondary education. Education in Canada is governed by each provincial and territorial government, so there are slight differences between the education systems in each province and territory. For instance, the grades at which each level begins and ends vary. All provinces and territories provide universal, free elementary and secondary schooling for 12 years, with the exception of Quebec where it is for 11 years. Education is compulsory to the age of between 15 and 18, depending on the province.

Elementary school: Children usually enter kindergarten at age 5. Elementary school generally includes grades 1 through 6 in regions that then

1- Researcher used the following references:

- Thomas S. Axworthy (2008) creating democratic value: evaluating efforts to promote democracy abroad, centre for the study of democracy, Queen's University, Retrieved from: http://www.queensu.ca/csd/publications/Creating_Democratic_Efforts-Final.pdf
- Canada's Education System, Retrieved from: http://www.cicic.ca/docs/postsec/graphics/educationsystem_canada.pdf.
- Helen McKenzie, H., (1993), L'ÉDUCATION CIVIQUE AU CANADA. Division des affaires politiques et sociales. Récupérée de: http://publications.gc.ca/collections/collection_2008/lop-bdp/bp/bp326-f.pdf.

have 2 years of middle school or junior high school, and in areas without these, elementary school goes up to grade 8. In Quebec, elementary school is grades 1-6, and students then go straight into high school.

Secondary school: (often called high school) typically includes grades 9 through 12. In regions with middle school and junior high, it also includes grades 7 and 8. In Quebec, high school covers grades 7 through 11, and students then go to CEGEP for 2 years before applying to university.

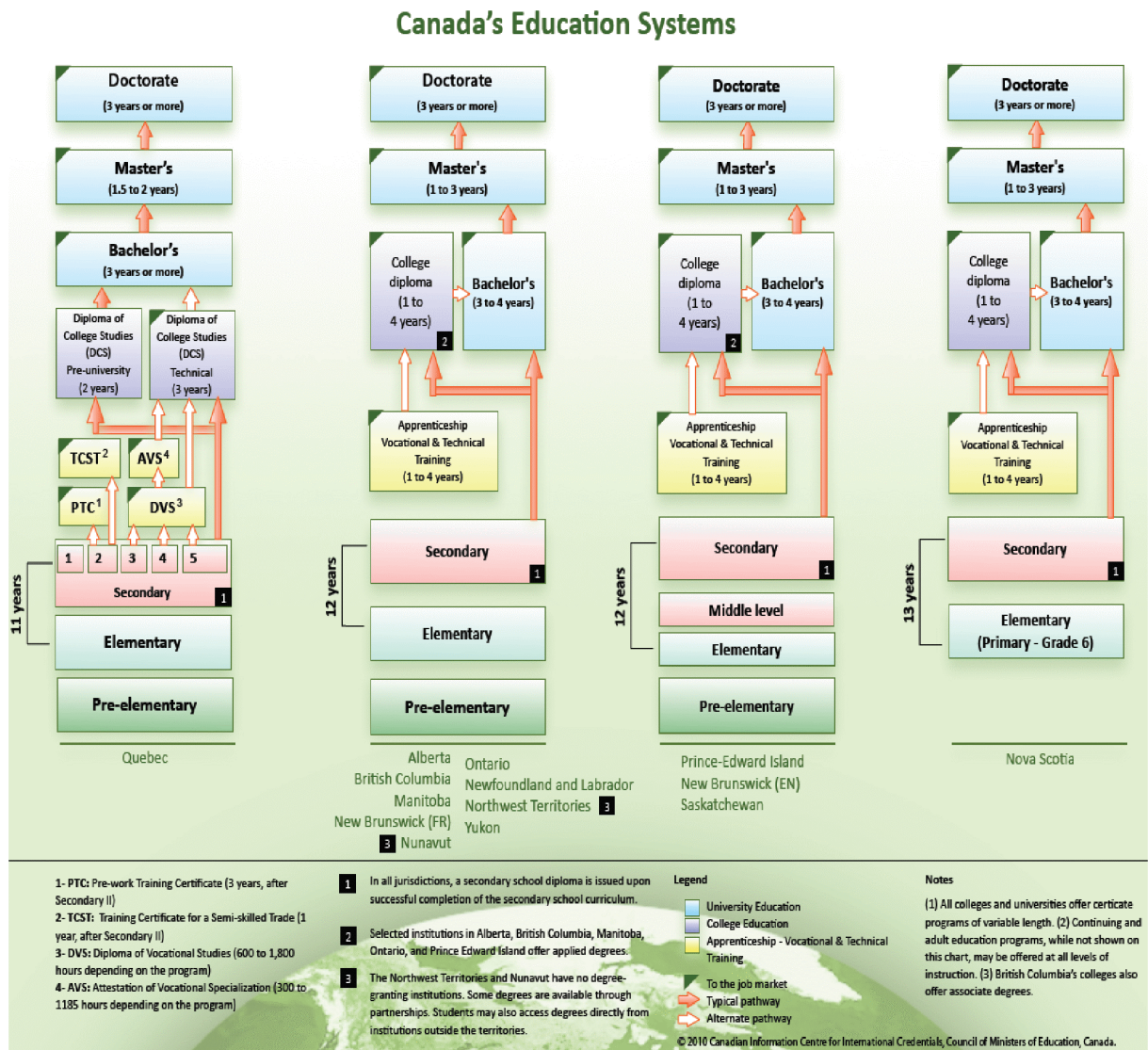


Figure (20) the structure of education system in Canada.

36.6.2. Civic education in Canada.

Policies on citizenship education in Canadian schools are directed by the provincial ministries of education and there are, accordingly, some variations in approach. At least to some extent, however, the objective of preparation for citizenship has been addressed by all public school systems in Canada. In Canadian school curricula, social studies is generally the home of citizenship education. A survey of provincial social studies curricula, revealed that social studies programs in all provinces appeared to share the main goal of providing students "with the knowledge, skills, values and thought processes which will enable them to participate effectively and responsibly in the ever-changing environment of their community, their country and the world. The study found, did not ensure an understanding of Canada's political or constitutional history or system of government. The authors of this study recommended that students be required to demonstrate a basic understanding of the reasons for Canada's existence and of how it is governed, before graduation from secondary school.

2.6.6.3. The civics education program in Canadian secondary schools.

Unit One: Liberal-constitutionalism

- Constitution establishing clear rules for the exercise of authority is relatively settled with amending procedures that do not permit arbitrary changes by incumbent elites.
- Constitution is based on the principle of limited government with well defined and effective limits on the general scope of government authority.
- Constitution establishes independence of the judiciary.
- Elites in other governmental institutions accept the judiciary's right to interpret and safeguard the constitution.

Unit Two: The rule of law incorporating the principles of the supremacy of the law, equality before the law, and the impartial and fair administration of the law.

- Constitution clearly establishes the supremacy of the law and the principle that all persons, regardless of their role or status in society, are subject to the law.
- All persons are assured of equal protection from the law.
- All persons are entitled to equal treatment in the administration of the law.
- Investigative and prosecutorial functions of law enforcement are exercised impartially and fairly.
- Impartial and fair adjudication of the law occurs through an independent judiciary.
- Exercise of due process in criminal proceedings recognizes the right of persons accused of a crime to protection against arbitrary acts and the means to
- Provide an adequate defense.
- Agents of state security are insulated from arbitrary use by elites in other governmental institutions.
- There exist mechanisms of independent review and appeal for protecting citizens against abuses by law enforcement agencies and personnel.

Unit Three: Democratic political culture

a) State elites and citizens are committed to liberal values:

- individual autonomy
- the “freedoms”
- equality before the law
- political equality
- equality of opportunity
- justice

b) State elites and citizen are committed to democratic values:

- decisions through discussion and debate
- tolerance of dissenting opinion
- acceptance of necessity to make decisions through
- commodation and compromise

c) State elites and personnel know and respect the limits on their authority, understand their duties under a liberal democratic constitution, and are committed to the legitimacy of the system.

d) Citizens are committed to the legitimacy of the system: they accept decisions with which they disagree because they recognize the legitimacy of the processes by which the decisions have been made.

3.7. Civic Education in Egypt.

3.7.1. Introduction.

Egypt is one of the African countries which have placed Civic Education programs at the forefront of their political and socio-economic agenda. However, the conceptualization of the term civic education in Egypt's official circles has an unbalanced emphasis on citizen's rights and obligations, with duties and obligations of citizens receiving more emphasis than corresponding rights⁽¹⁾.

This imbalance in presenting necessary level of knowledge and legal awareness Among High School Students, led to⁽²⁾:

- Decline in civic engagement and political participation among adolescents and youth.
- Weak affiliation and a lack of a sense of identity, pride or obligation associated with Egyptian citizenship.

1 The Research and Education for Democracy in Tanzania (REDET), (2011). National Strategy For Civic Education. Education Development Partners Group, Retrieved from: http://ed-dpg.or.tz/Cross_cutting_issues.

2 Delli Carpini, M. X. (2010, June). Gen.com: Youth, civic engagement, and the new information environment. *Political Communication*, 17(4), pp. 349. Retrieved from: http://ccce.com.washington.edu/news/assets/conference_papers/carpini.pdf.

- Lack of interest amongst the youth, in voting or registering to vote non-interesting to register or vote. Due to their belief in the futility of voting and forgery within the voting system Because of their sense of the futility of voting, for forgery in the polls.
- The disconnection of youth from public life as a result of the lack of meaningful opportunities to become involved in the voting process engaged.
- Lack of confidence in both the government and fellow citizens, a sense that the public... and the public officials don't care about average citizens, A belief that citizens are more likely to look out for themselves than to try to help each other.

Confirms this, A study which confirms the above, by (UNDP) United Nations Development Programme (2002)⁽¹⁾ is entitled: Arab Human Development. It talks about on the participants of youths from 14 Arab countries including Egypt, ages 13 to 17, about the most important issues that represent the priorities of Arab youth. The result showed the following priorities: first, job opportunities (45 per cent of the respondents), which meaning that job availability is the most common concern of youth. Followed by education (23 per cent), showing a lack of confidence in the equality of educational opportunities, plus, the cost and content of education. There are other issues which concern the Arab youth such as; Inequality in the distribution of income and wealth (8 per cent), political participation only (5 per cent), this result express a lack of political education. Remarkably, 51 per cent of youths expressed a desire to emmigrate to other countries, clearly indicating their dissatisfaction with current conditions and future prospects in their home countries. Among those contemplating emigration, European countries were the favourite destination (46 per cent of respondents, 21 per cent of whom chose the United Kingdom alone), followed by the United States and Canada (36 per cent).

Most important in this regard is the lack of information from general knowledge about how government works, specifically knowledge about how to register and

1 (UNDP) United Nations Development Programme (2002). Arab Human Development Report 2002. Arab Fund For Economic And Social Development. Retrieved from: <http://www.arab-hdr.org/publications/other/ahdr/ahdr2002e.pdf>

vote. And while young adults today are no less likely to have basic organizational, communications or leadership skills, they are much less likely to apply these skills to collective public problem solving.

This decline in civic ability can be directly traced to the relative lack of attention paid to young adults and the issues that matter to them by the poor quality of civic education in the schools and the ineffectiveness of civic organizations at reaching out to this age group. It can also be traced to the media ⁽¹⁾.

3.7.2. Rationale for the introduction of civic education in the Egyptian Schools.

The necessity of introducing civic education in the Egyptian primary and secondary schools has become very obvious because of dwindling national consciousness, social harmony and patriotic zeal. Since the 1980s, it became evident that the lack of civic education and patriotic orientation had led to disorientation in schools and the larger society. The consequences were being felt at all strata of our society. The prevalence of corruption, indiscipline, disrespect for both elders and the rule of law, indifference to duty are some clear examples of the negative trends in the Egyptian society today. Events of the recent past have indicated that Egypt is facing the threat of losing its much cherished sense of nationhood, cultural identity and indeed, hospitable spirit. There is therefore need for urgent value re-orientation because of their far reaching impact on national development. To do these, the school has a great role to play.

Specifically, civic education seeks to expose our pupils and students to the tenets and rudiments of citizenship education. It has envisioned that the teaching of the subject in our schools will lay a strong foundation for effective citizenship education and public participation in governance and other ethical issues that affect our lives ⁽²⁾.

As a subject, Civic Education helps people to deal with the world „around them in a more capable and confident way. It covers a wide range of issues, topics

1 Delli Carpini, M. X. (2010, June). Ibid.

2 Henry Balogun (2009). Civic Education in schools Commissioner explains reason for introduction. Retrieved from: <http://www.nigerianobservernews.com/18112009/news/news4.html>.

and legislation that impact on people's lives and daily living at all time and these are areas that are covered under Civic Education. The subject teaches young people how to get the best out of their world. It teaches them to stand up for their rights and opinions and how to help other people to do so. It teaches tolerance of opposing viewpoints and that there is no such thing as "the right answer". It teaches them to recognise their responsibilities to the government, other individuals and the environment. It covers areas of life like voting, taxes, the justice system, prisons, other peoples and their cultures, international relations etc ⁽¹⁾.

The main justification for teaching Civic Education according to Qasim, M., (2006) ⁽²⁾ derives from the very nature of our nascent and fledgling democracy. Democracies need active, informed and responsible citizens. Citizens who are willing and able to take responsibility for themselves and their communities and contribute to the political process. These capabilities may not develop unaided or without active stimulation. They have to be learned. While a certain amount of citizenship may be picked up through ordinary experience in the home or at work, it can never in itself be sufficient to equip citizens for the sort of active role required of them in today's complex and diverse society. If citizens are to become genuinely involved in public life and affairs, a more explicit approach to Civic Education is required - this approach, should be :

Inclusive: an entitlement for all young people regardless of their ability or background

Pervasive: not limited to schools, but an integral part of all education for young people

Lifelong: continuing throughout life.

Civic Education also brings benefits for schools, other educational organisations and for society at large. For schools and other educational organisations, it helps to produce motivated and responsible learners, who relate positively to each other, to staff and to the surrounding community. For society, it helps to create an active and responsible citizenry, willing to participate in the life of

1 Chris Azebamwan (2010). Ibid.

2 Mustafa Qasim (2006). Education and Citizenship: The reality of civic education in Egyptian schools. Cairo Center for Human Rights Studies. First edition. Cairo.

the nation and the wider world and play its part in the democratic process. Civic education has the good aims and purposes. It is the education which aims to help people learn how to become active, informed and responsible citizens. More specifically, it aims to prepare them for life as citizens of a democracy. Different characteristics are required by citizens in different types of political systems. The characteristics required of people living as free and equal citizens in a democratic society differ significantly from those of people living under a totalitarian or communist regime. In a democratic setting, citizens should be aware of their rights and responsibilities as citizens; informed about the social and political world; concerned about the welfare of others; articulate in their opinions and arguments; capable of having an influence on the world; active in their communities; and responsible in how they act as citizens

3.7.3. The reality of civic education in Egypt.

Civic education in Egyptian secondary schools, suffering from weakness and great negligence. A study by Shaaban, I., and Nadia, I., (2001) ⁽¹⁾. This study on the secondary education curriculum and the development of citizenship, a sample from mentors, teachers and parents confirmed (150) that the curriculum in its status quo, does not include civic education except the few topics which develops the students' legal culture, it does not develop their awareness of their rights and responsibilities of citizenship and democracy, also do not develop their awareness of the reality of their communities, in addition, devoid of activities which practiced by the students, that enrich information of students in the field of civic education.

In the same study, the researchers analyzed the content of 46 curriculums (these are all curriculum in Egyptian secondary schools) the result showed: Curriculum disregarded citizenship in all levels; Conceptual, values, behavioral and skills, and did not adopt the problems of students and the community, related with Egyptian status. It also disregarded the rights and responsibilities of citizenship, and

1 Shaaban Ibrahim and Nadia Ibrahim (2001) Research in the development of educational curricula for the development of citizenship, in the third millennium at high school students. empirical Study, part 1. The National Center for Educational Research and Development (NCERD).

did not make room for volunteer activities to serve the community and the environment, and the practice of democracy.

Within this context, a study carried out by Mustafa Qasim (2006) ⁽¹⁾ showed the following results:

1. Weakness level of knowledge and legal awareness Among High School Students, where the percentage of knowledge and legal awareness reach to 45 per cent of the total sample. This means that more than half of the number of students will leave high school with lack of the knowledge and legal awareness and civic participation.
2. Egyptian school failed to presenting civic education. And what little civic education and knowledge the students did receive, came through the media, particularly television.
3. School curriculum is separate from the local and global community. It disregarded the development of the political, legal and civil sides of the student's personality and absent from the curriculum, political and the activities and legal culture.

Considering to the civic education curriculum in the first and second phase in the secondary Egyptian schools, also by reviewing the 2003 Ministry of Education's publication, we can see the outlines core principles or values that are supposed to constitute the teaching of civic education in Egypt as following:

- Preserving heritage (Arab and Egyptian heritage, Islamic and Coptic heritage, Arab and Egyptian values and traditions).
- Human civilizations and its components (Ancient Egyptian civilization, Ancient civilization of Iraq and Syria, Civilization of the Greeks and Romans and their relationship to ancient Egypt).
- Pioneer Egyptian personalities (Sheds light on some of the leading personalities in the different fields such as Literary, Political, Cultural, Religious, Economic and Arts)

¹ Mustafa Qasim (2006). Ibid.

- Mutual influence between the two civilizations, Arab Islamic and European.
- Arab nationalism (Growth stages of arab nationalist movement, Experiences of Arab Unity).

As can be quickly observed, important issues for a national Civic Education curriculum such as rule of law, equality, social justice, Citizen duties and rights, plus political rights have been left out, as well as democracy, constitution, people's council, elections and citizens' role in elections. Moreover, the listed core values are inadequately reflected in Civic Education textbooks. In fact, in some of the text books such things as the environment and tourist attractions have featured more than the core values.

3.7.4. ICT in Egypt.

Within the last 10 years, the Egyptian Ministry of Education (MoE) with the assistance of many international organizations (such as USAID and UNESCO) have introduced many reforms to improve the educational system and raise teachers' technological awareness and encourage them to integrate Information and Communication Technology (ICT) into the curriculum with a greater emphasis on science, mathematics and the use of computers. In addition, new learning resource centers are being set up in schools, complete with laboratory equipment, audio-visual systems, computers and other teaching aids ⁽¹⁾.

However, although Egypt has made great strides in its general educational arena, growth in technological supports that facilitate educational advances have been slower. The use of computer software and hardware has not been fully understood or used and the integration of technology into the Egyptian education system is needed.

Egyptian government and business leaders also hope that the information technology sector will become an important industry in its own regard, and they often point to India and Israel as models that they would hope to emulate. Egypt has

¹Alaa Sadik, (2008). Digital storytelling: a meaningful technology-integrated approach for engaged student learning. Association for Educational Communications and Technology. Retrieved from: <https://educatorsweb2-0.wikispaces.com/file/view/meaningful+tech.pdf>.

thus placed major emphasis on ICT, and Egypt is reputed to be one of the fastest growing ICT markets in the world. New communications media in Egypt include the Internet, mobile telephony, and digital satellite television ⁽¹⁾.

