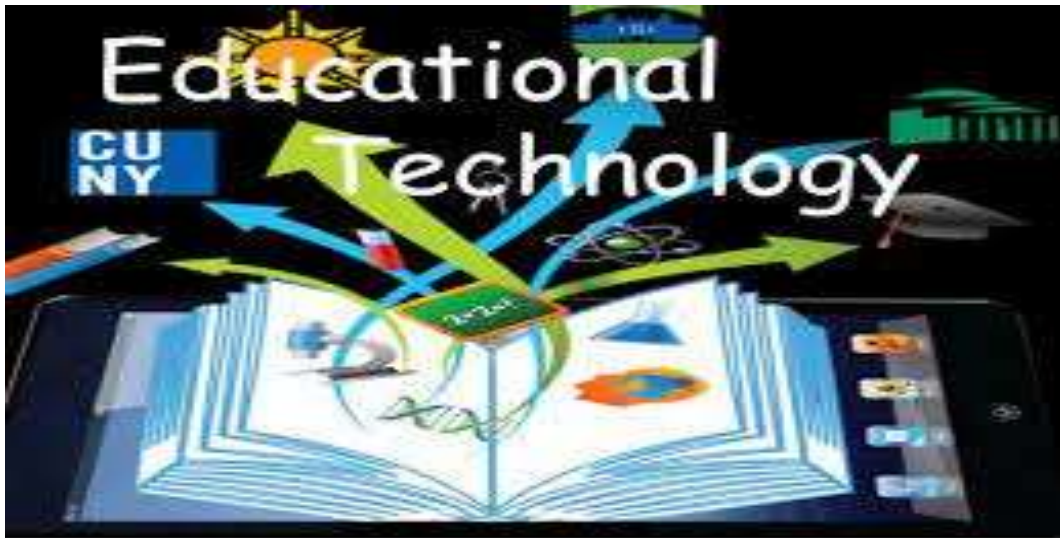




Faculty of Specific Education

Blended Learning Program

Readings on the Field of Study (1)



For Second Year Students

By

Dr. Marwa Gamal Muhammad Shehata

Associate Professor of TEFL, Faculty of Education- Minia University

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Introduction

This course "*Readings in the Field of Study (1)*" is designed to enable students to read about some topics in English related to Technology. It is divided into three units. The first unit is entitled "**Introduction to Educational Technology**". It is divided into three lessons; "*Educational Technology and its five components*", "*Different Types of Educational Technology*" and "*Computer Literacy*". In Unit two entitled "Educational Trends" is divided into four lessons "*E- learning*", "*Blended Learning*", "*Flipped Classrooms*" and "*Mobile Learning*". Students in unit three entitled "**The Internet as a Research Gate**" are going to take three other lessons "*The Web Quest*", "*E-journals*" and "*Web Browsers*".

Unit One: Introduction to Educational Technology

Unit Objectives

1. Acquainting students with the concept of Educational technology, its five components.
2. Familiarizing students with the different types of Educational Technology.
3. Developing students' understanding of "Computer Literacy".

Unit One: Introduction to Educational Technology

Lesson 1: Educational Technology and Its Five Components

Behavioral Objectives:

By the end of this lesson students will hopefully be able to:

1. define " educational technology".
2. determine the purpose of educational technology.
3. identify the main components of educational technology.
4. give examples of different devices that could be used in education.
5. give examples of software applications.

In this era of the digital, scientific, and technological world our life is fully influenced by technology and its components in handling and coping with day-to-day affairs, on both professional as well as personal front. The same applies in the field of education, and technology definitely helps to make learning more comprehensive and easy.

To know and understand the components of educational technology, we should first understand what we mean by education, technology, and educational technology and what its significance and importance is in today's digital world.

The Meaning of Educational Technology:

Education involves equipping and enriching a child's mind and preparing him to face the world, through various teaching methods and strategies. In the earlier time, a



very traditional method for imparting education was followed. But with passing time lot of technological progress has been made and as we have entered this technological world the traditional method of spreading education is hardly found and various technological methods have been adopted to make learning impactful.

So, basically educational technology is a science encompassing scientific methods and techniques and the usage of hardware and software to accomplish educational goals. Uno Cygnaeus is considered to be the father of educational technology. Hence, basically, technology is used as a tool as well as a medium to enhance the teaching and learning process.

The essential objective of Educational Technology is to improve the quality of education and enhance the learning process. Most importantly, technology should magnify the teaching and learning process as well as facilitate better performance of educational systems as it emphasizes upon effectiveness and efficiency.

Five Components of Educational Technology

Educational technology is not just a term but is a field that comprises five major components. Let's explore them:

Hardware

In educational technology, hardware components include mechanical equipment, materials, and electronic devices. Thus all physical material that is used during the learning process comes under this umbrella and basically, this is the byproduct of the advancement and development of technology in the present era.

The **hardware component of educational technology** comprises electronic equipment like projectors, computers, laptops, television, and motion pictures.

Projectors are very useful for getting a better understanding of the subject, since the slides, graphs, diagrams, and maps can be seen in an enlarged form and which helps to get a better understanding of the subject with more clarity.

Computers and laptops are the most essential electronic device which is used to give inputs and get respective outputs. It is the most required electronic device for all learners whether in school, college, institutes, or training centers.

Whereas, Television and motion pictures also have various technology-rich educational programs which stimulate the auditory as well as the visual sense of the learner and thus the learning is more impactful.

2. Software

This involves a scientific and systematic application of research gathered from the various required educational fields. In simple language,

it includes all principles, texts, instructions, programs, and video clips that are used in the teaching process and imparted through the hardware.

Software tools comprise learning materials, teaching models, teaching strategies, programmed instructions, and evaluation tools. Software technology is used for developing hardware devices.

3.Methods and Implementation

With the inclusion and implementation of appropriate devices, techniques, and tools, the knowledge is imparted and the ways are micro-teaching, programmed learning, personalized system of instruction, team teaching, and evidence-based learning.

Thus the implementation of these techniques and processes facilitates the application of cognition, memory, and senses and thus leads to enhanced teaching practices resulting in better learning outcomes.

4. Manpower and management

Educational technology is definitely managed by manpower. Without manpower, it is not possible to execute educational technology at all. Professionals with immense knowledge of different fields and domain come together to prepare, impart and manage the whole learning process.

5. Evaluation and continuous innovation

A continuous evaluation is very necessary from time to time to check and analyze the working of the whole process. Learning outcomes can only be meaningful if there is continuous evaluation and improvement in the adoption of the new technology. Continuous

exploration and experimentation of new devices and technology are a must. There should be an assessment of learning outcomes and accordingly address shortcomings or make incremental changes in the methodology as and when required.

Conclusion

Educational technology has indeed contributed majorly in igniting the teaching field. By utilizing the relevant and latest electronic devices and technologies it has not only helped with



classroom management but also upgraded the learning management system. It also plays a major role in establishing a strong connection and collaborative communication with teachers and students.

Again, it not only helps in assessing student learning but also expanding their learning through various social media and also helps them in building a professional learning network. The teachers should definitely explore this area very minutely and in a detailed way and select the tools, devices, and applications which is best suited for their students. Along with the selecting ability, they should be creative and imaginative enough, so that they can utilize these applications to the maximum in their teaching practice and also self-evaluate as well as evaluate the whole process from time to time to check out the scope for improvement.