Ministry of Communications and Information Technology (MCIT) has been responsible for the development of ICT in the country with a view to spread ICT tools nationwide. Computer labs have been established in all public and experimental schools for the projection of multimedia programmes using computers as a teaching aid. TV and video sets, enlargement projectors, and interactive CD-ROMs and drivers have been provided for the kindergarten and primary stages ⁽²⁾.

It also established "Knowledge Sources Network", where the ministry has established a large number of "distance training halls" and many of schools have access to the internet and use the services of electronic mail through the network of the Ministry of Education. A central "electronic library" has been set up with CDRoms, videotapes, and books with teaching aids. All schools participating in the project can benefit from the remote access to the central library. The Internet services are being expanded to reach 4 Mbps to enable a large number of sites and schools to exchange files and share screens by sound, text, and pictures. Educational Satellite Transmission Advanced schools have been equipped for receiving thematic educational satellite channels with the possibility of extension to remote rural schools ⁽³⁾.

The National ICT policy in education is jointly coordinated by MCIT and MoE, such as IT Clubs, which can provide Egyptian citizens with an opportunity to develop their skills and knowledge through the use of technology and through provision of training in IT skills for users. MCIT's target is to have an IT Club for every 2,500 people in Egypt. In 2010, there were 2,164 IT Clubs housing 25,919 computers and peripherals. Of these clubs, 1,918 offer Internet access. The IT Clubs

1Mark Warschauer (2003) *The Allures and Illusions of Modernity: Technology and Educational Reform in Egypt*, Education Policy Analysis Archives. EPAA, Volume 11 Number 38 October 17, 2003. Retrieved from: <http://epaa.asu.edu/ojs/article/view/266>.

2 Amr Hamdy (2007). *ICT in Education in Egypt*. In Farrell, G., Isaacs, S. & Trucan, M. (Eds.), *Survey of ICT and Education in Africa* (Vol. 2, p. 218) :53 Country Reports. Washington: The World Bank.

3 Neil Butcher Associates (2011). *Transformation- Ready: The strategic application of information and communication technologies in Africa*, Education sector study. ICT Development Associatiates Ltd.

have served more than 1 million users, and have generated more than 8,000 job opportunities ⁽¹⁾.

A great project was launched by Egyptian Ministry of Education to equip every school with the latest desktop technology. Most of primary schools, all preparatory and secondary schools were provided with multimedia rooms and computer labs. Multimedia rooms have 2 to 3 computers, with LCD panels, large screens, and collections of curriculum-based courseware, and teachers were asked to bring in their classes on a regular basis. Computer labs were equipped with ten to twenty computers. These computers are used for teaching courses in computing (operating systems, computer applications, and programming languages) ⁽²⁾.

Evaluation studies and reports showed that the multimedia rooms and computer labs are rarely used by teachers, and administrators do not encourage or support teachers and students to use them to enhance their teaching and learning. Although MOE has invested a lot in equipping schools with computers, this investment has not been complemented by the development of appropriate human and social resources. Much greater emphasis should be placed on the development and evaluation of human and social resources through implementation of long-term teacher training programs and community involvement ⁽³⁾. Despite the expansion of ICT in Egyptian schools, the body of empirical research investigating the use of computers in classrooms and its relationship with other variables is still relatively small.

3.7.5. Challenges for Social Studies Teachers in Egypt.

Teachers, irrespective of what subject they teach, are a great asset to any nation. By virtue of their profession and their selfless commitment and dedication to duty since the beginning of time, they belong to a special class and should therefore be acknowledged and appreciated. The Egyptian education system employs the largest number of civil servants in Egypt. According to the

1 Amr Hamdy (2007). *ibid*.

2 Samira M. Bakr (2011), Attitudes of Egyptian Teachers towards Computers, *CONTEMPORARY EDUCATIONAL TECHNOLOGY*, 2011, 2(4), pp.308-318 retrieved from: <http://www.cedtech.net/articles/24/244.pdf>.

3 Warschauer, M. (2003a). The allures and illusions of modernity: Technology and educational reform in Egypt. *Educational Policy Analysis Archive*, 11(38). Retrieved from <http://epaa.asu.edu/ojs/article/view/266>.

Egypt Human Development Report, close to 1.5 million full and part-time teachers and administrators were employed by the Ministry of Education in 2005 ⁽¹⁾. Thus, teachers, who are among the lowest paid employees in the public sector, are often unmotivated due to their low salaries and social status as well as their poor working conditions and, deliberately or not, fail to fulfill their duties during regular class hours. While students thus resort to private tutoring in order to cope with the curriculum and prepare for centralized exams that determine their future career opportunities, teachers depend on the additional income offered by this informal practice in order to make a decent living ⁽²⁾.

Since the implementation of any educational curriculum cannot be achieved without qualified teachers, the success of the civic education curriculum poses a challenge to the social studies teachers because, there are no qualified civic education teachers on ground, and the curriculum contents of the two subjects are similar. However, there is a clear difference between Social Studies and Civic education thus: While Social Studies encompasses the study of man in his environment, his society, his religious beliefs, and the effect of science and technology on him; Civic Education on the other hand deals specifically with the study of man, his social and political relationships in his community, his rights and responsibilities to government and his interest in governance issues. Teachers are very crucial to the success of implementing the civic education curriculum. Theirs is to inculcate the right kind of values through effective teaching of civic education ⁽³⁾.

One of the important challenges facing social studies teacher in Egypt is the need to be more responsive to learning about the computer and its use in the classroom, they need to separate themselves from the past and accept technology as an integral part of the education of students in the 21st century.

1 EHDR, (2005), Egypt Human Development Report 2005. Choosing our Future: Towards a New Social Contract, Cairo: UNDP and The Institute of National Planning. Retrieved from: http://hdr.undp.org/en/reports/national/arabstates/egypt/egypt_2005_en.pdf.

2 Sarah Hartmann, S., (2008). The Informal Market of Education in Egypt: Private Tutoring and Its Implications. Institut für Ethnologie und Afrikastudien, Johannes Gutenberg-Universität. Retrieved from: <http://www.ifeas.uni-mainz.de/workingpapers/Arbeitspapiere.html>.

3 Campbell, D. E., (2006) What is education's impact on civic and social engagement? Measuring the effects of education on health and civic engagement: proceedings of the copenhagen SYMPOSIUM. Retrieved from: <http://www.oecd.org/edu/educationeconomyandsociety/37425694.pdf>.

However, the largest problem that remains in education today is integrating technology to curriculum content and to the learning processes ⁽¹⁾. Jacobsen (2001)⁽²⁾ believe that many teachers worldwide are not able to adopt technology for teaching and learning tasks, and the gap between technology presence in schools and its effective use is too wide. Many teachers believe that technology integration is a difficult, time-consuming and resource-intensive endeavor and is more trouble than it is worth.

More specifically, there are several studies conducted in Egypt and other countries in the region investigating the attitudes of teachers towards computers in schools. These studies may provide useful findings for better understanding the situation in Egypt.

A study by Albirini, A., (2006)⁽³⁾ showed that the findings suggest that teachers have positive attitude towards ICT in education and their attitudes were predicted by computer attributes, cultural perceptions, and computer competence. Moreover, the results clearly emphasized the importance of teachers' vision of technology itself, their experience in using it, and the cultural conditions surrounding its introduction into schools, on shaping teachers' general attitude towards technology and its subsequent diffusion in their educational practice.

Al-Zaidiyeen et al. (2010)⁽⁴⁾ investigated the level of ICT use for educational purposes by teachers in Jordanian rural secondary schools; the study demonstrated the importance of teachers' attitude towards the use of ICT for educational purposes. A questionnaire was used for data collection and it was distributed among 650 teachers in Jordan. The survey included questions concerning the level of ICT use as well as questions related to the attitude of

1 LaBeau, B., (2005). The Continuing Challenges of Technology Integration for Teachers. Oakland University, Retrieved from: <http://www.usca.edu/essays/vol152005/moreheadrev.pdf>.

2 Jacobsen, M. (2001). Building different bridges: Technology integration, engaged student learning, and new approaches to professional development. Paper presented at AERA 2001: What We Know and How We Know It, the 82nd Annual Meeting of the American Educational Research Association, Seattle, WA, April 10-14.

3 Albirini, A. (2006). Teachers' attitudes toward information and communication technologies: The case of Syrian EFL teachers. *Computers & Education*, 47(4), pp. 373-398.

4 Al-Zaidiyeen, N., Mei, L., & Fook, F. (2010). Teachers' attitudes and levels of technology use in classrooms: The case of Jordan schools. *International Education Studies*, 3(2), 211-218.

teachers towards the use of ICT. The findings revealed that teachers' level of ICT use for educational purpose was low although their attitude towards the ICT use was positive.

In a recent study by Samira M. Bakr (2011) ⁽¹⁾ the study aimed to find out the attitudes of Egyptian teachers towards the use of computers, based on gender and teaching experience at different public schools in Egypt. Attitudes of a sample of 118 public school teachers, 53 (45%) male and 65 (55%) female. The findings of this study indicate that teachers' attitude towards computer use at governmental schools is relatively high and that no significant gender differences exist among them. This suggests that both Egyptian male and female teachers at governmental schools have the same perception about computer use. In terms of teaching experience, results prove that there are no significant differences among teachers' attitude towards using a computer at governmental schools. Teachers who have longer or short teaching experience they have the same appreciate of the importance of computer use in schools.

3.7.6. Egypt after the revolution of 25 January.

3.7.6.1. Overview.

Egyptian revolution is also called The Day of Anger and The Day of Revolt. It started on 25 January 2011. It was inspired by the successful revolution in Tunisia, where thousands of people began taking to the streets to protest about poverty, rampant unemployment, government corruption and autocratic governance of the ousted president, who has ruled the country for thirty years. Where there was corruption and poverty, the official figures show that unemployment has risen more than 12%, but that the true level is likely to be much higher. In addition, there are millions of people earning as little as LE100 (£11) per month. At the end of 2001 the Egyptian illiteracy rate was 30% across the country and higher in some areas ⁽¹⁾.

1 Samira M. Bakr (2011), Attitudes of Egyptian Teachers towards Computers, CONTEMPORARY EDUCATIONAL TECHNOLOGY, 2011, 2(4), pp.308-318 retrieved from: <http://www.cedtech.net/articles/24/244.pdf>.

1 Mena Programme (2012) The State of Education in Egypt. Chatham House, London. Retrieved from: http://www.chathamhouse.org/sites/default/files/public/Research/Middle%20East/0112egyptedu_summary.pdf

Under this former regime, Education was an overburdened and underfunded public education system fails to provide quality education to an ever growing number of students. Structural deficits like overcrowded classrooms and poor facilities often impeded effective teaching and learning in public schools. This situation was aggravated by a very dense and rigid syllabus, an emphasis on rote learning and the exam orientation of the education system. Teachers, who are among the lowest paid employees in the public sector, are often unmotivated due to their low salaries and social status as well as their poor working conditions and, deliberately or not, fail to fulfill their duties during regular class hours. While students thus resort to private tutoring in order to cope with the curriculum and prepare for centralized exams that determine their future career opportunities, teachers depend on the additional income offered by this informal practice in order to make a decent living. Nevertheless, Education is highly valued in Egypt and it is still a top priority for most parents. They are willing, or feel forced, to spend high amounts of money on private tutoring, even if this means a serious financial burden for them ⁽¹⁾.

Protestors participating in Egypt's 2011 revolution articulated grievances over inequality, poverty, low wages and youth unemployment as well as dictatorship, police brutality and corruption. Improving the quality of and access to education will be critical if their demands are to be met. The severe mismatch between the education provided by schools and the demands of the labour market is one of several important factors behind Egypt's high rate of unemployment. Educational inequalities also help to explain Egypt's dramatic economic inequalities. According to Loveluck Louisa (2012)⁽²⁾ Egyptians sought to upend an entrenched system of cronyism, nepotism, and pervasive corruption that squandered the future of an entire generation. This lost generation of youth protested in droves, demanding reforms to the dilapidated education system that required students to bribe public teachers to teach, expressing their rage at their inability to obtain

(1)Hartmann, Sarah (2008), 'The Informal Education Sector in Egypt: Private Tutoring between State, Market, and Civil Society', Working Paper 88, Department of Anthropology and African Studies, Johannes Gutenberg-Universität Berlin, Retrieved from: <http://www.ifeas.uni-mainz.de/workingpapers/AP88.pdf>.

(2) Loveluck Louisa (2012), *ibid*.

employment despite their college degrees, and calling attention to the troubling rise of poverty that was paralyzing their economic and social future.

The government responded by cutting off Internet access on 27 January in the whole country, as well as all Mobile networks, until the 2 February, during this period there is no means of communication. Many people believe that this revolution became possible thanks to social media tools that were used for communication, planning and organization of protests by activists. The people who had access on internet posted a lot of announcements, videos, and images for the people inside and outside the country to see them. But still many in Egypt did not have access to Internet and were not aware on what was going on online. The plan for 25 January protests was to mobilize people in different location throughout the country to protests and this plan was organised by activists through online communication. The former President was expected to resign on February 10 but he resigned on February 11. He left Cairo after more than 32 years of ruthless and corrupt dictatorship. Today a new dawn has come to Egypt.

3.7.6.2. The benefits of the revolution.

On February 13, 2011, shortly after the January 25 revolution, the Supreme Counsel of the Armed Forces (SCAF) unilaterally suspended Egypt's 1971 constitution. In its place, the SCAF adopted a Constitutional Declaration on March 30, 2011, which serves as Egypt's interim constitution until a new one is drafted by a 100-member constitutional committee selected by parliament and SCAF. The Constitutional Declaration adopts Articles 39 and 76, among others, of the suspended 1971 constitution, thus leaving intact the pre-revolution electoral framework and attendant laws.

In an unprecedented way, millions of Egyptians were to head to the polls on 28 November 2011 in the first parliamentary vote with great hopes that this process will represent the free will of the Egyptian voter, with expectations and wishes that the system will be just and fair, with a return particularly, to full judicial supervision of the management of all phases of the electoral process. Contrary to what was

happening in the former regime, where parliamentary elections were a blatant fraud and crime against democracy and the people it represents. The elections were a manifestation of tyranny and the extent to which a regime will oppress its own people to retain power, and always witnessing unprecedented vote rigging and ballot box stuffing.

In the previous Covenant, the party system and the political regime in general are responsible for preventing the rise of genuine, effective parties by generating the creation of parties 'on paper' which do not have a genuine political presence in society. In 2002, there were six big parties and 11 small ones which had never secured parliamentary representation. But after the events of January 25th about 50 political parties were formed in Egypt. For reference there were only 24 parties under Mubarak. Also several blocks and coalitions were formed. 15 social-political movements, including liberal, secular and centrist parties and public organizations,

People started looking for resources of legal culture, by following what is written in the media of Legal Information. And watching TV news, in addition, asking specialists in law in emerging legal issues such as how the election the parliament, the formation of the Constituent Assembly to write a constitution, etc.

3.7.6.3. The importance of this study increased significantly after the revolution.

Researcher is following with great interest the process of drafting the new constitution by the constituent assembly which include a range of politicians, members of the armed forces, the police, the judiciary and trade unions, as well as Muslim and Coptic Christian religious leaders. Tasked with the drafting of Egypt's new Constitution, until the completion of writing thesis, the Constituent Assembly is not finished writing the new constitution.

Given that the Researcher applied the legal culture program in Egyptian schools in 2011, by teaching students two units of legal culture application which relate to the legal principles that contain general Concepts of Legal

Principles and the Egyptian Constitution which also contain general Constitutional concepts, of course there are some changes in the 1971 constitution which is suspended. These changes will be very easy to include in the proposed program after the adoption of the Constitution.

Therefore the researcher finds it is very necessary to present legal culture to the students beginning with primary schools and continuing to higher education as we begin this new epoch with democracy for the following reasons:

- Students should be aware that through the democratic process, every person can exercise power through participation. Non-participation or exclusion can lead to alienation, apathy and lack of responsibility on the part of the person.
- Students should be aware that every individual is entitled to basic social, cultural, civic and political rights. Denial of human rights results in the domination and oppression of people. Responsibilities go hand in hand with the rights accorded to individuals. Every person is responsible for their actions towards other people at all levels.
- Students should be aware of the dignity which every individual should be accorded as a human being, and of how provision of basic needs (e.g. food, health, security, education) is vital to human dignity. Failure to fulfill the basic needs of people results in loss of human dignity.
- Students should be aware of the interrelatedness of all human life at the individual, community, national and global levels. the effects of our votes in elections on developments at local, national and international levels.
- Students should be aware that laws and rules serve important purposes in any community or society, the protection of life and property. Laws and rules are subject to change. Changes in laws may reflect developments in society, or may result from the actions of individuals. A belief in justice and fairness is basic to the process of developing, implementing and valuing laws. Lawlessness and ignorance of the value of laws results in the denial of the rights of each and every individual and a decline in the quality of life in

communities and society.

- Students should be aware that as individuals born on the planet every person becomes a temporary owner or steward entrusted and empowered with its care and maintenance. Absence of stewardship leads to the belief that our role in relation to the natural world, the environment, other peoples and cultures is incidental or inconsequential. This results in phenomena like unnecessary depletion of resources, pollution of the environment, diminishment of cultural heritage
- Teaching civic education in the schools develops character of students to become democratic citizens, responsible, social and respectful within the society. Some of the attributes are: Respect themselves, others and the world, responsibility concern for the well-being of others, a commitment to honesty and transparency and the desire to establish democracy in politics and everyday life. Therefore, the character development is a process that taking place at school in order to instill these attributes in students.

3.7.7. Conclusion

This chapter, mainly a literature overview like the preceding chapter, discussed fundamental philosophies and theories of formal learning and applied them to technologically-aided teaching and learning. The three main current theoretical categories: behaviourism, cognitive theory and constructivism, were considered.

Also this chapter addressed the key concepts of the civic education in social studies curriculum and the role of civic education in student behavior and its impact on society. The chapter discussed the experiences of some developed countries in civics education; the researcher chose France and Germany from Europe continent, and the United States and Canada from the American continent, in addition to Australia. Finally the chapter mentioned the reality of civic education and ICT in Egypt. Also this chapter focuses on Egypt after the revolution in January, and the importance of this study in this era.

This discussion leads to Chapter Four which set out the research design of this study and explains investigation of issues discussed in the literature review chapters, Chapters Two and Three.

3.8. The hypotheses are:

1. Digital mediation plays an important role in the educational process as an instructional technology tool.
2. Human mediation plays an important role as a facilitator, guide and mentor in the educational process.
3. There is a significant difference, between the mean score of students in the pre/ post- in the achievement test, for unit one, in favour of the post-test.
4. There is a significant difference, between the mean score of students in the pre/ post- in the achievement test, unit two, in favour of the post-test.
5. There is a significant difference, between the mean score of students in the pre/ post- in the achievement test of attitudes, in favour of the post implementation (when the implemented at the end of the program).
6. Effect size between students' scores in pre- test and post-test, in the unit one, unit two and attitudes, would be great.

Chapter Four: Research Methods and Procedures

4.1. Overview.

Law is the basic principle in modern society. The bigger and more complex the society's structure, the stronger and more important the law becomes. Especially, in a democratic society, law is characterized as an autonomous rule which citizens regulate their lives by themselves. In other words, law is a tool that organizes and maintains orders not by forces or punishment but by needs and wills. Thus, civic education should contribute in making people aware of the importance of law and have the ability to make judgments and act in accordance with the law. In this point of view, legal culture program could be the core part of civic education.

In cultivating a democratic citizen, Civic education takes an integrated view concerned with politics, economics, law, and ethics. Therefore, learning contents must be organized according to an integrative perspective based on individual domains. Political education, economic education, and ethics education are all essential parts of civic education. However, considering that the concepts of "citizen" and "citizenship" have been developed in a historical and legal aspect, the core of civic education may be Law Related Education ⁽¹⁾.

If the citizens' role is only to abide the law passively, legal culture program focuses on making justification of existing social norms, especially legal norms. In this case, unless citizens have a legal conviction, legal culture program is not a part of education but a simple indoctrination. Also, it is hard to be abided with the law and it is not effective in everyday life. When we broaden the citizens' role from passive law-abiding to positive responsibilities for developing a legal culture, to put on emphasis only on the law-abiding is not the purpose of legal culture program. If we want the democratic society to exist continually, people play a role not as the object but the subject of legal system.

¹Bernadette L. Dean et al., (2007), The State of Civic Education in Pakistan. Institute for Educational Development (AKU-IED), Aga Khan University. Retrieved from: http://www.akdn.org/publications/civil_society_pakistan_edu_civic.pdf.

4.2. Methodology.

This research belongs to the category of empirical studies due to the ability to control and fine-tuning of the variables, so, necessitated that the experimental design must be one group of students applied the pre-achievement test for the units of study and pre-legal attitudes test, then the students themselves studied the units of the proposed legal culture program, after that, the post-achievement test and the post-legal attitudes Test are applied. The researcher prepared these tests to evaluate the performance of students during and at the end of the studying program.

The following is a description of the procedural steps followed by the researcher to build the program, as well as the steps for setting up the study tools and control it, then the steps to implement the experiment, and apply the tools of the study.

4.3. Preparation and production proposed legal culture program (The Application).

4.3.1. Prepare a list of legal concepts.

First: The objective of building the list:

Identify some concepts of the legal culture (which relate to the legal principles, the Egyptian Constitution, Egyptian environmental law and some concepts related to human rights) that should be known by students at the first and second phase of secondary school education, to develop some concepts of legal culture, and the trend towards political participation, and the ability of critical thinking among students in secondary school.

Second: Sources of derivation the list.

Researcher returned to a variety of sources to derive a list of legal culture, such as:

1. Research and previous Literatures:

The researcher analyzed some of these the previous Literatures and

prepared a checklist of legal culture, which discussed the legal programs that are provided for secondary stage students, and then chose those most suited to the Egyptian society.

2. Experiences of some developed countries:

The Researcher was briefed on the teaching of civic education and legal culture in some developed countries such as France and Germany from Europe continent, the United States and Canada from the American continent, in addition to Australia.

3. Egyptian Constitution, It consists of two parts:

First: the declaration document of the constitution which contains four basic principles that the State seeks to achieve them: Peace for our world. The hope for our Arab Nation. Sustained Development of life in our country. Freedom and Humanity of Egyptians.

Second: Consists of 211 articles divided into seven parts: The State. Basic foundations of the Society. Freedoms, Rights, and Public duties. Sovereignty of the Law. Style of government. General and Transitional Provisions. New Rulings (The Shoura Council and the Press).

4. Some of Egyptian laws such as environment law and some concepts of human rights and treaties which protect Human Rights.

Third: Construct the validity of the checklist:

After preparing the checklist concepts of the legal culture in its initial stage, Trustees' validity was established through submitting to a group of experts in the field of law, Educational Psychology, Curricula and Methods of Teaching, for reviewing, in order to ensure that:

- The list is comprehensive of the most important principles of the legal culture.
- These concepts are appropriate for secondary schools students.

- The concepts are written in correct language.
- The clarity and accuracy of writing the checklist.
- The principles of the legal culture which can be added in the list or deleted from it by the experts.

According to the recommendations of the reviewers, some amendments regarding language clarity, re-writing of one of legal principle, adding two principles related to the constitution, and another in human rights was needed. The researcher amended the initial form of the checklist through these observations; consequently, the checklist became ready for implementation in its final form.

4.3.2. The steps of preparation the program.

The proposed legal culture program which was prepared by the researcher- of developing legal concepts for students at the first and second phase of the secondary schools- was developed and based on the scientific content, prepared through the educational objectives of that program by four stages as the following:

1. Planning the program.
2. The design of the Program.
3. The production of the program.
4. The program evaluation.

4.3.2.1. Planning the program.

A. Identifying the basic features of the program.

The researcher prepared an achievement test and applied it for students at the first and second phase of secondary schools in Assiut Governorate, to find how much of the legal culture they knew in order to determine the basic features of the program before starting the design process.

B. The Writing of educational objectives

The researcher identified and wrote the general objectives of the program as a whole, and the behavioral objectives for each unit separately, in

a form which determines the expected ultimate performance of each Student, where the researcher took into consideration his formulation of objectives as follows:

- The objectives must include the aspects of cognitive, affective and skills.
- The clarity and accuracy of the objectives so that they don't give more than one meaning.
- The writing of the objectives in terms of behavioral and procedural phrases that depend on measurable and observable acts and include the minimum limit of performance.

C. Determine the program units and the educational elements included:

The researcher has taken the following steps to determine the educational units of the program and the obligatory legal elements contained in each unit as well as the activities and the exercises can be included in the program, these steps can be Brevity as the following:

1. Access to some Internet sites which are concerned with the legal culture of the same age group, which apply to secondary stage students in Europe, Australia, Canada and the U.S.A.
2. Review some of the scientific references and the previous Literatures in Arabic and foreign languages, which discussed the programs that are provided for secondary stage students.
3. The researcher prepared a list that included the essential legal rules necessary for the process of the legal culture for students in the first and the second grade of high school
4. Applying an achievement test prepared by the researcher to determine accurately the knowledge and the skills acquired by the students at the first and second phase of the secondary schools.
5. The researcher reviewed the content of the social studies curricula for students at the first and second phase of the secondary schools to

determine what is offered to them of the historical culture. It contains a small part of the legal culture associated with the historical period they study, in order to know what is taught to students in this curriculum.

6. Review some of the legal encyclopaedias and the scientific references that dealt with scientific programs and legal activities which are appropriate for study sample students.

D. The preparation of scientific content per unit of the program units (scenario)

The elements of the scientific content of the program were derived from the educational objectives that are previously identified; consequently, the researcher took into account several things in the selection of program content and its preparation, are:

1. Correlation the program content with the general educational and behavioral objectives.
2. The logical sequence of skills included in the program.
3. The balance between the units of the program and the depth of each unit.
4. Observance of the content to the needs of the ages and interests.
5. Correlation of the content with the society in which the student lives.

In light of the foregoing, the researcher wrote the Scenario of the program.

4.3.2.2. The design of the program.

The researcher followed the hyperlinks system in the design of the program in order to help the learner to navigate in the program units according to his desire, so he can choose the unit that he would like to study or move forward or rewind or go to any item in the unit or move to another unit in the program according to his own desire.

A. Put some activities and practices from the local environment:

After the process of preparing the educational content that had been Included in each unit of the program, the legal activities and practices were put

from the Egyptian environment which suited for students at the first and second phase of the secondary schools, through some applications that the researcher designed after he reviewing the content of some legal encyclopedias and scientific references.

B. Preparing the evaluation:

- **The formative evaluation:** The researcher designed an electronic formative test at the end of each unit. It is a set of objective questions, and is available for each student to take the opportunity to answer the test questions individually. When the student answers each question, his score is shown on immediately on the screen. And at the end of the test answer, the total mark that is earned by the student is shown on the screen immediately.
- **Preparing legal attitudes test:** The researcher prepared attitudes? test to measure the knowledge of students to the legal culture that is included in the two units of program. It is divided into two major issues: the concept of the legal principles, and the Egyptian Constitution. The items of this test are 40 questions divided into three groups: the first group contained fifteen questions of multiple choices, the second contained fifteen questions of true or false, and the third contained ten questions of completion; and so the researcher dedicated one mark for each question the total score for the test therefore out of forty

C. Submitting the program plan to a group of the experts for reviewing:

After preparing the program in its initial stage and before starting to make programming that is used in this teaching, the researcher submitted the program plan to a group of professional experts of the members of the faculty, (the staff) or the researches in universities and research centers in the field of education technology, Curricula and Methods of Teaching, Educational Psychology, and law, in order to express their opinion about:

- The achievement of the program content to the intended objectives.

- The accuracy of the scientific content of the program.
- The Content of the program in a logical scientific sequence.
- The program contribution in the development of the legal culture of the specific grade that was created for.
- The appropriateness of the activities provided in the program to the stage studied in this research.
- The Correlation the questions in the formative tests to the units included in the program with the objectives for each unit.

A set of observations were extracted from the arbitration, and summed up by the researcher as the following:

1. All experts agreed that the program could help in the development of the legal culture for students at the first and second phase of the secondary schools.
2. They all agreed that the activities and exercises offered in the program are suitable to enrich the process of the legal culture for students.
3. Some of experts recommended deleting or replacing some words for confirmation of the clarity in order to prevent the misunderstandings of students.

According to the recommendations of the reviewers, some amendments regarding meaning, accuracy, and language clarity, were made, in addition to adding/ deleting some items.

4.3.2.3. The production of the program (make the application).

This stage included the following steps:

4.3.2.3.1. Design the introduction of the program:

The researcher designed an introduction to the program; this introduction displayed the name of university and the laboratory CEMIC (Centre d'Études des Médias de l'Information et de la Communication) which mean "Centre Media Studies of Information and Communication"



Figure (21) the name of university and the laboratory (CEMIC)

This laboratory (CEMIC) is Interested in research in Information, Communication and Arts at the University of Bordeaux. It is labeled as host team of doctoral training in information sciences and communication and art of the School doctoral- Montaigne Humanities. And take its geographical location in "Maison des Sciences de l'Homme d'Aquitaine (MSHA)".

The introduction contains also the following scenes:



Figure (22) the title of the thesis in Arabic.

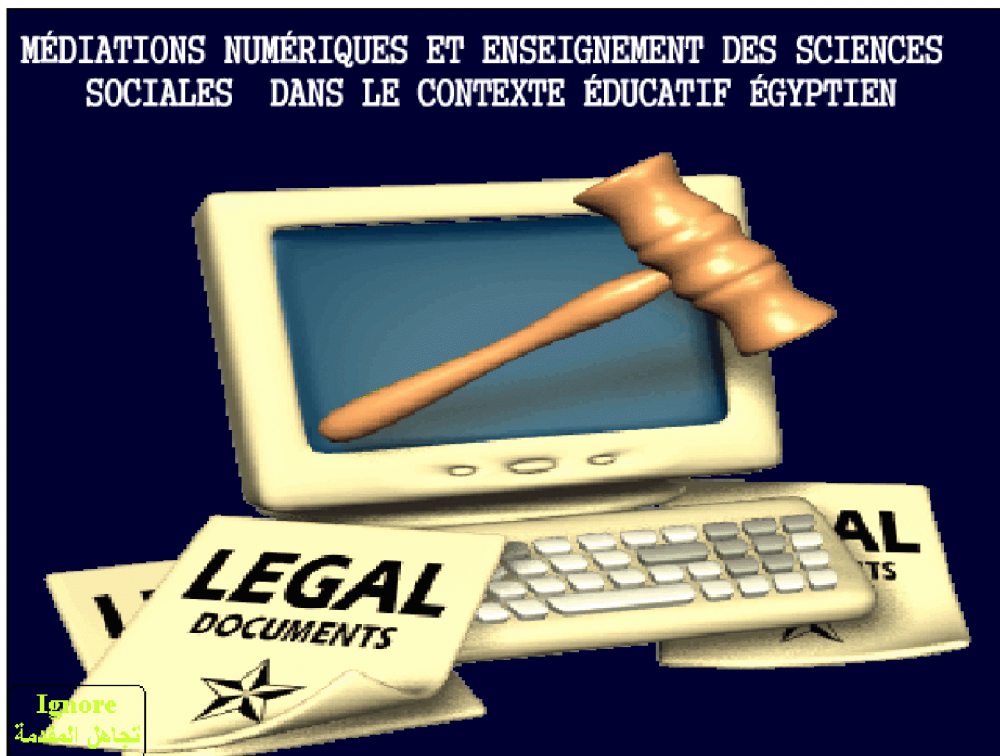


Figure (23) the title of the thesis in French

This scene in figure (22, 23) contains the title of the thesis in both French and Arabic; it appears in this scene that the researcher takes advantage of technology in education, through using of digital program to teach students legal culture. Computers have been found to be an excellent aid for teaching students. They facilitate an audio-visual representation of information, thus making the process of learning interactive and interesting. Computer-aided teaching adds a fun element to education. The importance of computers is evident today and having the perfect know-how of computers can only propel one's career in the right direction.

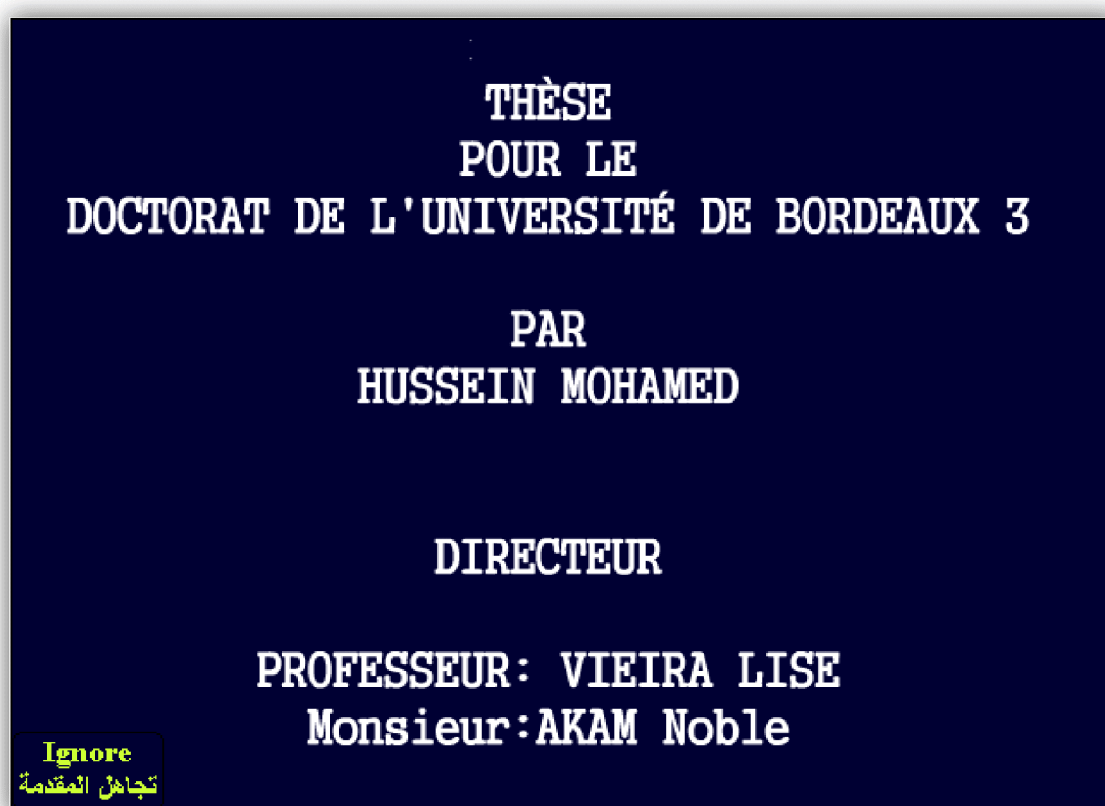


Figure (24) the name of researcher and supervisors
in French languages ⁽¹⁾

After that, there are some scenes which display some of the topics or units
Included in the program as follows:

¹ There is also another scene in Arabic.







Figure (25) Expressive Screenshots about the program.

As observed in all previous scenes, from the beginning of the introduction there is a button entitled "Ignore" in the bottom left corner, the student can ignore this introduction by clicking on it, and so go directly to the screen of the unit one.

Although the proposed legal culture program (the application) is in Arabic language, and the researcher applied it to Egyptian secondary schools in the Arabic language also, the researcher saw that it is better to translate a part from the unit one and its exams to English, for the thesis directors and jury. So the researcher put a scene to select the language which used by the user.



Figure (26) the scene to select language.

4.3.2.3.2. Student Registration.

After the user selects the language, he goes to the special part of the student, where the student will select the new-user button if this is the case, after student registers his name, the application creates a text file named "student name" to save his score. If he is already registered in the application then he can continue by selecting the "previous user" button choosing his name from the list as it appears. If however he wishes to pass this stage, this is also an option by clicking Ignore button. Consequently, the application creates a text file named "Default" to save his score, and he will go directly to the main menu in the latter case.