Lesson Evaluation

Question I: Complete the following statements: (10 marks)

1. Educational technology is definitely managed by

Answer: manpower

2. is considered the father of Educational technology.

Answer: Uno Cygnaeus

3. tools comprise learning materials, teaching models, teaching strategies, programmed instructions, and evaluation tools.

Answer: Soft ware

4. Technology helps to make learning more comprehensive and easy.

Answer: technology helps to make learning more **comprehensive** and **easy**.

5. The essential objective of Educational Technology is to improve the quality of education and enhance the learning process.

Answer: The essential objective of Educational Technology is to **improve the quality of education and enhance the learning process**.

6. There are five main components of educational technology , they areand

7. Answer: There are five main components of educational technology , they are **hardware**, **software** , **methods and implementation** , **manpower and management** and **evaluation and continuous innovation**.

8.components include mechanical equipment, materials, and electronic devices.

Answer: Hardware.

9. technology is used for developing hardware devices.

Answer: **Software** technology is used for developing hardware devices.

10. plays a major role in establishing a strong connection and collaborative communication with teachers and students.

Answer: Educational Technology.

II. Evaluate the following sentences as true or false: (5 marks)

1. Educational technology is definitely managed by manpower. **T**

2. There are four components of educational technology. **F**

3. The essential objective of Educational Technology is to improve the quality of education. **T**
4. Educational technology is a science encompassing scientific methods and techniques and the usage of hardware and software to accomplish educational goals. **T**
5. "Gardner" is considered to be the father of educational technology. **F**

Unit One: Introduction to Educational Technology

Lesson 2: Different Types of Educational Technology

Behavioral objectives:

By the end of this lesson students will be able to:

1. explain the role of technology in the learning process.
2. identify the different types of educational technology.

3. differentiate between "Synchronous" and "Asynchronous learning".
4. define "linear learning".
5. define "collaborative learning".

Educational Technology, the New era of learning! Gone are the days when we had to reach the classrooms to learn and gain knowledge. These days, individuals are not primarily dependent on institutions and textbooks since online education has provided them with an excellent opportunity to earn graduate degrees or diplomas without actually attending the colleges.

The new learning environment is encouraging and supporting individuals in attending and participating in different Programmes. Now, Educational Technology is one of the most important forms of learning. It includes a wide range of media – texts, audios, videos, animations, live or in tapes, and the internet. In addition, individuals can learn either through distance learning programs or face-to-face with others.

Nowadays, there are various new terms like ‘Hybrid Learning’ or ‘Blended Learning’ – which includes both classroom and laptops, ‘Distributed Learning’ – fully online distance learning. Moreover, educational Technology can be self-based, synchronous, or asynchronous. Let’s have a look at different types of educational technology.

1. Synchronous and Asynchronous

Synchronous and Asynchronous are the first of the educational technology types. Due to new inventions being made every day, students can learn in or out of the classroom. Learning can be self-based with the help of various resources available on the internet), synchronous Learning

and Asynchronous Learning. Now students can learn online through Distance Learning Programmes, Virtual Classrooms.

Synchronous Learning, as the name, means, ‘existing or occurring simultaneously’, refers to discussing thoughts and information regarding certain topics with others simultaneously. Some examples are where people are online and working jointly, like face-to-face discussions, chats rooms or virtual classrooms, live teaching and feedback sessions, Skype conversations, etc. Since the students are working in groups, they widen the range of their thinking by listening to others’ thoughts about the same topics. This will also help in learning and gathering more information which will further result in boosting their knowledge.

Asynchronous means ‘not in real-time’. So, *Asynchronous Learning* is mainly done through blogs, emails, online textbooks, audio/video courses, hypertext documents, wikis, etc. In this type of educational technology, students can learn at their tempo. If they don’t understand the lesson at once, they can read it again without falling behind in the class. Through online courses, students can complete their program while doing internships, work, or sports, or if failed, they can repeat their course without any embarrassment of being in the same class with younger students.

2. Linear Learning

Linear Learning is the second number in educational technology types. *Linear Learning* is all about Computer-Based Training (CBT), where the information about the Programme is sent to students’ computers, tablets, or smartphones. It looks much like reading an online manual or book. It is frequently used in teaching static processes, like using software

or completing mathematical equations. The training is similar to Web-Based Training (sent over the Internet using a web browser).

CBT is different from traditional learning as there is no classroom, textbooks, or manuals. Instead, videos and animation can be included in CBT which will help students understand the topics more precisely. Furthermore, with the help of Computer-Based Training, assessments such as multiple-choice questions, drag-and-drop, and others can be stored easily and recorded using online software and providing feedback/results simultaneously to users. Lastly, users can get the result online in the form of a certificate.

However, there are some challenges, as creating the required CBTs requires significant resources. Sometimes, the CBT may be complex to use. Also, there is no interaction between students or teachers, resulting in no exchange of thoughts and knowledge.

Some examples of CBT are – *training people in how to operate heavy equipment (e.g., cranes) and vehicles (e.g., aircraft) or how to work safely in hazardous environments (e.g., oil rigs)*

3. Collaborative Learning

Collaborative means ‘*to work with another person or group to achieve or do something*, so Collaborative Learning is how learning is done in groups by working together. Problem-solving, learning new concepts or completing tasks are, provided in groups of two or more to work together. In this way, individuals can learn through collecting data, listening to others’ thoughts rather than simply learning the provided

resources. This way, they are dependent on teachers (the primary source of skills and knowledge)

In the End... So the gist of the above data is that these different types of educational technology are the new era for learning, where individuals need not attend classes, they can learn from anywhere regardless of age. Moreover, they are not only dependent on teachers for proving knowledge, whereas they can learn through different sources (also learning through the process of finding sources).

Lesson Evaluation



I. Complete the following examples:

1.refers to discussing thoughts and information regarding certain topics with others simultaneously

Answer: Synchronous learning.

2. Asynchronous learning can be done through,.....,.....and

Answer: blogs, emails, online textbooks, audio/video courses, hypertext documents, wikis, etc.

3. means ‘to work with another person or group to achieve or do something.

Answer: Collaborative

4. Some challenges of using CBT may include.....and

Answer: Sometimes, the CBT may be complex to use.

there is no interaction between students or teachers, resulting in no exchange of thoughts and knowledge.

5. Skype conversations can be an example of.....

Answer: synchronous learning.

II. Evaluate the following sentences as true or false:

1. In the Asynchronous learning students can learn at their tempo. **T**
2. *Linear Learning* is all about Computer-Based Training (CBT). **T**
3. There are no challenges in using CBT. **F**
4. Audio/video courses, hypertext documents and wikis are examples of Asynchronous learning. **T**
5. The types of educational technology represents a new era for learning, where individuals need to attend classes. **F**

Unit One: Introduction to Educational Technology

Lesson Three: Computer Literacy

Behavioral Objectives:

By the end of this lesson students will be able to:

1. define computer literacy.
2. differentiate between computer literacy and computer programming.
3. define digital literacy.
4. differentiate between computer and digital literacy.