Figure (27) student choose between new user, previous or ignore

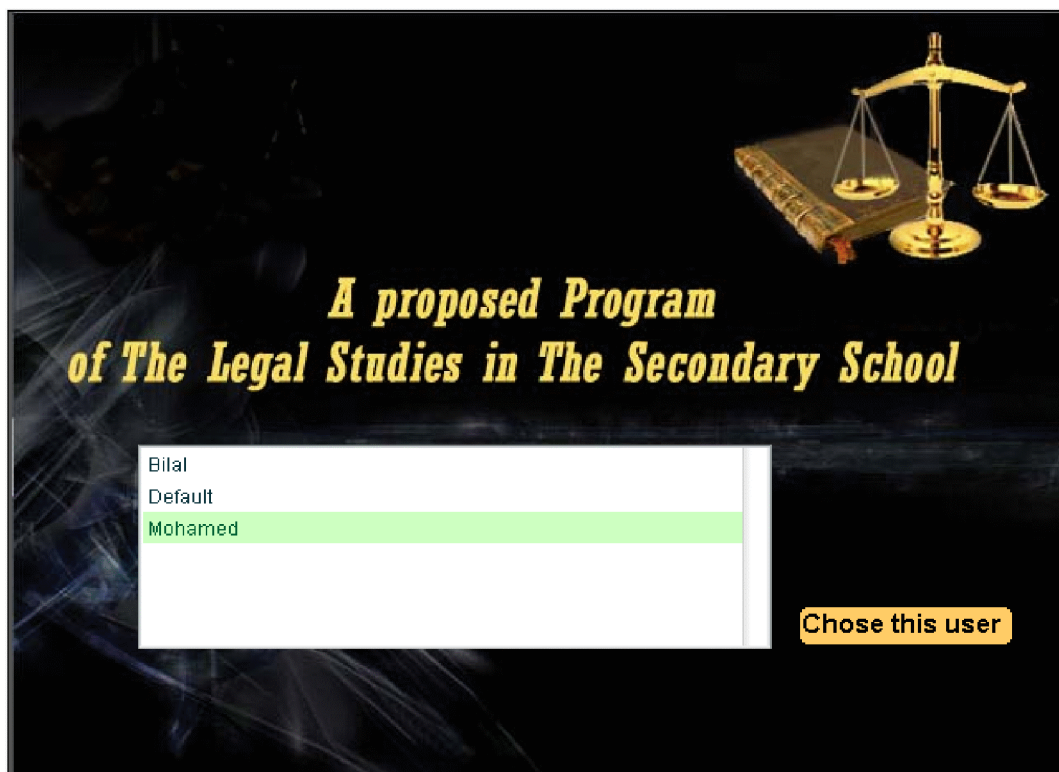


Figure (28) student choose his previous name.

On the other hand, if student chooses “New user” then he must determine where to save his personal file, containing his name, scores of units tests and also scores of legal attitudes test.



Figure (29) the student must chooses the right place to save the personal file.

A student can choose to save his personal text file, in hard disk drive, USB Flash drive or in floppy disk as in figure (29). To complete his study at home or any where he wants to study



Figure (30) the student writes his name.

After the student chooses the right place to "save" his work, and write his name as in figure (30). When the student arrives at this screen, the program is copied automatically two folders on the partition (C: \) of the hard disk: **the first folder** named (Noms) which contains a number of text files. Each student -Studied the program on the same computer- has one of these text files (profile) which is created automatically when the student enters his name only necessary for the first time. Therefore the name of this file is the same name as that of the student. So, when we open this text file we find the name of student and scores of student divided by units and the marks they have gained of each question in the unit.

The second Folder is named (portfolio) and contains all files and folders which the student needs while studying the various units of the program.

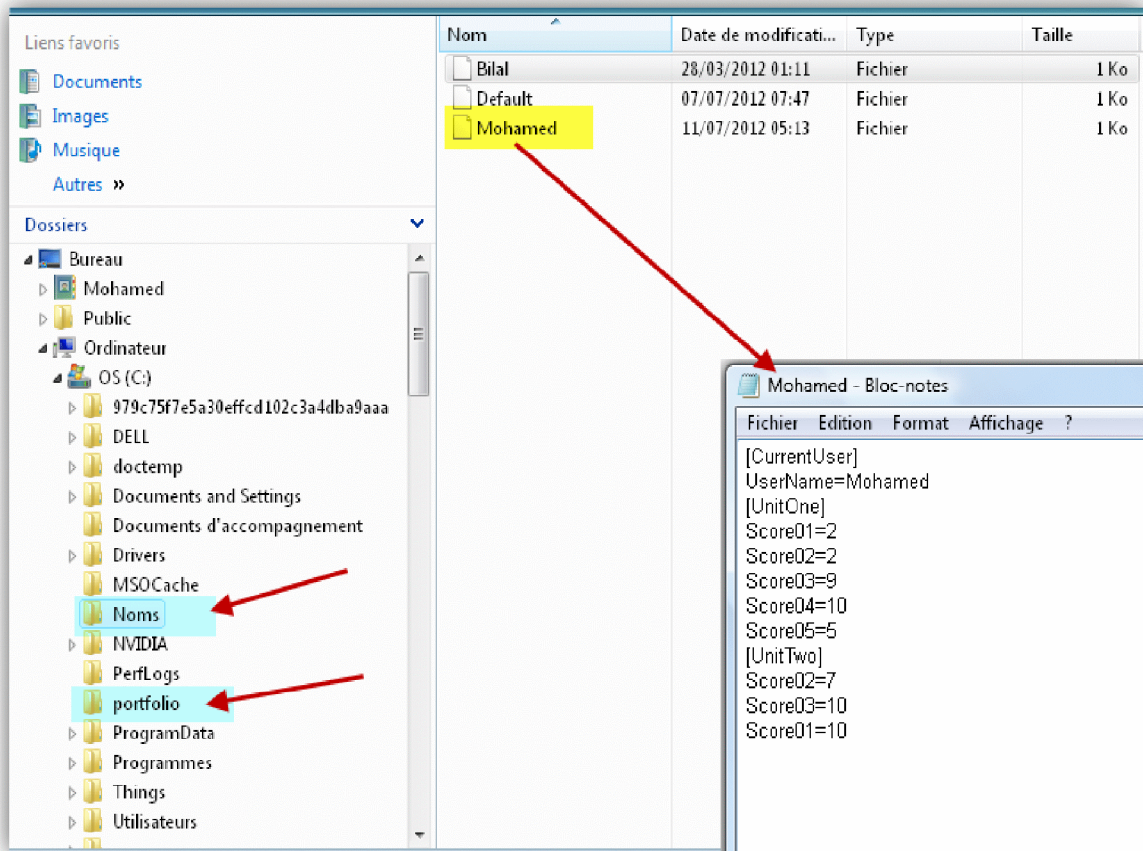


Figure (31) two folders copied automatically on the partition (C: \) by the application, and in the right corner the text file.

After student enter his name and click on the enter button, the program transfers directly to the screen of the units menu, in order to choose the unit which the student wants to study, as figure (32).



Figure (32) the main menu program.

After clicking on the name of unit which the student wants to study, the screen moves to the main menu of the unit, which contains number of lessons, which student learn it in the unit, at the end lessons there is an evaluation.

The student is able to read the lessons or listen to a reading of the lesson by clicking on the sound icon in the bottom right corner of the screen. He can also re-hear the lesson several times or advance to the following lessons or go back to the previous lessons as he wishes.

4.3.2.3.3. Design the interface of the program in general form.

The researcher designed a crisp and simple interface to all the screens of the program. The researcher to take into consideration the following things:

- Design the layout for an 800 by 600 pixel screen, the standard on older computers.
- The centre of the screen is the focus of vision, so it should hold the main teaching text.
- Design and label the buttons to show the direction, where established fixed places for five buttons at the bottom, so when the computer mouse is passed over any one of them, a text appears in tooltip, to illustrate the function of this button. In addition, the researcher designed the shape of each button in order to commensurate with its function.

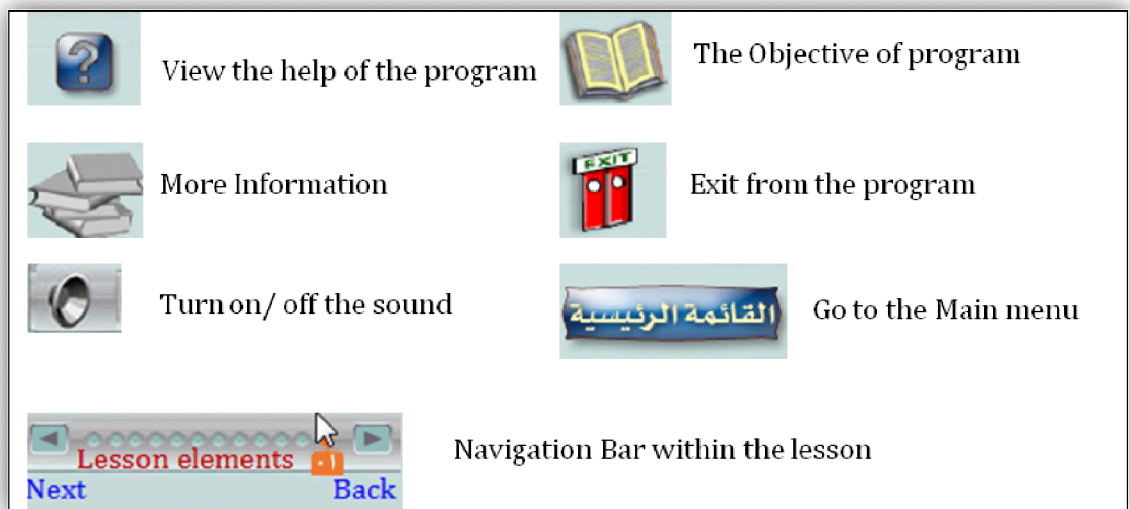


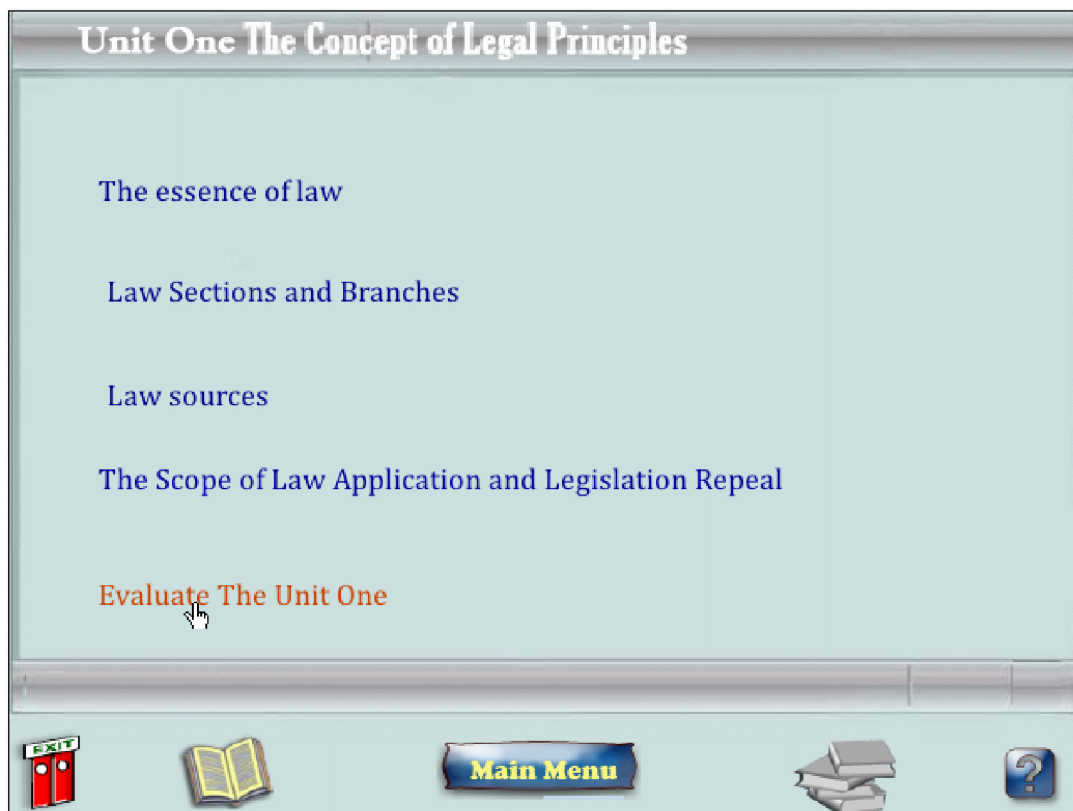
Figure (33) Navigational Options.

- The researcher designed directly above these buttons, a bar containing one button to play the sound in the right of screen, and two other buttons in the left: one to skip forward to the next lesson, and the other to play the previous lesson if needed. Between them a counter is shown in orange to enable the student to know where he is exactly in each lesson so that he can return to

the exact place he left the last time he was studying consequently, the he can study the lesson either by clicking the button of (forward or Previous), or go directly to the part number that he wants to study. The researcher focused on the consistency of these buttons with the interface of the program.


- Use simple language, avoid difficult terms, follow real-world conventions to make things appear logical.
- Provide all elements that help the learner to know where they are in the material (the title and page number) and how far they have to go (the highlighted contents item and “page 2 of 10”); Allow the learner to navigate to the next and previous page, and to any main topic.

The following figures show scenes of unit one, the evaluation and how to give the result:



The Concept of Legal Principles | The Essence of Law

The definition of the word law
The word law is adapted from the Greek language, and the word "canon" or "stick" means the straight line path, in which reflects the integrity of human relations. The word "law" is used as a criteria for measuring the deviation of people from the right path or the path in which the law created is followed.



02

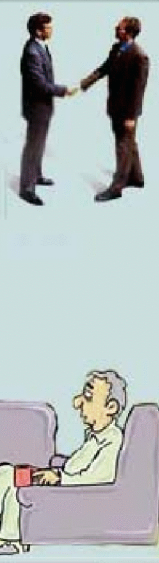
EXIT

Contents of The Unit

?

The Concept of Legal Principles | The Essence of Law

First: the legal rules and the rules of courtesies, customs and traditions:
In every society, there are rules of behavior that people correspond and deal with in their daily lives for courtesies, but the customs and traditions are principles observed by people. Nevertheless; there are rules for courtesies such as ; the exchange of greetings with relatives and friends in happy occasions, giving the participation of grief and condolence in the painful events and disasters, the exchange of greetings through coming together, and other usages established in the mind of the community. These rules differ from the legal rules in the nature of the penalty ,hence; the kind of such penalty in the rules of courtesies, customs and traditions is simply done by the condemn of people, while the penalty in the legal rules is physical done through the force of constraint by the public authority.



10

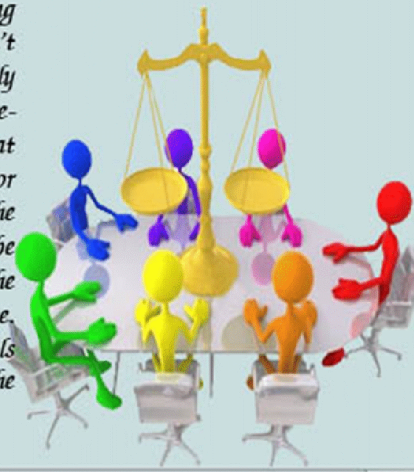
EXIT

Contents of The Unit

?

The Concept of Legal Principles | The Essence of Law

The characteristics of the legal basis:
First: The law rule is a rule of manners.
The law rule depends on organizing the relationships among individuals and their behavior in the society and doesn't establish a real matter that can be revealed, but it absolutely clarifies what the behavior of individuals should be ;more-over, it doesn't embrace what is situated, but assumes what will have to be, hence; it was necessary to set up a behavior rule for individuals to respect, and forces the buyer to pay the sales price also imposes the kind of behavior that must be taken into consideration in his relation face to face with the seller. The buyer may break this commitment to pay the price. The rule of law in directing the behavior of individuals includes the legalization of an act, or order by, or forbid the act.



05

EXIT Aims Contents of The Unit

Part one

First: Complete the following:

The Characteristics of the legal rule are:

1. A general rule and **Abstract**
2. rule



Enter

EXIT محتويات الوحدة



Second: Choose the correct answer from the following choices, taking in to consideration that there is only one correct answer for each question:

A. One of the branches of the internal law is:

- The constitutional law.
- The civil law.
- The commercial law.
- The labor law.





محتويات الوحدة





Third: Put a tick (√) to the correct phrase, and (x) to the false one:

	X	√
1. The law is a group of the compulsory legal rules which regulate the behavior of individuals and their relationships in the society.	<input type="radio"/>	<input type="radio"/>
2. There is no distinction between the legal rules and the morality rules because they're matching in purpose and the kind of penalty.	<input type="radio"/>	<input type="radio"/>
3. The law of the commercial and civil procedures is one of the private law branches.	<input type="radio"/>	<input type="radio"/>
4. The executive bylaws are one of the official sources of law.	<input type="radio"/>	<input type="radio"/>
5. The new legislation is effective on the manners and the previous or subsequent events for the moment of its effectiveness.	<input type="radio"/>	<input type="radio"/>



محتويات الوحدة



Third: Put a tick (√) to the correct phrase, and (x) to the false one:

	X	√
1. The law is a group of the compulsory legal rules which regulate the behavior of individuals and their relationships in the society.	<input type="radio"/>	<input type="radio"/>
2. There is no distinction between the legal rules and the morality rules because they're matching in purpose and the kind of penalty.	<input type="radio"/>	<input type="radio"/>
3. The law of the commercial and civil procedures is one of the private law branches.	<input type="radio"/>	<input type="radio"/>
4. The executive bylaws are one of the official sources of law.	<input type="radio"/>	<input type="radio"/>
5. The new legislation is effective on the manners and the previous or subsequent events for the moment of its effectiveness.	<input type="radio"/>	<input type="radio"/>

Firstly: carrying books inside a library:

You're standing in front of a library that has three shelves, the first shelf is for the external public law and the second is for the internal public law and the third is for the private law. You've a group of legal books that represent the various kinds of law. Put every book in the suitable place:

Private Law

Internal public Law

External public Law

The Commercial Law

The financial Law

The Procedures Law

The Criminal Law

The public International Law

The Maritime law and Air

The Labor Law

The constitution Law

The Civil Law

The administrative Law

Secondly: Deleting the books of the private law:

There is a collection of books that are obtained from different legal branches. Use the keyboard to delete the books that are considered branches of the private law.