5. be familiarized with the rate of literate people in both the United Kingdom and United States.
6. illustrate how both the United Kingdom and United states dealt with empowering people with computer literacy.
7. mention some of the most essential 21th century skills.

Computer literacy is defined as the knowledge and ability to use computers and related technology efficiently, with skill levels ranging from elementary use to computer programming and advanced problem solving. Computer literacy can also refer to the comfort level someone has with using computer programs and applications. Another valuable component understands how computers work and operate. An individual's level of computer literacy is measured on the scale of the how skilled they are when it comes to using computers and other related tools in achieving a goal. Computer literacy may be distinguished from computer programming, which primarily focuses on the design and coding of computer programs rather than the familiarity and skill in their use. Various countries, including the United Kingdom and the United States, have created initiatives to improve national computer literacy rates.

Background

Computer literacy differs from digital literacy, which is the ability to communicate or find information on digital platforms. Comparatively, computer literacy measures the ability to use computers and to maintain a basic understanding of how they operate.

A person's computer literacy is commonly measured through questionnaires, which test their ability to write and modify text, trouble-

shoot minor computer operating issues, and organize and analyze information on a computer.

To increase their computer literacy, computer users should distinguish which computer skills they want to improve, and learn to be more purposeful and accurate in their use of these skills. By learning more about computer literacy, users can discover more computer functions that are worth using.

Arguments for the use of computers in classroom settings, and thus for the promotion of computer literacy, are primarily vocational or practical. Computers are essential in the modern-day workplace. The instruction of computer literacy in education is intended to provide students with employable skills.

Rapid changes in technology make it difficult to predict the next five years of computer literacy. Computer literacy projects have support in many countries because they conform to general political and economic principles of those countries' public and private organizations. The Internet offers great potential for effective and widespread dissemination of knowledge and for the integration of technological advances. Improvements in computer literacy facilitate this.

History

The term "computer literacy" is usually attributed to Arthur Luehrmann, a physicist at Dartmouth College who was a colleague of Kemeny and Kurtz who introduced the BASIC programming language in 1964. Luehrmann became a tireless advocate of computers in teaching. At an April 1972 American Federation of Information Processing Societies (AFIPS) conference, Luehrmann gave a talk titled "Should the computer teach the student, or vice-versa?". In it he notes:

If the computer is so powerful a resource that it can be programmed to simulate the instructional process, shouldn't we be teaching our students mastery of this powerful intellectual tool? Is it enough that a student be the subject of computer administered instruction—the enduser of a new technology? Or should his education also include learning to use the computer (1) to get information in the social sciences from a large database inquiry system, or (2) to simulate an ecological system, or (3) to solve problems by using algorithms, or (4) to acquire laboratory data and analyze it, or (5) to represent textual information for editing and analysis, or (6) to represent musical information for analysis, or (7) to create and process graphical information? These uses of computers in education cause students to become masters of computing, not merely its subjects.

In 1978, Andrew Molnar was director of the Office of Computing Activities at the National Science Foundation in the United States. Shortly after its formation, computer literacy was discussed in several academic articles. In 1985 the Journal of Higher Education asserted that being computer literate involved mastering word processing, spreadsheet programs, and retrieving and sharing information on a computer.

United Kingdom

In the United Kingdom, a number of prominent video game developers emerged in the late 1970s and early 1980s. The ZX Spectrum, released in 1982, helped to popularize home computing, coding and gaming in Britain and Europe.

The BBC Computer Literacy Project, using the BBC Micro computer, ran from 1980 to 1989. This initiative educated a generation of coders in schools and at home, prior to the development of mass market PCs in the 1990s. 'Bedroom computer innovation' led to the

development of early web-hosting companies aimed at businesses and individuals in the 1990s.

The BBC Computer Literacy Project 2012 was an initiative to develop students' marketable information technology and computer science skills.

Computer programming skills were introduced into the National Curriculum in 2014.

It was reported in 2017 that roughly 11.5 million United Kingdom citizens did not have basic computer literacy skills. In response, the United Kingdom government published a 'digital skills strategy' in 2017.

First released in 2012, the Raspberry Pi is a series of low-cost single-board computers originally intended to promote the teaching of basic computer science in schools in the UK. Later, they became far more popular than anticipated, and have been used in a wide variety of applications. The Raspberry Pi Foundation promotes the teaching of elementary computer science in UK schools and in developing countries.

United States

In 1978, the National Science Foundation put out a call to educate young people in computer programming. To introduce students to computing, the U.S. government, private foundations and universities combined to fund and staff summer programs for high school students.

Students in the United States are introduced to tablet computers in preschool or kindergarten. Tablet computers are preferred for their small size and touchscreens. The touch user interface of a tablet computer is more accessible to the under-developed motor skills of young children. Early childhood educators use student-centered instruction to guide the young student through various activities on the tablet

computer. This typically includes Internet browsing and the use of applications, familiarizing the young student with a basic level of computer proficiency.

A concern raised within this topic of discussion is that primary and secondary education teachers are often not equipped with the skills to teach basic computer literacy.

In the United States job market, computer illiteracy severely limits employment options. Non-profit organizations such as Per Scholas attempt to reduce the divide by offering free and low-cost computers to children and their families in under-served communities in South Bronx, New York, Miami, Florida, and in Columbus, Ohio.

Worldwide Computer Literacy Rates

Computer literacy world averages, as determined by The World Economic Forum found that the OECD countries are not as computer literate as one would expect since 25% of individuals do not know how to use a computer, at least 45% rate poorly and only 30% rate as moderately to strongly computer literate.

The 21st Century Skills

The term "21st century literacies" was coined by The National Council of Teachers of English to describe the social nature of learning that is supported by the ability to collaborate using digital technologies in learning. These 'new literacies' are described as "skills students will need for the society in which they will work", including "strong communication and collaboration skills, expertise in technology, innovative and creative

thinking skills, and an ability to solve problems". This set of skills and understandings will "prepare the workforce or citizenry for a changing, interconnected world".

These literacies are dynamic due to the ability to be linked to one another. According to NCTE, active, successful participants in this 21st century global society must be able to:

- develop proficiency and fluency with the tools of technology;
- build intentional cross-cultural connections and relationships with others so to pose and solve problems collaboratively and strengthen independent thought;
- design and share information for global communities to meet a variety of purposes;
- manage, analyze and synthesize multiple streams of simultaneous information;
- create, critique, analyze and evaluate multimedia texts;
- attend to the ethical responsibilities required by these complex environments.

Lesson Evaluation



Question One: Complete the following statements:

1. Computer Literacy is defined as

Answer: the knowledge and ability to use computers and related technology efficiently, with skill levels ranging from elementary use to computer programming and advanced problem solving.

2. Computer literacy may be distinguished from computer programming, which primarily focuses onrather than

Answer: Computer literacy may be distinguished from computer programming, which primarily focuses on the design and coding of computer programs rather than the familiarity and skill in their use

3. A person's computer literacy is commonly measured through

Answer: questionnaires

4. The term "computer literacy" is usually attributed to

Answer: Arthur Luehrmann

5. There are some uses of computers in Education that can cause students to become masters of computing , not merely its subjects. Some of these uses are and

Answer:

1) to get information in the social sciences from a large database inquiry system,

(2) to simulate an ecological system,

(3) to solve problems by using algorithms,

(4) to acquire laboratory data and analyze it,

(5) to represent textual information for editing and analysis,

(6) to represent musical information for analysis, or

(7) to create and process graphical information

6. Being computer literate involved mastering word processing, spreadsheet programs, and retrieving and sharing information on a computer.