The Procedures Law

The Criminal Law

The Labor Law

The Civil Law

The Private international Law

The public international Law

The Maritime law end Air

The administrative Law

The Commercial Law

EXIT

محتويات الوحدة

Student grades/ Mohamed

Part One	Part two
First question: 2	First question: 10
Second question: 2	Second question: 6
Third question: 9	

Score of the student: Mohamed

The Result

EXIT

محتويات الوحدة

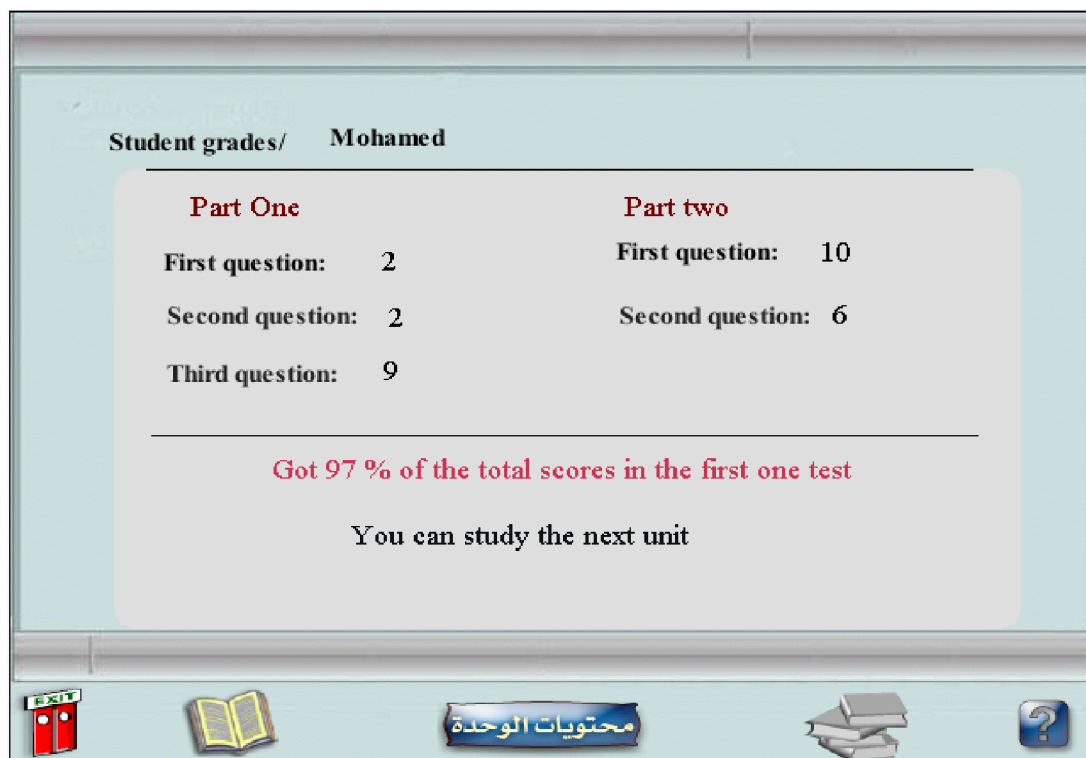


Figure (34) the program interface (scenes from unit one)

4.3.2.3.4. Construction of educational software.

After designing the interface of the program and introduction of the program, the stage of Construction of educational software comes, to make the educational program in the form of applicable, as follows:

- The researcher used the Macromedia Director MX2004 program in the preparation the interface of the program, and linking between the program units and educational elements to each other, also, programming the questions and the subsequent of feedback and demonstrate the student's score immediately through the Lingo Script programming.
- The researcher used Camtasia Studio program Version 3.1 in the scenes recording in the form of video footage to help students in how to use the program.
- The researcher used the Snagit program Version 9 to take Capture of images used in the program.

- The researcher used the Adobe Flash CS3 program, to design the introduction which contains the name of the thesis and the program, its contents, the name of the researcher and the names of the supervisors.
- The researcher used the Photoshop CS5 program to design a background of each unit and the buttons of the program, image processing, choose colours, also in the written the texts that appear in the program as a whole.
- The researcher used the Sound Forge program in the sound recording and voice processing and purification.

The researcher took into consideration several things by blending various elements in the program as follows:

1. Personalization. Students should be able to log into a system under their own name and retrieve their previous scores.
2. The integration of the program elements such as; the compatibility between the voice and the image in all scenes of the program, also between the motion and the audio, which lead to increase the achievement of students in a very short time.
3. The interface of the program and the interaction with the user must be clear and intuitive. Users must be able to identify the controls on the screen and understand immediately the operations related to each of them. It must be possible to move from one scene of the software to another by means of buttons easy to locate and to interpret and the objects on the screen it is possible to interact with must be highlighted.
4. Multimedia is one of the main aspects which differentiate educational tools from books. So the researcher took into consideration the appropriate content by selected carefully the images in high quality, and recorded the sound in the degree of high purity, the appropriate

text also chosen very carefully with an attractive background.

5. Add the interactive into the program by putting activities and exercises are specific to each concept that leads to the increased interactivity.
6. Educational program must be usable on different kinds of computers, independently from their operative system, by using EXE file. As they will be used both at school and at home.
7. The speed of program must be relatively fast and easy during the operating; the slow educational software will lose students, because they have short attention spans and enjoy fast-paced video games and computer programs. Also easy for the student to exit a specific task- or even the entire program- before frustration sets in.

4.3.2.3.5. Put the program on CD.

After completion of the design program and converting it into an executable file (EXE File), the researcher put it on a CD-ROM (CD).

4.3.2.3.6. Some difficulties faced the researcher during designing the program.

1. The first problem faced by the researcher is: the multimedia programs do not support the Arabic language, which is the official language of education in Egypt. To overcome this problem, the researcher converts all the texts in the program units to pictures in JPG extension, by using Photoshop program," Adobe Photoshop CS5"; therefore, when the pictures which involved the text putting in Macromedia Director MX2004 program, they appear in a good form and readable in Arabic.
2. After solving the first problem and using the texts in the form of images, the researcher found the size of the first unit only, became more than 80 mega bytes. This is too large, and will make the program very heavy and slow running. Especially, after adding the second unit and the tests of two units. In addition to this, designing the introduction of the program and activities will also make the program slower. In the same context the researcher faced

problems in the size of sound files (in WAV extension) which explain the lessons in the program units. To overcome this problem, the researcher converted all the pictures in the program units to SWF files using Adobe Flash CS3 program. Also converted were the audio files to MPEG files by Director Program. Thus the program size was greatly reduced in comparison with the previous program, and therefore works more efficiently

4.3.2.4. The evaluation of the program (Submitting the program after designing it, to some of experts for Reviewing).

After designing the software, the researcher showed the program to the group of experts and some specialists in IT software to make sure that it valid for applied. And examined it to ensure that there are no errors during moving among scenes, moreover; as well as the links between scenes, to enable effective use of the program.

The researcher took into consideration the comments and observations of the experts about changing some images that are ambiguous to students. Also the advice about moving the total score of a question beside the score which student obtained in the formative tests.

The reviewers expressed their admiration for the program and its integration of colors harmony, appropriate contents, compatibility between the voice and the image in all scenes and the faded technical errors.

4.4. Evaluation Instruments:

The evaluation instrument used in this study was pre/post achievement tests and legal attitudes test. The tests were prepared by the researcher to evaluate the impact of a proposed legal culture program in the secondary school to developing legal concepts for students at the first and second phase of the secondary schools.

4.4.1. The legal attitudes test and Achievement tests.

4.4.1.1. The legal attitudes test.

The researcher prepared legal attitudes test, for measuring the students' knowledge of the legal culture that is Included in the units of the program that will be experiment it on students. The test includes existing concepts in the two units: The Concept of Legal principles and the principles of the Egyptian Constitution; consequently, the researcher has prepared the test questions to cover these two axes in a balanced manner.

4.4.1.2. Achievement tests for each unit of the program.

The researcher has prepared an achievement test for each unit of the legal culture program, to measure the cognitive level which is related to the behavioral objectives for each unit.

4.4.1.3. The test limits.

The researcher selected only two units from the four possible units in the program, and used them as an experiment on the students. Unit one is about "The Concept of Legal Principles", and the second unit includes "The principles of the Egyptian Constitution". The researcher selected these units because they are relating directly with personal rights and duties and legal concept, more than the other two units which deal with human rights and environmental law. Also, the units selected include many difficult concepts, and which are more numerous than the others. Therefore, if the student successfully passes these units, then it should be easier for him to pass the others. The limits of the test have been confined to measuring the students' knowledge of the legal culture which are Included in the units of study program for students at the first and second phase of the secondary schools.

4.4.1.4. Writing the test items.

The researcher has formulated the tests items which contained 40 questions in the legal attitudes test by using three types of questions: the first included fifteen questions of the of Multiple-Choice (MCQ) with four possible answers for each item, and the second, included fifteen questions of True or False, and the last type, included ten Text match question (Complete).

With regard to the test items of achievement tests in the program units, it consists of sixty questions (thirty questions for each unit). Also using three types of questions as above.

The researcher took into consideration some matters through the writing test, that the questions must be related to the objectives of the two units which are prepared by the researcher. The writing of questions should be specific, accurate and clear, they must include all topics in the two units, and in a balanced manner, the answers must be clear correct and specific for each question.

Esiobu (1995), as cited in Tiang and Subramaniam (2004)⁽¹⁾ suggested that, test items which measure students' understanding of science concepts, should test cognitive levels beyond comprehension level of Bloom's taxonomy. For this reason, the conceptual understanding test, which was prepared according to basic criteria, was checked to be sure that the selected questions were appropriate to students' level.

4.4.1.5. Establishing the test instructions.

The instructions of the test have been worded simply and clearly and far from ambiguity, so that the student can understand what the question requires directly. The instructions have been read with the students before starting the test so that the researcher ensured that all students understood the instructions entirely. A number of instructions have been established and these instructions included the following:

1 N. Hwee Tiang and R. Subramaniam (2004), Teaching Electromagnetic Induction through the use of demonstrations, Retrieved from: <http://conference.nie.edu.sg/paper/Converted%20Pdf/ab00705.pdf>,

- Reading the question carefully before answering it.
- Answering all questions in the test.
- Choose only one answer for each question in the case of the multiple-choice questions.
- Don't waste a long time to a specific question ignoring the rest of questions.

4.4.1.6. Preparing a model to correct the test.

The researcher prepared a model answer to the items of both the legal attitudes test and achievement tests; hence, it was given one mark to the correct answer and zero for each wrong answer, and zero in the case of choosing two answers for one question.

4.4.1.7. Determining the test time.

The researcher identified the time of the test to be forty-five minutes for the legal attitudes test and Thirty-five minutes for each achievement test. Which are distributed as follows: five minutes to read the instructions and test questions, and one minute for each question in the tests.

4.4.1.8. Validity and reliability of measures.

- **Construct the validity of the tests.**

Trustees' validity of the legal attitudes test and achievement tests was established through submitting to a group of experts for reviewing, it is the same group that participated in viewing the program's outline, in order to ensure that:

- Correlation the questions of the legal attitudes test and achievement tests, with the behavioral objectives for the units of the program.
- The clarity and accuracy of writing the questions and instructions in the test.
- The matching of the test to the purpose of which was prepared for it.
- The appropriateness of the legal attitudes test to the content of the program.

According to the recommendations of the reviewers, some amendments regarding meaning, accuracy, and language clarity, re-writing of one of multiple-choice question, in addition to Modifying the linguistic formulation one of text match question (completions) was needed.

The reviewers agreed entirely, that the legal attitudes test and achievement tests are valid to the purpose for which it was prepared, after the amendments referred to. The researcher amended the initial form of the tests through these observations; consequently, the tests became ready for implementation after studying all units of the program.

- **Construct Reliability of tests.**

Reliability in quantitative research is essentially a synonym for dependability, consistency and reliability over time, over instruments and over groups of respondents. And refers to the ability of a measure to produce consistent results. Unreliability of measures exists if all or the least number of items are unreliable Cohen, et al. (2011) ⁽¹⁾.

Concerning the legal attitudes test, Cronbach's alpha was adopted to examine the reliability of the test considering that 0.7 was identified by Cohen et al. (2011)⁽²⁾, to be the minimum acceptable reliability value.

Test	No. of cases	No. of items	Alpha
The legal attitudes test	90	40	0.753
Achievement Test- unit 1	90	30	0.734
Achievement Test- unit 2	90	30	0.781

Table (7) Reliability coefficient for the legal attitudes test and achievement tests.

1. Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education*, Taylor & Francis Group, (7th Ed.)

2. Cohen, L., Manion, L., & Morrison, K. (2011). *ibid.*

Table (7) shows that, the Cronbach's alpha of the legal attitudes test (0.75), and for the achievement tests it was (0.73) for the unit one and (0.78) for the unit two, were reliable, which means that the tests were reliable, and its validity to the field application on the study sample.

4.4.2. Conclusion.

The purpose of previous section was to examine the validity and reliability of the both study instruments (tests). The two most important aspects of accuracy are reliability and validity. Reliability refers to the reproduction of a measurement; poor reliability reduces the precision of a measurement and reduces ability to follow changes in measurements in experimental studies. On the other hand, validity refers to the degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure.

4.5. Application the experiment of research.

The research was designed to examine whether the proposed legal culture program can acquire students in the first and second phase of the secondary schools education, the principles and the legal terminology, understanding how the Egyptian legal system works, also knowledge about constitution, its sources, its emergence and ways of modifying it. This being done by studying proposed program in the legal culture. The experiment of this research included four parts: sampling, treatment and procedures, data processing, and analysis.

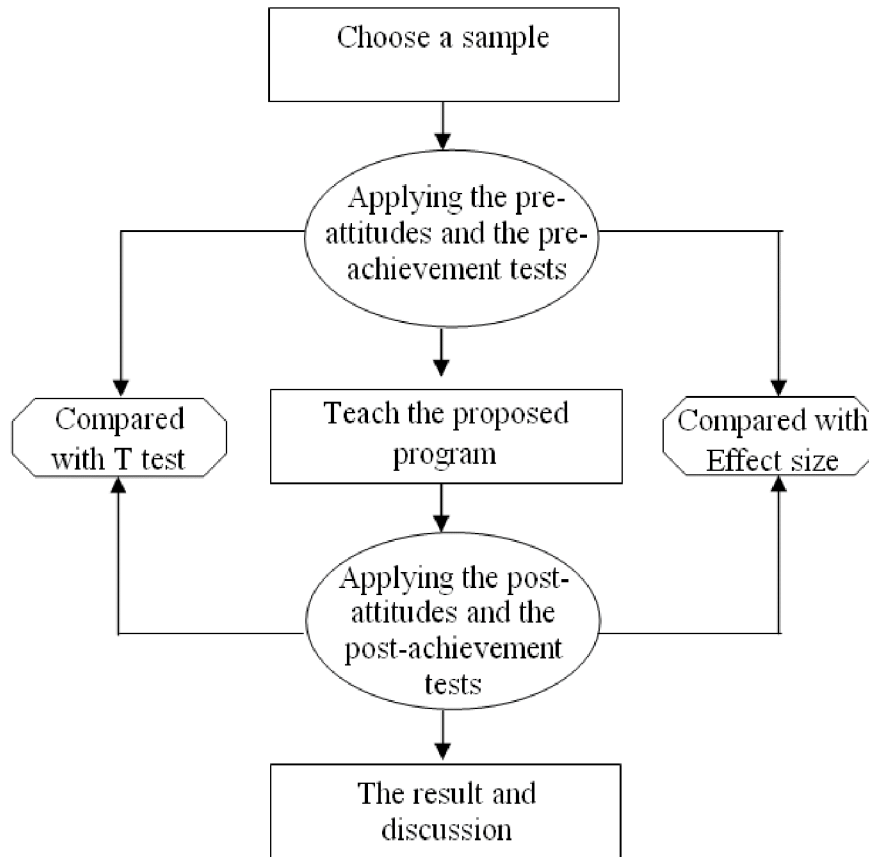


Figure (35) explains the experiment of research

4.5.1. Sampling.

The researcher selected a sample of the study of a hundred students from the first and second phase of the secondary schools, namely: Al Mousheer secondary school and secondary School for Girls in Assiut governorate, Egypt. Fifty students were chosen from each school. The final list of respondents sample was ninety students. The study was conducted on one sample because there is no curriculum of the legal culture taught to the same phase

4.5.2. Applying the pre-legal attitudes and pre-achievement tests.

Pre-tests were implemented to assess students in legal attitudes test and the achievement test which have been applied to each unit of the program through the proposed program on the research sample, before studying the program units directly.

Test	N	Mean	Std. Deviation	df	Sig Level
Unit 1_pre	90	5.72	2.68	89	0.01
Unit 2_pre	90	3.46	2.04	89	0.01
Legal attitudes _ pre	90	10.87	3.45	89	0.01

Table (8) pre- achievement tests and pre- legal attitudes test

The results presented in table (8) indicated that there was the low level of students with prior knowledge of legal culture in achievement and legal attitudes test, because they don't study these knowledge before, in addition lack of integration technology into curriculum.

4.5.3. Experimental treatment and procedures.

During the trial, approximately six weeks, students' scores in each unit were recorded using a program log-in by entering the name of student, The assessment results were recorded automatically when the student enter his name, the program created text files with the same name of the student under the folder named "noms" in the part "C:\\" of hard disk. The Application automatically creates a text file for each student using this program by enters his name, if the student did not enter his name, the program creates a file named "default". Hence the application of the program has proceeded according to the following steps:

- The researcher met the research sample (the students), with their teachers in social studies; before the start of implementing the program, to provide the opportunity to get to know the students and create an environment of mutual trust.
- The researcher explained how to use the program, and the possibility of movement between its parts easily, and then he explains to them the importance of implementing the various activities, asking them to save these activities in folder with their names on the desktop.

- The researcher stressed to the students the necessity to register their names before Start a study program, to ensure that there is a file name of each student Contains his score after he studies the application and answer the achievement and attitude tests.
- The researcher presented the program units, its components to students in general, in order to pave the way for the self-study.
- The researcher has explained the system of operation the program and how studying each unit, from beginning to the end with concentration on the importance of each unit: its goals and how to utilization the support of the additional resources which have been put by the researcher to develop and enrich the legal information for students about the unit under consideration.
- Each student received a CD that contains the executable file of the program in order to use it at school or at home as the program learning is based on self-learning.
- The researcher stressed to students that each of them that they should study the units in the program according to his circumstances and abilities, and his study of that unit depends only on his own ability; consequently, it is not necessary for students to finish studying the program modules at one time.
- Every student should not move to the next unit of program until he finishes studying the former one and finishes the prepared test at the end of each unit. Then he will know his results of the test, and if successful, can move on to study the next unit.
- The researcher has followed up the student performance to make sure there are no problems facing them, thus the researcher has noted a strong response of the students,(the research sample), as well as the high spirit of competition among them to obtain high score in evaluating at the end of each unit.

4.5.4. Applying the post-legal attitudes test and post-achievement tests.

At the end of studying the program units that had been prepared by the researcher, the legal attitudes test and post-achievement tests were applied to the research sample. The degrees of students, (the research sample), have been monitored in the achievement test of each unit and also in the legal attitudes test

4.5.5. Data collection of research

Table 6 is a summary of data collection techniques in the current study.

A summary of data collection techniques used in the study	
1. Questionnaires:	<ul style="list-style-type: none"> • Define checklists of the legal rules required for developing Legal education for students. • Aim at evaluating the design process of legal culture program.
2. Pre/Post Tests:	<ul style="list-style-type: none"> • Legal attitudes Test. • Conceptual Understanding Tests (achievement test).

Table (9) Summary of data collection techniques

4.5.6. Data processing:

The t-test is a test of significance and we seek evidence for a statistically significant difference between populations based on the sample information we have ⁽¹⁾. SPSS version 17.0, a software package specially designed for processing statistics in social science disciplines, was used to conduct the statistical analysis. The researcher used t-test to analyze data. In this regard, Hinton, et al., (2004)⁽²⁾ Mentioned that: t-test is one of the most popular tests for comparing the scores of one group of participants over two conditions; the required data has to be interval or ratio from continuous distributions and normally distributed population.

1 Hinton, P. (2004). *Statistics Explained*, 2nd edition, Routledge, Taylor and Francis Group, London and New Yourk, p.69.