Answer: Being computer literate involved mastering word processing, spreadsheet programs, and retrieving and sharing information on a computer.

7. The term "21st century literacies" was coined byto describe the that is supported by the

Answer: The term "21st century literacies" was coined by The National Council of Teachers of English to describe the social nature of learning that is supported by the ability to collaborate using digital technologies in learning.

8. These 'new literacies' are described as "skills students will need for the society in which they will work", including "strong andskills, expertise in, and skills, and an ability to

9. Answer: These 'new literacies' are described as "skills students will need for the society in which they will work", including "strong communication and collaboration skills, expertise in technology, innovative and creative thinking skills, and an ability to solve problems

10. According to NCTE, active, successful participants in this 21st century global society must be able to:.....,.....,.....and

Answer: According to NCTE, active, successful participants in this 21st century global society must be able to

- develop proficiency and fluency with the tools of technology;
- build intentional cross-cultural connections and relationships with others so to pose and solve problems collaboratively and strengthen independent thought;
- design and share information for global communities to meet a variety of purposes;
- manage, analyze and synthesize multiple streams of simultaneous information;
- create, critique, analyze and evaluate multimedia texts;
- attend to the ethical responsibilities required by these complex environments

Question One: Evaluate the following statements as true or false:

1. Computer literacy measures the ability to use computers and to maintain a basic understanding of how they operate. **T**
2. Computer literacy differs from digital literacy. **T**
3. Computer literacy is defined as the knowledge and ability to use computers skillfully. **T**
4. The term "computer literacy" is usually attributed to John Dryden.
.F Answer: **Arthur Luehrmann**

5. A person's computer literacy is commonly measured through questionnaires. **T**
6. Computers are not essential in the modern-day workplace. **F**
7. "To develop proficiency and fluency with the tools of technology" is considered one of the 21st century skills. **T**
8. Tablet computers are preferred for their small size and touchscreens. **T**
9. The 21st century skills are static. **F**
10. With the rapid changes in technology , it is easy to predict the next five years of computer literacy. **F**

Unit Two

Educational Trends in Technology

Unit Objectives:

1. Familiarizing students with the concept of E- learning and its main features.

2. Familiarizing students with the concept of "Blended Learning" and its main features.
3. Acquainting students with the concept of "Flipped classrooms" and its main features.
4. Acquainting students with concept of "Mobile learning "and its main Characteristics.

Unit Two: Educational Trends in Technology

Lesson (1) : E- Learning

Behavioral Objectives:

1. define " E-learning".
2. identify the role of e-learning in education.



3. mention the advantages and disadvantages of E-learning.
4. identify the features of E-learning.
5. mention the types of e-learning.
6. differentiate between the different types of E-learning.

E-learning is a type of learning conducted digitally via electronic media, typically involving the internet. It can be accessed via most electronic devices including a computer, laptop, tablet or smartphone, making it a versatile and easy way for students to learn wherever they are.

In summary, e-learning represents the delivery of educational material and learning through digital resources. The initial skepticism surrounding it was bound to falter when the results showed that studying online can be just as effective as studying in the classroom.

Although the entire learning process is based on principles of formal education, it is provided via an internet connection through electronic devices such as computers, tablets, and even smartphones. This makes it easy for students to access their online classes anywhere and anytime.

Advantages & Disadvantages of E-learning

One of the biggest advantages of online education is the remote access to your desired classes. You no longer have to roll out of bed too early to be awake and attend classes that may not interest you at all just because they are a part of your curriculum.



Studying online comes with many advantages such as widespread teaching materials. Also, the video and audio materials can be re-winded as many times as you need to understand the topic. This type of learning promotes active and independent learning as you don't need to depend on anyone. You can train yourself whenever you want to, and you'll always find support from your professors and classmates through online discussion boards and chats.

However, if you value face-to-face teaching experience, e-learning may not be sufficient for you. Still, you can always opt for video calls with your mentors, you just need to check if your desired online program is offering that type of service.

So, to summarize:

Advantages of e-learning are:

- It promotes active and independent learning;
- Efficient way of delivering courses as the resources are available from anywhere and at any time;
- Students can interact with their peers from all around the world through group discussions and private chats;
- The studying material can be accessed unlimited number of times.

Disadvantages of e-learning are:

- Security of online learning programs is sometimes questionable;
- The authenticity of a particular student's work cannot be confirmed;
- Not everyone is disciplined enough for self-training.

What is the importance of e-learning in Education?

In general, e-learning gives you a version of knowledge accessible at convenience and shared with millions of students worldwide. It offers global opportunities through collaboration with your colleagues from all around the world.

When compared to online learning, the traditional education system is expensive and time consuming with various outcomes. On the other hand, e-learning is a fast-paced industry offering a variety of options to their students, including a modern, creative approach to teaching and regularly updated course content.

The importance of e-learning is easy to spot in online training's for employees in various industries. Keeping up with industry development is made easy with regularly updated content as well as low costs and the ability for employees to study comfortably at their own pace.

What are the features of E-learning?

Time flexibility, lower costs and customized experiences are a few reasons why e-learning gained its popularity over the years.

Some of the most important features of e-learning today are:

- **Online admissions**

Students are logged into a learning management system through which they can access course materials, contact their professors and participate in discussion boards.

- **Data Analysis**

Students' data is essential for eliminating the shortcomings as soon as they appear.

E-learning platforms are keeping track of students activities such as attendance, tests, performance appraisal and more.

- **Quality Content**

Teaching materials are constantly updated by the latest education standards.

- **Optimized Learning Platforms**

E-learning platforms are constantly improved to make the whole process as efficient as possible. Aside from web pages, many e-learning platforms now offer learning apps to their students.

- **Easy Payment Methods**

Online payments are faster and more convenient for everyone.

- **Online Communities & Social Engagement**

Online communities and forums are vital part of e-learning experience.

What are the types of E- Learning?

Educational experts have identified various types of e-learning based on different elements such as learning tools, metrics, synchronicity and learning content.

It is possible to filter down ten different types of online learning that derived from their individually conducted research:

- **Adaptive E-learning**

Based on adapting and redesigning course material for each student.

1. **Collaborative Online Learning**

Based on teamwork; students achieve their learning objectives together while creating a sense for unity.

- **Synchronous Online Learning**

This method enables groups of students worldwide to reach their learning goals together.

- **Asynchronous E-learning**

For students with a non-flexible schedule; allows them to study apart from the group at their own pace.

- **Computer Managed Learning**

Computers are the teachers, as they have the role of accessing and managing the individual's learning progress.

- **Computer Assisted Instruction**

This method combines traditional teaching with a combination of multimedia such as graphics, sound and video to enhance the learning process.

- **Linear E-Learning**

The learning material is passing from sender to receiver without two-way communication between teachers and students.

- **Fixed E-Learning**

All students receive the same studying materials that are predetermined by the teachers.