2 Hinton, P., Brownlow, C., McMurray, I., & Cozens, B., (2004). *SPSS Explained*, Routledge, Taylor and Francis Group, London and New Yourk, pp.106-115.

4.5.7. Data Analysis of the questionnaires.

In this study, the researcher designed two questionnaires which were designed for different situations:

1. A questionnaire to specify a checklist of the legal rules required for legal culture education for students.
2. A questionnaire for evaluating the program.

The guidelines and the procedures mentioned by Gary Anderson with Nancy Arsenault (1998)⁽¹⁾ for the design and administration of questionnaires were taken into consideration. The validity of these questionnaires was considered by testing them through some educational specialists, in the field of education technology, Curricula and Methods of Teaching, and law. Trialling the questionnaires aimed at recognizing the extent to which the statements were precisely formulated to actually measure what intended to be measured by these questionnaires. Some suggestions were made such as: adding/ deleting/ reformulating some statements.

The second questionnaire was prepared for the evaluation of instruments to evaluate the software through from the pedagogical value and design aspects (Appendix 3). Twenty experts responded to the questionnaire. The most common remarks were related to removing some pictures and making certain activities more interactive, correcting some language errors, maximizing some fonts, highlighting some hypertext and raising the sound in one scene. The researcher has done modifications in light of these recommendations.

The reliability of this questionnaire was estimated. In the present study, the reliability coefficient Alpha that is considered one of the most commonly used reliability coefficients and based on the internal consistency of a test, was used. Coefficient Alpha based on the average correlation of items within a test, if items are standardized to a standard deviation of one; or on the average covariance among items on a scale, it means that the items are not standardized. It is assumed that the items on a scale are positively correlated with each other. The questionnaire

1 Anderson, G. (1998). *Fundamentals of educational research*. Routledge Falmer, Taylor & Francis Inc., pp.170-

consisted of 18 items and followed the 5-points scale was administered to 23 individuals to calculate reliability coefficient.

No. of cases	No. of items	Alpha
23	18	0.8895

Table (10) Reliability coefficients for technical and educational standards questionnaire

4.5.8. Conclusion

After reviewing the literature, the researcher focused on the study problem variables, which helped to identify the relationships clearly. The main type of research design in this study was the experiment design, which structured major parts of the research procedures: samples, measures, and treatments. Concerning the research sample, it was not possible to study the entire population of "students in first and second phase of the secondary school education " The researcher had to take into consideration terms of cost, time, and availability of computers at schools or at homes. For these reasons, a limited sample was chosen randomly to represent the whole population in this study. Legal attitudes test and achievement tests were used to collect data, taking into consideration the nature of the investigation, students, objectives, scope of the proposed program education, and time. SPSS software was used for data entry and analysis, in addition to Excel for extracting the required graphs.

Chapter Five: Results

5.1. Overview.

This chapter presents the results from the findings of this study by the research question and tested hypotheses, where examines research hypotheses and provides findings of the research based on statistical analysis (t-test) and interpretation of data concerning conceptual understanding.

5.2. Summary of Findings from Literature.

The literature reviews in Chapters 2 and 3 form an important part of the research, because they provide secondary data. In general, the literature indicates a positive impact of technology and e-learning in schools, despite various obstacles related to teaching or to institutional issues. The main focus was on the concepts that emerged as findings, some of which were used as a basis to establish criteria for data collection and analysis in the Study.

Some of the most relevant findings from the review are summarised below. From the literature it was established that:

1. Digital Media course where students will create and learn using elements of text, graphics, animation, sound, video, and digital imaging to create digital computer applications to be delivered on CD-ROM, Internet or other media. It can be a very rich learning experience that can even surpass the level of training you might experience in a crowded classroom. It's self-paced, hands-on learning. E-learning does not require use of the internet. It can occur through many stand-alone applications and local networks. It can take place at anytime, anywhere—in educational settings, the workplace, and in home environments. So digital media play an important role in the educational process (De Villiers, 2005; Jamil A. Itmazi, 2012; Thomas De Praetere, 2009).
2. ICT can contribute to enhancing quality of teaching and learning (Lujara et al. 2007; Howie and Blignaut, 2009; Lee et al. 2009).

3. Teachers are faced by challenges in the implementation of technology-based pedagogy (Cher P., Lim and Myint S., Khine, 2006; ZemDirckinck-Holmfeld L., et al., 2010).
4. A variety of forms and methodologies of e-learning can be used to guide and support students in subject-related learning experiences (Alessi and Trollip, 2001; De Villiers, 2005a).
5. Some forms of e-learning are highly relevant in the classroom. In particular, drill-and-practice, and Tutorials are interactive software systems that provide wide opportunities to provide many possibilities to motivate students through multimedia capabilities, also provides many opportunities for reinforcement, correction of mistakes (Alessi and Trollip, 2001). The use of hypermedia-based learning systems in education has brought about a substantial contribution to the enhancement of teaching and learning by hyperlinking a wealth of valuable information and resources (Handal, B., & Herrington, A., 2003). Electronic tutorials also play a useful role in providing teaching segments and opportunities for practice (Alessi and Trollip, 2001).
6. Lack of infrastructural support, such as: hardware and appropriate software; insufficient technical training; and lack of suitably qualified technical personnel, is named as a serious handicap in some studies (Almohaissin, 2006; Bingimlas, 2009; Howie and Blignaut, 2009).
7. Teachers are critical in facilitating learning and in making it more efficient and effective; they hold the key to the success of any educational reform, so human mediation still a main factor in the acquisition of knowledge. Teachers play an important role in diffusing and utilizing ICTs in classrooms. Teachers' attitudes and beliefs affect the way technological innovation is applied in education.(E., Malcolm & F., Godwyll, 2009; Ebenezer Malcolm and Francis Godwyll, 2009; Asma Tanveer, 2010)

8. Teachers must be encouraged to overcome their fear of change (Bitner and Bitner, 2002).
9. Resistance to ICT adoption is due to the contexts and uncondusive environments in which ICT is implemented and not only to teachers' fear of change (Bingimlas, 2009).
10. The rapid introduction of new technology, such as the Internet, in education without adequate preparation of teachers and students for the changed environment, has hampered the integration of e-learning in classrooms (Alessi and Trollip, 2001; Tondeur et al., 2008; Erixon, 2010).
11. The three main learning theories (behaviourism, cognitivism, constructivism) are relevant to many aspects of today's changing society and technologies, and each is suitable as a foundation for particular e-learning technologies (Hung and Nichani, 2001; Alessi and Trollip, 200; de Villiers, 2005a).
12. Civic education is an important means of teaching the populace about individual rights and what duties and responsibilities the governed and leaders should do. Civics increases student interest in the law; helps students become effective citizens; deters juvenile delinquency and youth crime; and encourages peaceful conflict resolution. The lack of civic education is leading to disorientation in schools and the larger society. The consequence is feeling at all strata of the society. The prevalence of trend of corruption, indiscipline, disrespect for the rule of law, indifference to duty are some of the manifestations of negative trends in the society. But teach students civics, serve as early warning signs of violence, because education aiming at preventing future delinquency (Marvin Berkowitz, 2009; Alfia Fattahova, 2011; Sung-Hyeok, Park, 2008).

13. The experience of civic education in developed countries and to adopt and study critically the measures they have taken. It is the only way to develop the theory and practical system, guiding the integration of national education and civic education. Undoubtedly, the blend of education on national and western civilisations in our country will greatly strengthen the nation's power. It can also enhance political vitality and cultural productivity and make new contribution to the development of civilised societies (WANG Dong-xiao, 2005).

5.3. Findings by Research Question.

5.3.1. What is the importance of the digital mediation in education as an instructional technology tool? And what the new role of the Human mediation?

5.3.1.1. Digital mediation as an instructional technology tool.

H1: Digital mediation plays an important role in the educational process as an instructional technology tool.

This question was answered by reviewing the literature presented by the researcher in the second chapter, which reported the importance of digital mediations as an important tool in education. Also through feedback of students and teachers who are used the program (application).

- A. Literature showed that, digital media such as the personal computer and its terminal (scanners, digital cameras, modems, CD and DVD players and recorders, overhead projector...etc.), the internet, games consoles and mobile devices; others can be made digital, such as print media, radio and television. All of the above can help learners become more attentive to their learning of instructional content. In general, meditation involves conscious attempt to train one's attention. Large portion of empirical meditation studies support that meditation practice enhances education. Thus, digital media play an important role in the educational process. They can be easily create, copy, and transmit digital media, also streamed, downloaded, or stored on media

such as CD or DVD. The capabilities of digital media, coupled with reduced computing costs, higher bandwidth, easier-to-use technology, and greater awareness of digital media have increased their use in education. (Cheon, S., (2009), Sara Danelon (2009), Caputo (2006)).

Many researchers observed (Niles (2006), Douglas N. Arnold, (2006), Stephen M. Alessi, and Stanley R. Trollip,(2001), De Villiers, M.R. (2005)). Students prefer to be using the computer as a tutor, directing drill and practice, and or delivering information, this enabling them to improve higher-level critical thinking skills, and creativity, to name only a few, provides needs each student at the same time, so if student needs additional practice and another student has mastered the concept but needs reinforcement with progress in the lesson, drill and practice, software programs can provide both students with as much reinforcement as necessary at the same time. And help students to practice and gain speed, confidence and retention.

The vast majority of studies saw technology must be integrated into curriculum and classroom, that there was others see some obstacles in this regard. Studies revealed, applying technology in the classroom does several things to student learning: It increases interest even in rote tasks; it provides purpose for learning; it can attach meaning to an ongoing lesson; it provides opportunities to perceive knowledge as being related, not isolated bits; it allows for individual student differences; and it can affect students' attitudes toward learning; where high motivation among students to use computers, also support for innovative instructional approaches, such as collaborative learning and problem-based learning; In addition increased teacher productivity, Knowledge construction by students (Bottino, R.M. (2004), Lee et al. (2009), Roblyer, Edwards and Havriluk (2010), Mikre (2011)).

Studies confirmed that learner autonomy or self-learning has been generally defined as a developing capacity on the part of learners to accept

- responsibility for their learning. As students can access material wherever, whenever and as often as they wish, technology can help students become autonomous learners. Technology can also enable students to access learning materials outside of school hours at a time that suits them, through educational CD-ROMs. These resources often have advantages over the Internet when access issues (either line availability, cost or quality of Internet access) reduce the time available for Internet use. On the other hand, may be the service to access to the internet not available originally. Therefore choose to learn through educational CD-ROMs. (Țurloiu, A., and Stefánsdóttir, I., (2011), Dam, L. (2003), Becta (2008a)). The use of multimedia courseware in education that it becomes more effective and interesting. It integrates multisensory interactive application or presentation to convey a message or information to the audience. Research has reported that students can retain more information if they see and hear simultaneously, thus supporting the use of multimedia as an effective aid in education. Recently, a number of researchers discussed the benefits of presenting information using multimedia components such as visual text, spoken text, graphics, and videos on language learning. (Rozaimie, A., et al., (2011), Bransford, J., A. L. Brown, et al. (2002), Fourgous, J., (2012))
- B. In addition to the above, the importance of digital mediations as an important tool in education, manifested through feedback of students and teachers who are used the program (application).

The majority of students consider that it is visualized and lively that multimedia courseware in the civics and Legal culture. There are a lot of advantages, for instance, a large number of information, good layout, sequence the lessons and key points in the units, easy to follow lessons in sequence, navigation and exit of the program and letting students review and preview the lessons before answering the tests, get to know more about the subject by expand the knowledge, impressing students through application design, attracting students' attention, good learning effect; helping to

improve students skills ability, better for students to practice in time and train the students' autonomic learning ability;

Students were happier because this is the first time they get on CD-ROM contains legal information and they have the liberty to study without obligation to a specific time or place, they can study at school or at home

Students reported that the way of the content preparation in the application were wonderful, where the text synchronize with sound, if we want turn on the sound. And the text was good clear. In addition capability to navigation from anywhere of application to others and exit was easily

Students expressed admiration for the exam way after units, in terms of its diversity and how to answer easily, the students impressed also for knowing the result immediately after the completion of the answer automatically.

The sayings some students in the application as a follow:

- "The application helps us to improve our study skills and help us to understand the material".
- "Helps me to know the material very well before the tests".
- "I hope that is all curriculum to be programming such as this application in the subjects presentation and the method of exams"
- "I think it helps to review the lessons easily more than one time before test."
- "The application gives us very knowledgeable."
- "It helps you get a full understanding of key concepts."
- "It's fun and interesting, and doesn't make studying a chore
- "It gives you good ideas of what is going in reality, such as learn legal principles laws creation, principles of constitutional and everything about Egyptian constitution. But the most important thing for me knowing my rights and duties.
- Dealing with the application is very easy, so i use the CD more than one time in the day at school and also at home. I hope that all curriculums are converted to Applications Such as this application.

- It is very important existence CD-ROM of the application with me, it is similar to a teacher, i can sit with him at any time and in any place.
- I liked the idea of the passport very much as educational activities in the application, it was wonderful to have a passport containing my rights. The activities facilitate learning and approximate the idea to our mind.

On the other hand, the teacher, who has taught application for students said:

This application reinforces students' independence in study and offer the platform of autonomic learning for them, due to there are no qualified civic education teachers on ground. It is very important to put a curriculum on the CD, doing explain of the lessons, evaluate and give the result at the same time.

He also noted the love the learners seem to have for technology as a medium of instruction, and students are eager willingly to learn this curriculum, that manifested through their discussions with each other, and with me. I saw them frequently in the computer lab at school at break times to Learn civics throw this application. The usage of multimedia Courseware brings Many Advantages to Teaching, the majority of students consider that the usage of multimedia teaching has a good effect. Meanwhile, Saves time for the teacher instead of using the blackboard and chalk.

The teacher argued that one of the advantages of a tutorial is its potential to teach students who do not have a qualified teacher in a particular topic, a problem that occurs in many isolated small schools or when the small number of students in a particular class does not justify the hiring of a specialist teacher.

Based on the above, the previous studies results, and feedback from students and their teacher are proving the validity of the first hypothesis.

5.3.1.2. The new role of the Human mediation.

H2: Human mediation plays an important role as a facilitator, guide and mentor in the educational process.

Studies confirmed that human mediation still a main factor in the acquisition of knowledge. While the role of trainer's develops and mediations take more diverse

forms. And teacher who is at the first Level of the integration process of teaching ICT in the classroom, the teacher will become a facilitator, guide, co-learner, while the student will be an explorer, producer, and teacher or mentor to other students. Teachers play an important role in diffusing and utilizing ICTs in classrooms. Teachers' attitudes and beliefs affect the way technological innovation is applied in education. They tend to use technology in ways shaped by their own personal perspectives on the curriculum and on their pedagogical practices. Also, teachers who have positive attitudes toward technology feel more comfortable using it and usually incorporate it into their teaching. (A., Tanveer, 2010; Maria del, 2006; E., Malcolm & F., Godwyll, 2009; Chang, C. L., et al., 2005).

There is a common agreement in literature that teachers must possess basic ICT skills. Teachers' professional development has been identified as a key factor in the successful integration of ICT in schools. Researchers argue that teachers' fear of technology use will be reduced and their competence and confidence in integrating technology into classroom will be increased only when teachers are provided more technology integration training. So much greater emphasis should be placed on the development and evaluation of the teachers through implementation of long-term teacher training programs. (Carolyn Dowling, 2003; Penni Tearle, 2004; Asma Tanveer, 2010).

Based on the above, the previous studies results are proving the validity of the second hypothesis.

5.3.2. The legal principles that should be included in the Civics syllabi of the first and second phase of the secondary schools.

The researcher answered this question in section 4.3.1. from this study, where the researcher prepare a list of legal concepts, in order to identify some concepts of the legal culture (which relate to the legal principles, the Egyptian Constitution) that should be known by students at the first and second phase of secondary school education. Checklist can be found in its final form in Appendix 1.

5.3.3. The impact of a proposed program (Application) in the Civics as accompanying activities of social studies of the first and second phase of the Egyptian secondary schools.

The researcher answered this question in section 4.3.1 and 4.4 of chapter four. The researcher designed an application in civics based on the scientific content, and through the educational objectives of this application, in addition, including some activities and practices from the local environment. And prepared the evaluation of curriculum by designing an electronic formative test at the end of each unit, and the legal attitudes test to measure the knowledge of students about the legal culture that is included in the two units of application. The content of proposed program can be found in Appendix 2.

5.3.4. The effectiveness of a proposed legal culture program (Application) in the first and second phase of the secondary education.

The researcher answered of this question through the following hypotheses:

H3: There is a significant difference, between the mean score of students in the pre/ post- in the achievement test, for unit one, in favour of the post-test.

Achievement Test- unit 1	N	Mean	Std. Deviation	T	P	Sig Level
Unit 1_pre	90	5.72	2.68	62.578	0.000	0.01
Unit 1_post		26.74	1.89			

Table (11) Results of pre-/post-test for the sample in unit one achievement

The results presented in table (10), show that there is a significant difference between the main score of students in the post-test and pre-test in favor of post-test in the achievement test for unit one, regarding the implementation of conceptual understanding test as post-test. As the $p < 0.01$, and T value equal (62.578). The results also show that the mean scores post-test were significantly higher (26.74)

than mean scores of pre-test (5.72), this indicates that the level of students were high achievement, after their study of the first unit of the program. Based on the above, the previous results are proving the validity of the third hypothesis.

H4: There is a significant difference, between the mean score of students in the pre/ post- in the achievement test, unit two, in favour of the post-test.

Achievement Test- unit 2	N	Mean	Std. Deviation	T	P	Sig Level
Unit 2_pre	90	3.46	2.04	69.832	0.000	0.01
Unit 2_post		24.94	2.22			

Table (12) Results of pre-/post-test for the sample in unit two achievements

The results presented in table (11), show that there is a significant difference between the main score of students in the post-test and pre-test in favor of post-test in the achievement test for unit two, regarding the implementation of conceptual understanding test as post-test. As the $p < 0.01$, and T value equal (69.832). The results also show that the mean scores post-test were significantly higher (24.94) than mean scores of pre-test (3.46), this indicates that the level of students were high achievement, after their study unit two of the program. Based on the above, the previous results are proving the validity of the fourth hypothesis.

H5: There is a significant difference, between the mean score of students in the pre/ post- in the achievement test of attitudes, in favour of the post implementation (when the implemented at the end of the program).

Legal attitudes Test	N	Mean	Std. Deviation	T	P	Sig Level
Attitudes_pre	90	10.87	3.45	36.808	0.000	0.01
Attitudes_post		31.78	2.80			

Table (13) Results of pre-/post-test for the sample in the legal attitudes test

The results presented in table (12), show that there is a significant difference

between the main score of students in the post-test and pre-test in favor of post-test in the legal attitudes test, regarding the implementation of conceptual understanding test as post-test. As the $p < 0.01$, and T value equal (36.808). The results also show that the mean scores post-test were significantly higher (31.78) than mean scores of pre-test (10.87), this indicates that the level of students were high achievement, after their study of the legal attitudes test. Based on the above, the previous results are proving the validity of the fifth hypothesis.