- **Interactive Online Learning**

This method stimulates two-way communication between students and their teachers.

- **Individual Online Learning**

Students are learning by themselves without relying on their peers.

Are Online Courses Any Good?

When considering obtaining an e-learning certificate, it's important to take into account what you will be learning. Certain areas are better suited for online courses than others.

For example, obtaining tech skills through online learning can be a good investment for your career. They are in high demand on the job market and there are plenty of quality online IT courses that will give you the knowledge you can use later in life.

On the other hand, online science classes may not do enough justice. Even though the studying material can be learnt and eventually understood

the lack of practical work would make e-learning certificates appear much less credible.

The importance of real-life experience is something you need to consider before enrolling in any online course. You should also conduct careful research in order to choose the online program that is accredited.

Conclusion

With the modern technologies on the rise, the opportunities for learning have never been greater. E-learning paved the way to higher education in a succinct, effective way, and it continues to make it easier for people worldwide to reach their dreams, regardless of their age or previously obtained knowledge.

Reference:

Top 10 Benefits of e-learning & Online Studies <https://ailit.org/top-10-elearning-benefits/>

Lesson Evaluation



I. Complete the following statements:

1. is a type of learning conducted digitally via electronic media, typically involving the internet.

E-learning.

2. Some of the advantages of e-learning may include.....,.....and

Answer:

- It promotes active and independent learning;
- Efficient way of delivering courses as the resources are available from anywhere and at any time;
- Students can interact with their peers from all around the world through group discussions and private chats;
- The studying material can be accessed unlimited number of times.

3. Some of the disadvantages of e-learning may includeand

- Security of online learning programs is sometimes questionable;
- The authenticity of a particular student's work cannot be confirmed;
- Not everyone is disciplined enough for self-training.

4. Some of the features of e-learning may includeand.....

- Online admissions
- Data analysis
- Quality content
- Optimized learning platforms
- Easy payment methods
- Online community & Social engagement.

5. Types of E-learning may include,.....,..... and

- Adaptive e-learning
- Collaborative online learning
- Synchronous online learning
- Asynchronous e-learning
- Computer managed learning

- Computer assisted Instruction
- Linear e-learning
- Fixed e-learning
- Interactive online learning
- Individual online learning

Evaluate the following statements as true or false:

1. E-learning promotes active and independent learning. **T**
2. In the "Fixed e- learning" the learning material is passing from sender to receiver without two-way communication between teachers and students. **F Linear E-Learning**
3. Online science classes are highly credible. **F Less**
4. When using E- learning everyone is disciplined enough for self-training. **Not Every one F**
5. You should conduct careful research in order to choose the online program that is accredited. **T**

Unit Two: Educational Trends in Technology

Lesson 2: Blended Learning

Behavioral Objectives:

By the end of this lesson students will be able to:

1. define blended learning.
2. identify the equivalent terminologies related to blended learning.
3. identify the various models related to blended learning.

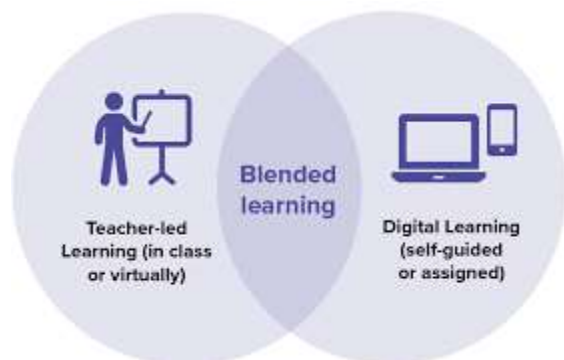
4. illustrate the advantages of blended learning.
5. illustrate the disadvantages of blended learning.

Blended learning, also known as **hybrid learning**, **technology-mediated instruction**, **web-enhanced instruction**, or **mixed-mode instruction**, is an approach to education that combines online educational materials and opportunities for interaction online with traditional place-based classroom methods.



Blended learning requires the physical presence of both teacher and student, with some elements of student control over time, place, path, or pace. While students still attend brick-and-mortar schools with a teacher present, face-to-face classroom practices are combined with computer-mediated activities regarding content and delivery. It is also used in professional development and training settings.

Since blended learning is highly context-dependent, a universal conception of it is difficult. Some reports have claimed that a lack of consensus on a hard definition of blended learning has led to difficulties



in research on its effectiveness. A well-cited 2013 study broadly defined blended learning as **a mixture of online and in-person delivery where the online portion effectively replaces some of the face-to-face contact time rather than supplementing it.**

Additionally, a 2015 meta-analysis that historically looked back at a comprehensive review of evidence-based research studies around blended learning, found commonalities in defining that blended learning was "considered a combination of traditional f2f [face to face] modes of instruction with online modes of learning, drawing on technology-mediated instruction, where all participants in the learning process are separated by distance some of the time." **This report also found that all of these evidence-based studies concluded that student achievement was higher in blended learning experiences when compared to either fully online or fully face-to-face learning experiences.** "Blended learning" is sometimes used in the same breath as "**personalized learning**" and **differentiated instruction**.

Terminology

The terms "blended learning", "hybrid learning", "technology-mediated instruction", "web-enhanced instruction", and "mixed-mode instruction" are often used interchangeably in research literature.

Although the concepts behind blended learning first developed in the 1960s, the formal terminology to describe it did not take its current form until the late 1990s. One of the earliest uses of the term appears in a 1999 press release, in which the Interactive Learning Centers, an Atlanta-based education business, announced a change of name to EPIC Learning. The release mentions that "The Company currently operates 220 on-line courses, but will begin offering its Internet courseware using the company's Blended Learning methodology."

The term "blended learning" was initially vague, encompassing a wide variety of technologies and pedagogical methods in varying combinations (some making no use of technology whatsoever). In 2006, the term became more concrete with the publication of the first Handbook

of Blended Learning by Bonk and Graham. Graham challenged the breadth and ambiguity of the term's definition, and defined "blended learning systems" as learning systems that "combine face-to-face instruction with computer mediated instruction".

In a report titled "Defining Blended Learning", researcher #REDIRECT Norm Friesen suggests that, in its current form, blended learning "designates the range of possibilities presented by combining Internet and digital media with established classroom forms that require the physical presence of teacher and students".

Models

There is little consensus on the definition of blended learning. Some academic studies have suggested it is a redundant term.[8] However, there are distinct blended learning models suggested by some researchers and educational think-tanks. These models include:

- **Face-to-face driver** – where the teacher drives the instruction and augments with digital tools.
- **Rotation** – students cycle through a schedule of independent online study and face-to-face classroom time.
- **Flex** – Most of the curriculum is delivered via a digital platform and teachers are available for face-to-face consultation and support.
- **Labs** – All of the curriculum is delivered via a digital platform but in a consistent physical location. Students usually take traditional classes in this model as well.
- **Self-blend** – Students choose to augment their traditional learning with online course work.
- **Online driver** – Students complete an entire course through an online platform with possible teacher check-ins. All curriculum and teaching is

delivered via a digital platform and face-to-face meetings are scheduled or made available if necessary.

It is important to note that even blended learning models can be blended together and many implementations use some, many, or even all of these as dimensions of larger blended learning strategy. These models, for the most part, are not mutually exclusive.

There are many components that can comprise a blended learning model, including "instructor-delivered content, e-learning, webinars, conference calls, live or online sessions with instructors, and other media and events, for example, Facebook, e-mail, chat rooms, blogs, podcasting, Twitter, YouTube, Skype and web boards".

Advantages

- Blended instruction is reportedly more effective than purely face-to-face or purely online classes. Blended learning methods can also result in high levels of student achievement more effective than face-to-face learning.
- By using a combination of digital instruction and one-on-one face time, students can work on their own with new concepts which frees teachers up to circulate and support individual students who may need individualized attention.
- Proponents of blended learning argue that incorporating the "asynchronous Internet communication technology" into higher education courses serves to "facilitate a simultaneous independent and collaborative learning experience".
- This incorporation is a major contributor to student satisfaction and success in such courses. The use of information and communication

technologies have been found to improve student attitudes towards learning.

- By incorporating information technology into class projects, communication between lecturers and part-time students has improved, and students were able to better evaluate their understanding of course material via the use of "computer-based qualitative and quantitative assessment modules".
- Blended learning also has the potential to reduce educational expenses, although some dispute that blended learning is inherently less expensive than traditional classroom learning.
- Blended learning can lower costs by putting classrooms in the online space and it essentially replaces pricey textbooks with electronic devices that students often bring themselves to class. E-textbooks, which can be accessed digitally, may also help to drive down textbook budgets. Proponents of blended learning cite the opportunity for data collection and customization of instruction and assessment as two major benefits of this approach.
- Blended learning often includes software that automatically collects student data and measures academic progress, providing teachers, students and parents detailed students data. Often, tests are automatically scored, providing instantaneous feedback. Student logins and work times are also measured to ensure accountability. Schools with blended learning programs may also choose to reallocate resources to boost student achievement outcomes.



- Students with special talents or interests outside of the available curricula use educational technology to advance their skills or exceed grade restrictions. Blended learning allows for personalized education, replacing the model where a teacher stands in front of the classroom and everyone is expected to stay at the same pace. "Blended learning allows students to work at their own pace, making sure they fully understand new concepts before moving on."
- A classroom environment that incorporates blended learning naturally requires learners to demonstrate more autonomy, self-regulation, and independence in order to succeed. If teachers offer a form of initial program orientation before introducing blended learning strategies, it can better prepare students to feel confident navigating the different components and developing a stronger sense of independence.
- Some online institutions connect students with instructors via web conference technology to form a digital classroom. These institutions borrow many of the technologies that have popularized online courses at the university level. Some advantages of blended learning, particularly at a Kindergarten to grade 12 level of education, can be found under the general concept of educational technology. It is also one of the most effective ways for personalized learning at scale.
- This virtual learning environment helps connect professors with students without physically being present, thus making this a 'virtual cafe'. Many schools use this online tool for online classes, classwork, question & answer forums, and other school related work. Blended learning yielded positive results from the online community. Such results were compared and showed similar results from that of Alcoholics Anonymous and Weight Watchers.

- The advantages of blended learning are dependent on the quality of the programs being implemented. Some indicators of excellent blended learning programs are "facilitating student learning, communicating ideas effectively, demonstrating an interest in learning, organizing effectively, showing respect for students, and assessing progress fairly".

Disadvantages

- Unless successfully planned and executed, blended learning could have disadvantages in technical aspects since it has a strong dependence on the technical resources or tools with which the blended learning experience is delivered. These tools need to be reliable, easy to use, and up to date, for them to have a meaningful impact on the learning experience.
- There are several disadvantages to blended learning. While this type of learning does offer students the ability to go online when necessary, or learn from anywhere, there is no guarantee that each student will have access to the tools that they need to learn on the computer.
- Another problem that may arise is unreliable internet. Many times, the internet may be down. If the whole class does not have access to the same tools, then the teacher will not be able to keep the class on the same page. This creates a learning gap within classrooms. Unless the education system can offer reliable internet and computers to all students, it is not possible to ensure that this is an effective alternative to mainstream education.
- IT literacy can serve as a significant barrier for students attempting to get access to the course materials, making the availability of high-quality technical support paramount. Other aspects of blended learning that can be challenging is group work because of difficulties with management in an online setting.

- Reportedly the use of lecture recording technologies can result in students falling behind on the materials. In a study performed across four different universities, it was found that only half of the students watched the lecture videos on a regular basis, and nearly 40% of students watched several weeks' worth of videos in one sitting. This has further implications for the educator and in how much online resources need to be revealed to the student but also ensure it is at the right level for the intended student.
- From an educator's perspective, most recently, it has been noted that providing effective feedback is more time-consuming (and therefore more expensive) when electronic media are used, in comparison to traditional (e.g. paper-based) assessments.
- Using e-learning platforms can be more time-consuming than traditional methods and can also come with new costs as e-learning platforms and service providers may charge user fees to educators.
- Another critical issue is access to network infrastructure. Although the digital divide is narrowing as the Internet becomes more pervasive, many students do not have pervasive and ubiquitous access to the Internet – even in their classrooms. Any attempt to incorporate blended learning strategies into an organization's pedagogical strategy needs to account for this. This is why learning centers are built with good wi-Fi connections to make sure this issue is addressed.

Lesson Evaluation



Question One: Complete the following statements:

1. Blended learning, also known as, **technology-mediated instruction**,, or **mixed-mode instruction**.

Answer: Blended learning, also known as **hybrid learning**, **technology-mediated instruction**, **web-enhanced instruction**, or **mixed-mode instruction**.

2. There are many components that can comprise a blended learning model, including,, webinars,

....., and other media and events, for example, , , , , podcasting, , YouTube, Skype and web boards.

Answer: instructor-delivered content, e-learning, webinars, conference calls, live or online sessions with instructors, and other media and events, for example, Facebook, e-mail, chat rooms, blogs, podcasting, Twitter, YouTube, Skype and web boards

3. The tools and resources in which blended learning depends on need to be , and to have a meaningful impact on the learning experience.

Answer: Reliable, easy to use and up to date.

4. blended learning is highlydependent.

Answer: Context

5. In themodel, most of the curriculum is delivered via a digital platform and teachers are available for face-to-face consultation and support.

Answer: Flex

6. Other aspects of blended learning that can be challenging is because of difficulties with management in an online setting.

Answer: group work

7.can serve as a significant barrier for students attempting to get access to the course materials, making the availability of high-quality technical support paramount.