5.4. Estimation and Interpretation of Effect size (ES)

Effect size (ES) is a name given to a family of indices that measure the magnitude of a treatment effect ⁽¹⁾. The effect size can be defined: is a standardized measure of the difference between the means in terms of standard deviation units ⁽²⁾, the effect size is an estimate of the strength of association between two or more variables ⁽³⁾. Eta squared is the most commonly reported estimate of effect sized for the ANOVA (analysis-of-variance)⁽⁴⁾. In calculating the effect size (Eta squared) for paired samples t-test, the following formula can be used:

$$\eta^2 = \frac{t^2}{t^2 + df}$$

Whereas:

t = the t-value (calculated by SPSS).

df = degrees of freedom (N-1).

1. Lee A. Becker. (2000). Effect Size (ES), Retrieved from: <http://www2.jura.uni-hamburg.de/instkrim/kriminologie/Mitarbeiter/Enzmann/Lehre/StatIIKrim/EffectSizeBecker.pdf>

2. Hinton, P. (2004). Statistics Explained, 2nd edition, Routledge, Taylor and Francis Group, London and New Yourk, p. 101.

3. Philip Osteen and Charlotte Bright (2010). Effect Sizes and Intervention Research, University of Maryland. Retrieved from: http://www.family.umaryland.edu/ryc_research_and_evaluation/publication_product_files/selected_presentations/presentation_files/pdfs/effect%20size%20and%20intervention%20research.pdf.

4. Timothy, R. and Craig, R. (2002). Eta Squared, Partial Eta Squared, and Misreporting of Effect Size in Communication Research, Human Communication Research, Vol. 28 No. 4, October 2002, p 612, Retrieved from: <https://www.msu.edu/~levinet/eta%20squared%20hcr.pdf>

The reference values for the interpretation of Effect Sizes, which Identified by J., Cohen (cited in Vigdis Kampenes, 2007) ⁽¹⁾ is that:

η^2	Effect Sizes		
	small effect	Medium effect	large effect
	0.20	0.50	0.80

Table (14) Cohen guidance for Effect Size.

H6: Effect size between students' scores in pre- test and post-test, in the unit one, unit two and attitudes, of conceptual understanding will be large Effect.

- **Effect size between students' scores in pre- test and post-test, in the unit one of conceptual understanding.**

Achievement Test	N	T	df	η^2	ES
unit one	90	62.578	89	0.97	large effect

Table (15) the effect size of unit one

The results in unit one indicates that: the effect size of unit one refers to a large effect (0.97), thus the percentage of acquirement in knowledge level is large according to Cohen guidance. And that demonstrating the effectiveness of the unit one of the program.

- **Effect size between students' scores in pre- test and post-test, in the unit two of conceptual understanding.**

Achievement Test	N	T	df	η^2	ES
unit Two	90	69.832	89	0.98	large effect

Table (16) the effect size of unit two

The results in unit two indicate that: the effect size of unit two refers to a large effect (0.98), thus the percentage of acquirement in knowledge

5. Vigdis Kampenes, (2007) Quality of Design, Analysis and Reporting of Software Engineering Experiments: A Systematic Review, Faculty of Mathematics and Natural Sciences, University of Oslo. Retrieved from: <http://simula.no/research/se/publications/Simula.SE.178/simula.pdf> file.

level is large according to Cohen guidance. And that demonstrating the effectiveness of the unit two of the program.

- **Effect size between students' scores in pre- test and post-test, in the legal attitudes test of conceptual understanding.**

Test	N	T	df	η^2	ES
Legal attitudes Test	90	36.808	89	0.94	large effect

Table (17) the effect size of the legal attitudes test.

The results here indicate that: the effect size of the legal attitudes test refers to a large effect (0.94), thus the percentage of acquirement in knowledge level is large according to Cohen guidance. And that demonstrating the effectiveness of the legal attitudes test of the program.

Based on the above, the previous results are proving the validity of the sixth hypothesis.

Chapter six: Discussion and Conclusions.

6.1. Overview.

This chapter deals with discussion and interpretation of the results obtained concerning the research questions and tested hypotheses, and the impact and the effectiveness of a proposed legal culture program (Application) in the first and second phase of the secondary education. The researcher reviewed relevant literature in order to show the consistency of the study results and within the body of the research. The chapter also includes conclusions and recommendations to aid much needed research in the future of this subject.

6.2. Discussion of the Results

The researcher taken into consideration when he prepares a civics (or legal culture) application for first and second phase of Egyptian secondary schools, to be programme (application) designed by multimedia resources, This is in agreement with findings from other research (Osama Nabil, 2009; Jason K. McDonald, et al., 2005; and Micki M., 2006), where it is confirmed that programmed instruction is designed to take into account individual differences among students, saving time and resources, and increasing academic performance. It also reinforces the curricular and pedagogical emphasis on rote learning. Also it provides a powerful self-teaching device usable for a variety of subject matters by a variety of persons. To a developing country, short of trained teachers and schools, a self-teaching device is especially attractive. Multimedia resources can be used to develop active learning by allowing the user to be an active learner. The interactive nature of multimedia courseware is considered to be its most important learning feature and enables students to achieve topic goals and to receive meaningful intrinsic feedback. In addition, that Multimedia programs can be used at the time and place the user chooses They allow learning to occur at the time convenient to the user wants and at easily accessible locations such as the office, the library or at home. Multimedia programs allow quality teaching materials produced by specialists in the field to be

available to a wide audience. (Baharuddin, et al., 2006; Chris Williams and Patrick Harkin, 2000).

For this, the students were very enthusiastic about the study of this program which was shown in their discussions together with the teachers about the lessons they have studied, and are able to make a link a between these lessons and the actual reality. During the revolution of 25 January, the police force withdrew and completely disappeared. The current situation in the country was evaluated by students at that time, where the random constitutional decisions issued by the Supreme Council of the Armed Forces (SCAF) the students compared these decisions with what they had learned from the lessons of the second unit which related to constitutional principles and the Egyptian constitution. Also they were asking about some incomprehensible legal situation at that time.

As a digital mediation was widespread and existed in all Egyptian schools and in most homes, the researcher choose personal computers to be used in the teaching program (Application) through CD-ROM given to all students (the sample). The researcher chose this method without other of digital media, because it's easy, cheap and accessible to all, in rural and urban areas, large and small cities, near and remote areas. The researcher did not use the Internet in teaching this course, due to unavailability in all schools in the villages and the desert. But when students use CDs they need only a personal computer; which is available on all Egyptian schools. This is agrees with earlier reports by (Ali Al-Rabai and Abeer Shdifat, 2005; Maryam Honarmand, 2008) which confirmed that computer is becoming a very necessary tool for learning in modern educational trends and the value of using computer in the classroom improves student achievement.

With regard to software design, the researcher tooke into consideration necessary criteria to design educational software, that should have a plain and simple interface, screens well-designed, and enabling students to move easily from one lesson to another, Navigation of the program should be intuitive for students, easy exits, and icons should be intuitive. Graphics are only valuable if they support

the educational intent. Also intelligent interactivity, Drag-and-drop ability especially in achievement tests and other things that require students to do something can enhance interaction and retention of information greatly. Also educational software must be personalization, students should be able to log into a system under their own name and retrieve their previous scores. Software also should perform some type of pre-screening of a student's achievement level, so that subsequent work will be at an appropriate level. All these qualities has been achieved in the application which designed by researcher.

Therefore, students did not complain of any difficulty in dealing with the application, but rather some students expressed a desire that all the curriculums should be programmed in this way as they found it easy to deal with, easy to navigate, and easily presented the legal curriculum.

The researcher take into consideration when he designing the application, educational foundations of design, in terms of the importance of determination educational objectives. Where he identified and wrote the general objectives of the program as a whole, and the behavioral objectives for each unit separately. this is agree will with those reported by (Saeed Al aasar, 2003; Nasser Khawaldeh and Magdi Suleiman, 2006), which confirmed on the clarity of instructions and instructions which illustrate to students how to use the application from the beginning, taking into consideration the logical sequence of the application content and be appropriateness of the level of the student with compatibility with specific objectives. With an emphasis on learn basic concepts before student moving to new concepts. In addition to the flexibility of software with hypertext, student can navigate from lesson to lesson or from one unit to another easily. Also he can exit from anywhere in the application. Therefore they can control the speed and sequence of the curriculum in accordance with his own capabilities and speed.

In regard to the content of the program, much of the literature indicated that the students will commence their studies with familiar things, such as rules and responsibilities in their home, school, and community in order to understand the basis of citizenship. They draw conclusions about why rules and responsibilities are

important in the relationships of their daily lives. The content must be included: The concept of Nationhood Democracy; The process of government; Types of government; Different arms of government, Dealing with conflict; The legal system; Security; Political Parties and the elective process; The role of the Legislature; Child labour ; The Media and Public Opinion; Human Rights; Local Government; Crime and Society; Young People and the Law; Freedom of Speech. Some studies also suggest the key concepts of the civic education which is about: knowledge of the justice system, knowledge of Constitutional principles, processes of government and Knowledge of how the system works, Sources of law, functions of law, legal processes, legal roles, and legal principles and the rights and responsibilities of citizenship in a constitutional democracy. Positive attitudes about the law, and the system of justice, and responsible citizenship may be enhanced through teach law in the curriculum. All of this leads to a reduction in the tendency of delinquent. And improves a range of attitudes related to responsible citizenship. (Jeffers, G., 2007; Haas, N., 2009; Azebanwan, 2010; Fattahova, 2011; McCracken, J. R., 2011; Owen, D., et al., 2011).

Within this context, the researcher found the experience of some developed countries very helpful in civics education. Where some studies, (WANG Dong-xiao, 2005), suggest that; the experience of civic education in developed countries and to adopt and study critically the measures they have taken. It is the only way to develop the theory and practical system, guiding the integration of national education and civic education. Undoubtedly, the blend of education on national and western civilizations in our country will greatly strengthen the nation's power. It can also enhance political vitality and cultural productivity and make new contribution to the development of civilized societies. The researcher chose France and Germany from Europe continent, and the United States and Canada from the American continent, in addition to Australia. These countries have been selected because it have a long tradition in the practice of democracy, they have a strong legal system respected throughout the world of all sects of population, in addition Developed countries realise that civic education and the knowledge of legal

requirements within their culture was an important component of education that cultivates a participation in the public life of a democracy, knowing how to use their rights and discharge their responsibilities. So in these countries, civics education is taught to students at the beginning of their educational life. Consequently, researcher selected program content in this current study in the light of previous studies and the experiences of some developed countries, taking into consideration the Egyptian Environment.

The researcher was interested in the interactivity in this application and by provided an achievement test at the end of each unit, as well as pre/ post legal attitudes test, Using three types of questions; multiple-choice (MCQ), True or False questions, Text match question (Complete). This diversity of questions make students strongly interact with the application especially the section of test related with drag-and-drop by the mouse. in addition, Student when he receives his results immediately he has completed the task, then, then he is keen to know his mistakes and therefore interacts more with the programme this is added more interactive. This agree with study reported by Katie McMillan Culp, et al., (2005) which indicates that formative evaluation is an integral part of the learning process, and Feedback for Educators help the teacher to follow the educational goals, in addition, the formative evaluation helps the students to understand their ability so that they may make students feel their ability on effectively use in technology skills to complete tasks entrusted to them, and so motivate them to further mastery and learning of the curriculum content. Various evaluation methods help to highlight the importance of the emotional aspect that learners have with academic success. This agrees with the reports by (Maryam Honarmand, 2008; A. P. Ponte and A.C.G. Agno, 2011) that Interactive Courseware enhances the traditional way of teacher's instructional strategies to encourage the students interests in learning with the computer in an environment that is creative enough to please them, to learn interactively with the lessons that are presented with facts and able to have a recap on what they have just learned by taking the interactive quizzes. It is also consistent with study made by (Bernard, P., 2008) where the use of the computer with the

Study Works lessons and quizzes helps to create an interactive learning environment in which students are more likely to construct their own understanding.

On the other hand, the teacher saves time and effort in evaluating students. Also, it provides a great advantage for the application of the common tasks that a teacher performs inside the classroom, specifically in reinforcing the lessons through the software. The interactive courseware helps the students in learning effectively. Using the courseware the students are kept abreast with the latest information technology. (A. P. Ponte and A.C.G. Agno, 2011).

The difference in students' performance was detected through students' mean scores in the difference between pre/ posttest in achievement and legal attitudes test. The results of calculating mean scores, standard deviations, and t-values were presented above in tables 7 through 13. The study analyzed students' scores for the conceptual understanding tests to determine to what extent the implementation of legal culture program was able to make a difference in students' achievement. The results indicated that, mean scores of students in the post-test for either conceptual understanding test or legal attitudes test were significantly higher than the mean scores of students in the pre-test, as ($p < 0.01$).

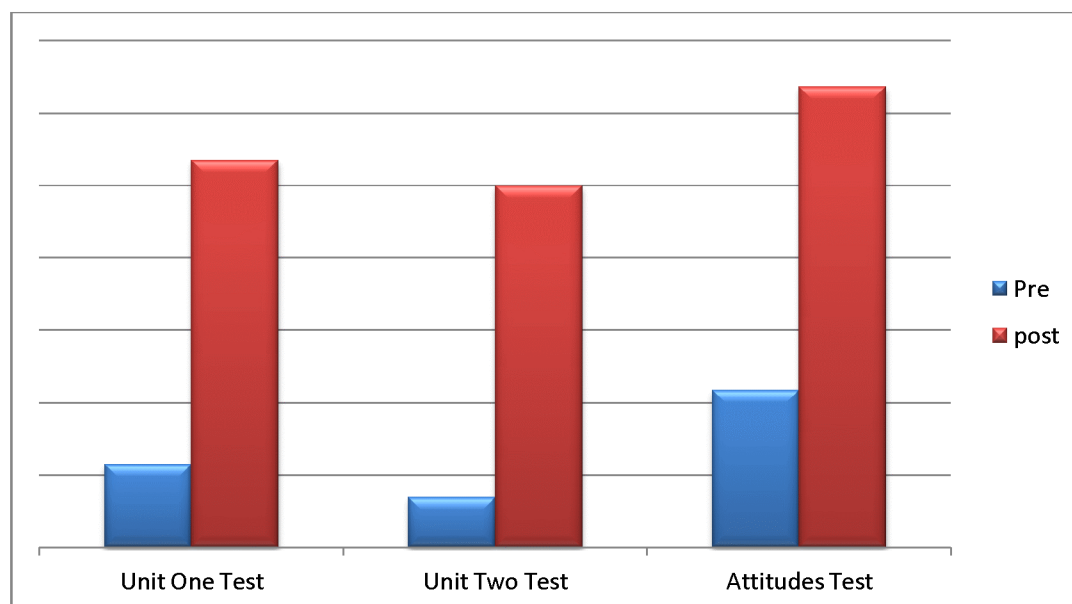


Figure (36) Comparison between score of students in pre/post-Tests.

The results presented in Figure (36), show that there is a significant difference between the main score of students in the post-test and pre-test in favor of post-test in the achievement and legal attitudes test, regarding the implementation of conceptual understanding test as post-test. This is due to; increase the achievement knowledge of that the student has after they study the legal culture curriculum through the application. Also various evaluation methods also help to highlight the importance of the emotional side of students and how they feel about their academic success.

The results of this study show the importance of the application to acquire students the legal culture and civics. It was obviously emerged through the mean scores of students in achievement and legal attitudes tests. For the unit one the score of students in pre test ranged from 1 to 12 (of the total score is 30), while the score in post test ranged from 22 to 30. This indicates a significant increase in student's scores.

For the unit two the score of students in pre test ranged from 0 to 10 (of the total score is 30), while the score in post test ranged from 18 to 29. This also indicates that the student's scores have significantly increased. As for the legal attitudes test, the score of students in pre test ranged from 3 to 19 (of the total score is 40), while the score in post test ranged from 21 to 39. This indicates a significant increase in student's scores.

The researcher believes that the significant increase in the students' scores is due to using the application and the interests shown by the student of legal culture, This software won their admiration because it was very easy to use, it also contains legal information graded from easy to slightly harder, and this explains that students in the pre-test of unit one acquire high scores in comparison with the pre-test of unit two where the content of unit two slightly harder. Nevertheless, students have achieved high scores in the unit two and also in the legal attitudes test.

Availability educational activities and the fact that it was Included in the application contributed to student's interaction and raised their motivation and enthusiasm in dealing with it. This agree with study reported by (B., Payne, 2002),

that education and training activities are increasingly employed by the use of a variety of technologies to support pedagogy and learning. Several of the technologies used are computer-based. Word-processors, spreadsheets, and databases are being utilized as tools in supporting teaching and learning. Graphics and desktop publishing software now allow teachers to develop more instructional materials to their own specifications. Correspondingly, teachers are utilizing testing and measurement software, CD-ROMS, compact disc-interactive (CD-I), DVD, hypertext, hypermedia, and multimedia tools to enhance classroom activities.

The aim of adding activities to the content of the legal culture program is to enrich the educational process; this was confirmed by (Muirhead, B., and Juwah, C., 2004). Activity-Based Learning pedagogy aims to enrich students' academic experience and learning outcomes by connecting theory with practice, and concepts with methods, using data and insight they obtain through engagement with the larger world of Information. Also study by (De Cosson, A., 2009) indicates that teaching through software enables more active learning; extends and enhances the design of learning activities; extends the 'reach' of learning activities to a wider variety of learners; offers choice and flexibility to learners in the ways in which they interact with the environment. Its use should be considered each time a decision is taken as to the appropriate form of learning activity required to meet the needs of learners in reaching the agreed learning outcomes.

The teacher is still a main factor in the acquisition of knowledge, but recent studies suggest that the role of teachers changed from lecturer to mentors and facilitators, these studies advocates a learner-centred approach with teachers serving more as facilitators than as instructors. In the past teachers used to be the major source of knowledge, the leader and educator of their students' school life. But now they can be thought of as facilitators in the learning process, in this way enables learners to augment learning through discussion with other learners as well as with a facilitator, answering questions from learners and helping solve problems. They need to be able to use and handle effectively computer, software, overhead projectors, etc). Instead of teaching chalk face, they need to be an information

technology expert. (Chamberlain, 2004; Chia-Lin Chang, et al., 2005; Ivan Webb, 2007; Asma Tanveer, 2010).