Answer: IT literacy

Question Two: Choose the correct answer from a, b, and c:

1. Blended learning, also known as
 - a. Face to face instruction
 - b. Online instruction
 - c. hybrid learning.
2. There is a major problem when using blended learning . This problem is
 - a.Immediate feedback.
 - b.Unreliable internet.
 - c.Promotion of collaborative learning experience.
- 3.In the Model, the drives the instruction and arguments with digital tools.
 - a. Flex
 - b. Labs
 - c. Face-to-face driver
4. In the model, students choose to argument their traditional learning with online course work.
 - a. Rotation
 - b. Self-blend
 - c. Online driver

Question three: Evaluate the following statements as true or false:

1. In blended learning students logins and work times are also measured to ensure accountability. (T)
2. In blended learning feedback is delayed. (F) immediate
3. Blended learning allows for personalized education. (T)

4. The advantages of blended learning do not rely on the quality of the programs being implemented. (F) are dependent on the quality of....
5. A classroom environment that incorporates blended learning naturally requires learners to demonstrate more autonomy, self-regulation and independence in order to succeed. (T)
6. Using e-learning platforms can be more time-consuming than traditional methods. (T)

Unit Two: Educational Trends in Technology

Lesson 3: Flipped Classrooms

Behavioral objectives:

By the end of this lesson students will be able to:

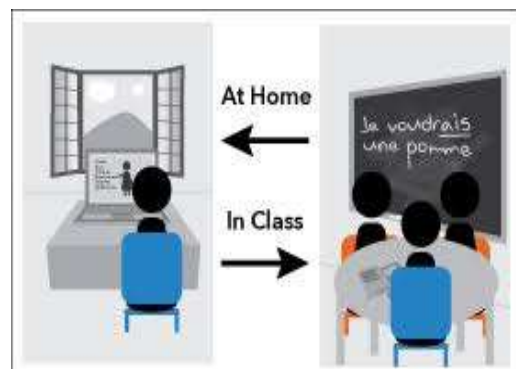
1. define " flipped classrooms".

2. get acquainted with the history of flipped classrooms.
3. identify the components of a flipped classroom.
4. mention the benefits of flipped classrooms.
5. mention the limitations and criticism of flipped classrooms.
6. identify the steps needed to flip the classroom.

A **flipped classroom** is an instructional strategy and a type of blended learning, which aims to increase student engagement and learning by having pupils complete readings at home and work on live problem-solving during class time. This pedagogical style moves activities, including those that may have traditionally been considered homework, into the classroom. With a flipped classroom, students watch online lectures, collaborate in online discussions, or carry out research at home, while actively engaging concepts in the classroom, with a mentor's guidance.



In traditional classroom instruction, the teacher is typically the leader of a lesson, the focus of attention, and the primary disseminator of information during the class period. The teacher responds to questions while students defer directly to the teacher for guidance and feedback. Many traditional instructional models rely on



lecture-style presentations of individual lessons, limiting student engagement to activities in which they work independently or in small groups on application tasks, devised by the teacher. The teacher typically takes a central role in class discussions, controlling the conversation's flow. Typically, this style of teaching also involves giving students the at-home tasks of reading from textbooks or practicing concepts by working, for example, on problem sets.

The flipped classroom intentionally shifts instruction to a learner-centered model, in which students are often initially introduced to new topics outside of school, freeing up classroom time for the exploration of topics in greater depth, creating meaningful learning opportunities. With a flipped classroom, 'content delivery' may take a variety of forms, often featuring video lessons prepared by the teacher or third parties, although online collaborative discussions, digital research, and text readings may alternatively be used. The ideal length for a video lesson is widely cited as eight to 12 minutes.

Flipped classrooms also redefine in-class activities. In-class lessons accompanying flipped classroom may include activity learning or more traditional homework problems, among other practices, to engage students in the content. Class activities vary but may include: using math manipulative and emerging mathematical technologies, in-depth laboratory experiments, original document analysis, debate or speech presentation, current event discussions, peer reviewing, project-based learning, and skill development or concept practice. Because these types of active learning allow for highly differentiated instruction, more time can be spent in class on higher-order thinking skills such as problem-finding, collaboration, design and problem solving as students tackle difficult

problems, work in groups, research, and construct knowledge with the help of their teacher and peers.

A teacher's interaction with students in a flipped classroom can be more personalized and less didactic, and students are actively involved in knowledge acquisition and construction as they participate in and evaluate their learning.

History

Militsa Nechkina, a member of the USSR Academy of Pedagogical Sciences, first proposed the flipped classroom model in 1984. In the 1980s and 1990s, teachers in Russia tried this instructional strategy. "...let pupils extract new things from autonomous reading of a textbook, which has been created accordingly. Allow them to consider it, then discuss it with their teacher at school and come to a united conclusion." Nechkina wrote of the flipped classroom.

In 1993, Alison King published "From Sage on the Stage to Guide on the Side," in which she focuses on the importance of the use of class time for the construction of meaning rather than information transmission. While not directly illustrating the concept of "flipping" a classroom, King's work is often cited as an impetus for an inversion to allow for the educational space for active learning.

Harvard professor Eric Mazur played a significant role in the development of concepts influencing flipped teaching through the development of an instructional strategy he called "peer instruction". Mazur published a book in 1997 outlining the strategy, entitled *Peer Instruction: A User's Manual*. He found that his approach, which moved information transfer out of the classroom and information assimilation into

the classroom, allowed him to coach students in their learning instead of lecture.

Lage, Platt and Treglia published a paper entitled "Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment" (2000), which discusses their research on flipped classrooms at the college level. In their research focusing on two college economics courses, Lage, Platt, and Treglia assert that one can leverage the class time that becomes available from the inversion of the classroom (moving information presentation via lecture out of the classroom to media such as computers or VCRs) to meet the needs of students with a wide variety of learning styles. The University of Wisconsin-Madison deployed software to replace lectures in large lecture-based computer science course with streaming video of the lecturer and coordinated slides. In the late 1990s, J. Wesley Baker was experimenting with these same ideas at Cedarville University. He presented a paper discussing what he termed the "classroom flip" at an education conference in the year 2000 in what may be the first published mention of the word "flip" associated with this model of teaching and learning.

Kaw and Hess published a paper in 2007 to compare the effectiveness of 4 instructional modalities for a single topic of a STEM course -(i) traditional lecture, (ii) blended (what they called "Web-enhanced lecture"), (iii) Web-based self-study and (iv) flipped (what they called "Web-based self-study and classroom discussion"). Statistical analysis of the assessment data indicated that the second modality, in which Web-based modules for instruction were used during face-to-face lecture delivery mode, resulted in higher levels of student performance and satisfaction.

Perhaps the most recognizable contributor to the flipped classroom is Salman Khan. In 2004, Khan began recording videos at the request of a younger cousin he was tutoring because she felt that recorded lessons would let her skip segments she had mastered and replay parts that were troubling her. Salman Khan founded Khan Academy based on this model. For some, Khan Academy has become synonymous with the flipped classroom; however, these videos are only one form of the flipped classroom strategy.

The Wisconsin Collaboratory for Enhanced Learning has built two centers to focus on flipped and blended learning. The classroom structure houses technology and collaboration-friendly learning spaces, and emphasis for those involved in the program is placed on individualized learning through non-traditional teaching strategies such as flipped classroom.

In Practice

Woodland Park High School chemistry teachers Jonathan Bergmann and Aaron Sams began practising flipped teaching at the high school level when, in 2007, they recorded their lectures and posted them online to accommodate students who missed their classes. They note that one person cannot be credited with having invented the inverted or flipped classroom, and assert that there is no one 'right' way to flip a classroom as approaches and teaching styles are diverse, as are needs of schools. They went on to develop the "Flipped-Mastery" model and wrote extensively about it in their book *Flip Your Classroom*.