In addition, in order to get high benefit from using software in education, teachers need to develop their own skills. The provision of computers to schools is essential, but these can become redundant if teachers are not properly trained in their basic use. Similarly, if schools are provided with Internet connectivity, yet teachers are not trained in access to e-content, they might not use it optimally to the benefit of learners. Many studies have supported this conclusion (Varank, I., and Tozoglu, D., 2006; Albirini, A., 2006; Samira M. Bakr 2011), they point out that, although teachers have positive attitudes towards technology and want to improve their teaching performance through technology implementations; they are not able to accomplish the successful technology integration. It is very important for educators to learn practical ways of integrating e-learning into their teaching practice in subject teaching. To develop these skills in teachers, it could be argued that teachers' fear of technology use will be reduced and their competence and confidence in integrating technology into classroom will be increased only when teachers are provided with more technology integration training. So much greater emphasis should be placed on the development and evaluation of the teachers through implementation of long-term teacher training programs.

This will agree with study reported by (Bull, Prince Hycy, 2003) the results which show that the technology was integrated in the social studies methods in a constructive way. Also the result show that teachers had a positive attitude toward computer and information technology prior to the beginning of this course, one major finding was that teachers stated that the integration of technology in the methods course made them "comfortable", "confident" and "more fluent" in using technology in teaching.

The results of the present research are in agreement with findings from other research, (Soher Hewala & Fatma Abdel Kader, 2000; Shaaban Ibrahim and Nadia Ibrahim, 2001; Lisa Wintersteiger, 2008; Mustafa Qasim, 2006;) where the results show weakness in the level of knowledge and legal awareness among high

school students in Egypt, especially in their constitutional rights and duties. This was found to be due to a lack of interest in the educational system to provide the information needed. Almost more than half the number of students leaving school and who are meant to be responsible citizens, lack the knowledge and awareness of their legal rights and how to behave as responsible citizens. Furthermore, the curriculum in its status quo, does not include this information, except the few topics that develops the students' legal culture, it is does not inform them of the rights and responsibilities of citizenship and democracy, it disregarded citizenship at all levels; Conceptual, values, behavioural and skills, and does not adopt the problems of students and community, related Egyptian nature. It also disregarded the rights and responsibilities of citizenship. The curriculum also does not develop their awareness of the reality of living in their communities; it is devoid of activities needed by students, and entrenches the rights and responsibilities of citizenship. In addition the school curriculum is separate from the local and global community because it has disregarded the development of the political, legal culture and civil sides of student's personality and is absent from the curriculum, political and the activities and legal culture.

These results are supported quite well by the findings of previous researchers (Thanaa Gomaa, 2006; Mustafa Qasim, 2006; Hana Ibrahim, 2008; Mostafa Ismail, 2009) that students in the post application test are better than in the pre- application test. The significant increase in students' scores where in the achievement test of unit one, achievement test of unit two and legal attitudes test. The significant difference, between the mean score of students in the pre/ post- in the achievement and legal attitudes tests, is statistically significant at the level of ($P=0.01$) in favour of the post-test.

Effect size, is considered an important issue for identifying the power of research, because it tells us the degree to which the phenomenon under investigation is present in the population. It is the magnitude of the relationship between treatment variables and outcome variables. (Vigdis Kampenes, 2007). Cohen has facilitated such estimation of effect size. Based on a review of prior

behavioral research, he developed operational definitions of three levels of effect sizes (small, medium, and large) with different quantitative levels for the different types of statistical test, the small, medium, and large ESs are, respectively, $\eta^2 = .20$, $.50$, and $.80$. It is worthwhile to mention here that the results of present research showed that, the effect sizes of the cognitive levels of conceptual understanding, the effect was large in the all achievement and legal attitudes tests in unit one and unit two. With regard to unit one it was (0.97), with regard to unit two (0.98), and with regard to legal attitudes test (0.94). Thus, the results aforementioned far exceed the large level, and this indicates the importance of search results and the validity of the hypotheses.

The researcher explains that the current progress in the levels of students is due to using the educational software (the application) prepared by himself, it contains the legal culture needed by students in this age phase, moreover; adding activities to the content of the legal culture program has provided a good opportunity to increase understanding of the civil and legal concepts. The current research results also indicate to the validity of the hypotheses and achieving the objectives of the research to raise the achievement level in the legal culture for students and developing thinking skills. So we can say that we have achieved the aim of the research. Thus, this study can be generalized and applied to the first and second stages of all Egyptian secondary schools.

6.3. Recommendations.

In the light of the research findings, the following recommendations are offered for related research in the field of Digital Education and civics:

1. The interest with the integration of digital media in all different curriculums by conversion text books to software (applications) through Technological development project in the Egyptian Ministry of Education.
2. The interest with the conceptions of the legal culture or civics and integrated it into curricula starting from primary school to university, in form of legal culture curriculum or separate units in the social studies curriculum.

3. Benefit from Checklist of legal concepts which prepared by researcher to create other programs of legal culture such as the law of political parties, Child and women rights, Traffic law... etc.
4. Teachers must be trained so that the role of the teacher can change from lecturer to mentor, facilitator and collaborator in learning, this can occur in two ways: firstly, gifted teachers can help less-senior teachers by mentoring them; secondly, teachers can serve more as facilitators than as instructors to their students.
5. Training teacher on integrate e-learning into their subject teaching, this research study provides information about challenging the obstacles that hinder full integration of ICT in education and can help to establish practices for the setting up and application of e-learning.
6. Preparation and making training courses available to the teacher in the field of law in order to develop their skills and information in legal culture.
7. Spreading self-learning culture between Egyptian school students and reliance on software that will be provided to them by the ministry after converting the curriculum to software (application).

6.4. Conclusion.

The focus area of this research was the digital mediations and implementation of ICT to enhance teaching and learning in education, while the application area focused on legal culture and civic education, as an activity accompanying the social studies in the first and second phase in the Egyptian secondary schools. This study discussed teachers' ICT use in schools, looked at the advantages and disadvantages, as well as barriers to ICT integration in Egypt secondary schools.

The current study attempts to investigate previous literature on digital mediations and its importance in teaching and learning process and integrating ICT into legal culture program. In light of these attempts, the researcher designed and produced software program (application) to teach students the legal concepts and

principles such as rights and duties, rules and responsibilities of the individual in society in order to understand the basis of citizenship, to reduce tendencies toward delinquent behaviour and improve a range of attitudes related to responsible citizenship. Study results confirm the interest of students to learn the legal culture and civics and integrated it into curricula starting from primary school to university.

The thesis contributes to the general literature and body of knowledge on ICT integration in schools in developing countries. Research related to e-learning in secondary school education. However, this study also makes major contribution to the body of knowledge on ICT integration with the civics curriculum. This contribution is the synthesis of the framework of evaluation categories and criteria, structured under the categories:

- Perceived importance of Digital mediations in school education – including social and pedagogic rationales for ICT integration.
- Use of ICT tools and e-learning in the classroom, in particular, the application of computing within the curriculum.

In summary, the following conclusions are drawn. The application of legal culture as complementary strategy in social studies education was found to be more effective because it improved students' performance through digital mediations and integrated ICT into curriculum.

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Appendix 1: Checklist of legal concepts

The Objectives	The concepts of the legal culture
<p>Firstly: the Cognitive objectives that are represented in: the facts, knowledge and the legal information.</p>	<ul style="list-style-type: none"> • The concepts and legal terms such as: (Law - Constitution - Legislation - Duty - the Right - Responsibility - Equality - Justice - contravention - a felony – Misdemeanour ... etc.) • The Essence of law, its importance and function. • The distinction between the legal rules and other rules (courtesies, ethics, religion). • The characteristics of the legal rules. • Law sections and branches. • The Sources of law Formality and Explanatory. • The Stages throughout the enactment of law. • The scope of the law application, (The time scope and the spatial scope). • Repealing the legislation. • The definition of the Constitution, its importance, its sources and means of its protection. • The difference between the Constitution and the Constitutional law. • The methods of the emergence of constitutions. • The types of the Constitutions. • The ways of modifying the Constitutions. • The methods of terminating the Constitutions. • The principle of Sublimity of the constitution. • The Monitoring the Constitutionality of laws. • The Constitutional developments that have taken place in Egypt. • The basic rights of individuals under the authority of the Constitution and the law.

	<ul style="list-style-type: none"> • The duties of individuals under the authority of the Constitution and the law. • The Basic concepts and terminology which mentioned in the law. • Environment - Definition and meaning. • What is Biodiversity? • Environmental problems (The Global warming-the Environmental Pollution-Deforestation-Hazardous substances-Ozone depletion). • The Environmental Pollution: (Air pollution, Water pollution, Chemical Pollution, Noise pollution, Radioactive Pollution). • The efforts at the international level. • Efforts at the local level. • The importance of the existence of legislation and laws for the environment. • The environmental Violation. • Human Rights Definition. • Importance of the studying of human rights. • Where do human rights “rules” come from? • National constitutions and laws. • Regional human rights law and standards. • International human rights law and standards. • The Universal Declaration of Human Rights (1948). • Arab Charter on Human Rights. • Protection mechanisms for human rights.
<p>Secondly: The affective objectives that are represented in; the development</p>	<ul style="list-style-type: none"> • The awareness towards the others and appreciating their feelings • The tendency towards reading, disclosure of the legal

<p>of the positive values, and modifying the negative values.</p>	<p>books.</p> <ul style="list-style-type: none"> • Respect the rights of others. • Using the peaceful means in resolving problems and disputes. • The trend towards participation and dealing positively with others. • Renouncing the violence and the extremism. • Respect and obeying the law. • Estimating the value of law in keeping the peace inside the community. • The awareness of the efforts of the legislators and the jurists. • Appreciating the state's role in maintaining the security and the system within society. • The awareness of the social responsibility. • Respecting the state institutions and participating effectively through these institutions. • Respecting the public property and the public finance. • Respect for the diversity and differences in views. • The obligation to apply the law in everyday life. • The development of certain values such as; justice, tolerance and equality. • Respect human rights contained the Universal Declaration of Human Rights.
<p>Thirdly: the skillful objectives which are: the individual practice of law in his public life that Includes the mental</p>	<ul style="list-style-type: none"> • The skill of using the right decisions. • The Skill of the critical thinking. • Solve the problems properly. • The active and effective participation in society. • The Communication and the interconnection with the group.

Appendix 1: Checklist of legal concepts

skills, social skills, and performance skills.	<ul style="list-style-type: none">• Evaluating the situations properly.• Enacting the right judgments.• Analyzing the legal documents.• Indicating opinions through lawful means.
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Appendix 2: Content of the proposed Program

The proposed program consists of four units:

Unit one: The concept of Legal Principles

Unit Two: The Egyptian Constitution.

Unit Three: The Environment Law.

Unit Four: Human Rights.

You can found the content of these units by reviewing the CD of the legal culture program.

Appendix 3: Arbitration the proposed program after designed it

Dear **Sir/Madam**

I am conducting a research project at Bordeaux3 University of Center research on Media, Information and communication. under supervision of Prof. **Lise VIEIRA**.

A major goal of this research project is to design, implementation and evaluation Program of legal studies through social studies curriculum for students at the first and second phase of the secondary schools of Egypt by taking advantage of information and communication technology (ICT) and employed in this field, And to achieve the maximum degree of interaction between the student and the curriculum.

Therefore this questionnaire has been produced to help evaluate the prototype of educational software. It is divided into two main parts: 1. Educational Value and Pedagogy, 2. Design Aspects

I would be pleased if you would complete the questionnaire. It invites you to express your rating code: (5-excellent, 4- good, 3- satisfactory, 2- fair, 1- poor).

Participation is completely voluntary. All data will be treated anonymously following the rules of data security and privacy protection. Thanks for your valuable time. If you need further information, you can contact me.

With kind regards

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Appendix 3: Arbitration the proposed program after designed it

Name: (Optional):

Position:

Institution:

E-mail:

Educational Value and Pedagogy:

series	Items	5 (Excellent)	4 (Good)	3 (Satisfactory)	2 (Fair)	1 (Poor)
1	Program is flexible for the intended users.					
2	Specific educational goals.					
3	Program is achieving the goals which set for it.					
4	Instructions are clear and easily accessed.					
5	The program helps to develop legal culture in the age group which it was designed for it					
6	Legal subjects which the program deal with it are necessary for students at the first and second phase of the secondary schools					
7	The program works to Acquisition of basic legal concepts in the lives of individuals					
8	Activities are presented clearly and interestingly.					
9	Lack of dependence on the teacher					
10	Language is accurate.					

Appendix 3: Arbitration the proposed program after designed it

Design Aspects:

series		5 (Excellent)	4 (Good)	3 (Satisfactory)	2 (Fair)	1 (Poor)
1	Program design achieves effective interaction between the learner and content.					
2	Applied proposed activities help students to achieve the objectives of the program.					
3	Program can be used and navigate easily.					
4	There is evidence to use the program formulating clear					
5	Graphics are clear and age appropriate.					
6	Accompanying sound is clear and compatible with the text.					
7	Buttons are Clear in the program and easy to use.					
8	Access to the program and get out of it easily.					

Additional Comments:

If you have additional comments or suggestions that would improve its effectiveness, please mention them here:

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Appendix 4: Legal attitudes Test

Test instructions:

- The test items contained 40 questions in the legal attitudes test by using three types of questions: first included fifteen questions of the of Multiple-Choice (MCQ) with four possible answers for each item, and the second, included fifteen questions of True or False, and the last type, included ten Text match question (Complete).
- Reading the question carefully before answering it.
- Answering all questions in the test.
- Choose only one answer for each question in the case of the multiple-choice questions.
- Don't waste a long time to a specific question ignoring the rest of questions.
- The test scores of 30 marks, so the student can pass this test and move to the next unit only by obtaining the minimum of 50% of the total score for the test.

First: Choose the correct answer from the following choices, taking in to consideration that there is only one correct answer for each question (15 degree):

1. You and your friends discussed the importance of the law; one of them confirmed that the existence of customs and rules of morality are totally sufficient to maintain order and security in society, what is your situation?
 - A. Agree with him.
 - B. Differ with him and stress the importance of law.
 - C. Don't interfere in the discussion for the lack of the subject importance.
 - D. Leave the discussion and go.

2. One of your relatives gave you a law book on the occasion of your birthday, what do you do?
- A. Leave the book because it isn't useful to you. B. Give a due care to read the book.
C. Give it to someone who is a specialist in law. D. Throw the book because you don't benefit from it.
3. Imagine yourself a judge offered you a lawsuit in order to issue a ruling, the first source that you depend on is:
- A. The principles of the Islamic law. B. Custom.
C. Legislation. D. The principles of the natural law and the rules of justice.
4. You are summoned as a witness in a case before the court, and your witness is important to show the truth, so your situation will be:
- A. Don't go to the court. B. Go and give your witness.
C. Go and deny the knowledge of the case. D. Go and refuse the witness.
5. You found a group of students destroying the furniture of a school, so your situation is:
- A. Leave them because this matter is none of your business. B. Advise them to maintain public ownership and respect it.
C. Inform the headmaster of the school. D. Engage with them by beating.
6. You saw a wounded hit by a car and it ran away, your situation is:
- A. Don't care and go away. B. Try to call an ambulance.
C. Only see the situation. D. Try to catch the fugitive car.
7. Some of your colleagues ask you to join the Human Rights Association, your situation is:
- A. Welcome the idea and join immediately. B. Don't care about this idea.
C. Refuse the idea and stay away from them. D. Ask your colleagues not to participate.

8. The characteristic of the legal rule is:
- A. Behavior rule
 - B. Combination rule.
 - C. Psychological rule
 - D. Simple rule
9. The Constitutional law is a branch of:
- A. The Internal public law.
 - B. The External public Law.
 - C. The Private Law.
 - D. The Ethical principles.
10. The principle of non-retroactivity of the law means:
- A. Apply the facts subsequent to the issuance.
 - B. The Judge doesn't return in his verdict.
 - C. Issue without a review.
 - D. Apply to all people.
11. Some of the new laws are discussed in the People's Assembly, and are approved as a legislation at the end of the meeting, this legislation is known as:
- A. A constitutional legislation.
 - B. An ordinary legislation.
 - C. An original legislation.
 - D. A subsidiary legislation.
12. The Egyptian Constitution of 1971, was emergence in Democratic method is:
- A. A grant from the ruler to the people.
 - B. A method of the constituent assembly.
 - C. A method referendum funding.
 - D. A contract between the ruler and the people.
13. Following-up the process of the law to ascertain that the laws must be compatible with the provisions of the constitution, and aren't contradictory to it, known as:
- A. Scrutinizing the constitutionality of the laws.
 - B. Constitutional system.
 - C. Follow-up laws.
 - D. Legislation.
14. The current Egyptian Constitution which its rules organize the Egyptian state and identify the rights and duties of the ruler and is:
- A. The Constitution of 1923.
 - B. The Constitution of 1971.
 - C. The Constitution of 1956.
 - D. The Constitution of 1964.
15. After the announcement; the result of the referendum is to choose the president of the republic, the term of the presidency is:
- A. Six Gregorian years.
 - B. Five Gregorian years.
 - C. Three Gregorian years.
 - D. Four Gregorian years.

Second: You have a set of actions and behaviors, put a tick (✓) in the first column if it conforms the Constitution, or in the second column if it violates the Constitution, or in the third column if you do not know (15 degree):

No	Acts	Agree with the Constitution	Contrary to the Constitution	do not know
1.	A citizen wants to nominate himself for the Presidency of the Republic at the age of 35 years.			
2.	A member of the People's Assembly wants to nominate himself for the Shoura Council.			
3.	A member of the People's Assembly presented an interrogation to the Prime Minister.			
4.	The President of the Republic has formed a committee to amend some provisions of the constitution.			
5.	The state prevented the extraditing of the political asylum seekers.			
6.	The president of the Court decides to hold Sessions in camera, for the consideration of the public order or morality.			
7.	The People's Assembly was held and attended by one fifth of its members.			
8.	A doctor made a medical experiment on a person without his satisfaction.			
9.	A citizen was arrested and hadn't been informed of the reasons for his arrest.			
10.	A group of soldiers in the army formed a body in order to protect the country.			
11.	The Shura Council formed a commission to control the newspapers and magazines.			
12.	The Prime Minister appointed a minister at age 38 years.			
13.	People have put a referendum to cancel the Constitution.			
14.	In case of the president's death or incapacity, he delegates his powers to the vice-president.			
15.	The State nationalized telecommunications companies to protect the national security.			

Third: Complete the following (10 degree)::

1. Someone assaulted another person and did injury and permanent disability, then the law which apply is.....
2. There was disagreement among a group of partners in a commercial company, the law which apply is.....
3. The legal rules that aren't allowed to be disobeyed are called.....
4. The first official original source of the law is.....
5. The constitutions which can be amended by the normal legislative procedures are called.....
6. The President of the Republic may enact law in two exception cases, they are and
7. There are two methods to terminating the constitutions; they are and
8.it's a statutory civil body". Its Supreme Chief shall be the President of the Republic.