In 2011 educators in Michigan's Clintondale High School flipped every classroom. Principal Greg Green led an effort to help teachers develop plans for flipped classrooms, and worked with social studies

teacher, Andy Scheel, to run two classes with identical material and assignments, one flipped and one conventional. The flipped class had many students who had already failed the class—some multiple times. After 20 weeks, students in the flipped classroom were outperforming students in the traditional classrooms. Further, no students in the flipped classrooms scored lower than a C+, while the previous semester 13 percent had failed. The traditional classroom showed no change. Before this, Clintondale had been designated as among the state's worst 5 percent. The next year when teachers used a flipped model in the 9th grade, the failure rates in English, math, science, and social studies dropped significantly, with the now-flipped school's failure rate dropping from 30 to 10 percent in 2011. Results on standardized tests went up in 2012, but then dropped.

MEF University, a non-profit private university located in Istanbul, Turkey, claims to be the first university in the world that has adopted the "flipped classroom" educational model university-wide. Proponents of flipped classrooms in higher education have had an interest in seeing this put into practice in university classrooms. Professors at the University of Graz conducted a study in which lectures were video recorded in a manner in which students could have access to them throughout the semester of a lecture-based course on educational psychology. The professors surveyed how the students used their educational tools: attending lectures and watching or rewatching videos. Students subsequently rated (on a scale of 1=none to 6=nearly all) how often they used these materials. The majority of students (68.1%) relied on watching the podcasts but had low attendance rates compared to their podcast usage. The remainder of the students either rarely watched podcasts (19.6%) or somewhat used the podcasts (12.3%), but both had similar lecture attendance. **Students that watched the videos**

more than their peers performed better than those who chose otherwise.

On June 27, 2016, Jonathan Bergmann, one of the originators of flipped learning, launched the Flipped Learning Global Initiative, led by Errol St.Clair Smith. On January 26, 2018 the Flipped Learning Global Initiative introduced its International Faculty, created to deliver a consistent standard of training and ongoing support to schools and school systems around the world.

Flipped Mastery

In traditional schools, each topic in class receives a fixed amount of time for all students. Flipped mastery classrooms apply a mastery learning model that requires each student to master a topic before moving to the next one.

Mastery learning was briefly popular in the 1920s, and was revived by Benjamin Bloom in 1968. While it is difficult to implement in large, traditional classrooms, it has shown dramatic success in improving student learning. The mastery model allows teachers to provide the materials, tools and support for learning while students set goals and manage their time.

Mastery rewards students for displaying competence. Students who initially turn in shoddy work must correct it before moving on. Before flipping, mastery learning was impractical in most schools. It was not possible to give different lectures for different groups of students. Testing was also impractical, because fast-learning students could reveal the test to those who followed.

In a flipped mastery classroom, students view each lecture and work on each exercise or project when they have mastered the precursors.

Tim Kelly, winner of the Presidential Award for Mathematics and Science Teaching, adopted flipped mastery with his colleagues Corey Sullivan and Mike Brust. Sullivan estimated that 40 to 60 hours of work outside school for each of 12 units per course were required the first year. Another Presidential Award winner, Spencer Bean, converted after his daughter went through Kelly's class.

Flipped mastery eliminates two other out-of-class routines: daily lesson planning and grading papers. The latter happens in class and in person. Replacing lectures with group and individual activities increases in-class activity. Every student has something to do throughout the class. In some classes, students choose how to demonstrate mastery—testing, writing, speaking, debating and even designing a related game. Learning Management Systems such as Moodle or ILIAS provide ways to manage the testing process. They create a different test for each student from a pool of questions. Advocates claim that its efficiency allows most students to do a year's work in much less time. Advanced students work on independent projects while slower learners get more personalized instruction. Some students might not get through the year's material, but demonstrated competence on the parts they did complete.

Student Perceptions

Students may be more likely to favor the flipped classroom approach once they have taken the time to personally participate in this specific type of learning course. In a prior pharmaceuticals course, for instance, a mere 34.6% of the 19 students initially preferred the flipped classroom setting. After all of the students had participated in the Pharmaceutical Flipped Classroom course, the number of those favoring this method of learning increased significantly, reaching a total of 89.5%. Individuals interested in a more problem-solving, hands-on form of learning are more likely to

benefit from the flipped classroom, as it strays from a traditional lecture learning style. Students may initially have certain doubts or fears regarding the use of flipped classroom, including:

- The fear of having to "teach oneself", as in, having a lack of proper guidance from a designated instructor, leading to greater pressure on the student to study the content rigorously in order to perform well in the course
- Obtaining a greater amount of academic work to achieve success within the course, as a result of minimal guidance from an instructor
- The fear of obtaining a greater sense of confusion on topics discussed, which may correlate to the heavy focus on group discussion and problem-solving activities that a flipped classroom encourages

A flipped classroom is composed of various components, such as (this only represents a few examples):

1. video collections
2. digital slideshows (e.g. PowerPoint)
3. student discussion
4. teacher/student online communication

It has been determined, through several conducted experiments, that certain aspects of the flipped classroom approach are more beneficial to students than others. For instance, in a study conducted on the feedback received from students who had participated in a flipped classroom teaching module for college English reading, the following results were derived:

- 92.59% of the students ultimately accepted the flipped classroom teaching module in general

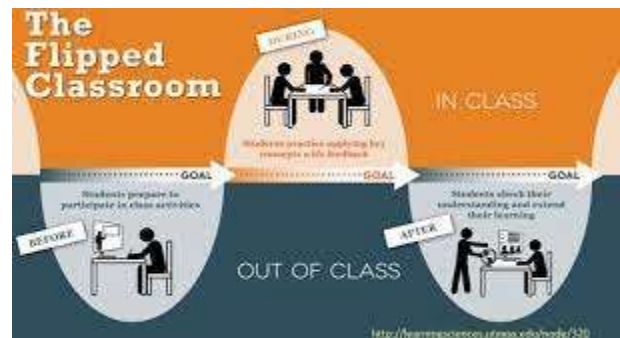
- 59.26% of the students accepted the "video form" of the teaching module, essentially provided as a resource for the course
- 100.00% of the students believed that the "learning guide" link provided in the teaching module was necessary for performing well in the course

From these specific statistics, it can be determined that students felt that their experience within the flipped classroom was greatly benefited by certain aspects of the course (such as the learning guide provided), while other portions of the module may have been unnecessary or insignificant to their learning (such as the video form of the module).

Benefits

There are various benefits attributed to the flipped classroom approach, including:

1. A college reading empirical study identified the flipped classroom's approach as including all forms of learning (i.e. oral, visual, listening, hands on, problem solving, etc.).
2. Rather than learning in a traditional classroom setting, the flipped classroom uses a more application-based approach for students (i.e. hands on and problem solving activities).
3. The flipped classroom is extremely convenient, especially for students that face difficulties in traveling to the physical classroom. Such students still have the foundational information of the course at hand online.
4. Communication is greatly emphasized in a flipped classroom setting, essentially referring to: student-student and student-teacher interactions.



5. The flipped classroom uses a student-centered teaching modeled to ensure that the course is primarily aimed at contributing to the student's overall success in obtaining a proper, effective education.
6. It avoids the overarching idea of "cramming" for exams and forgetting the information post-examination, as it encourages students to understand the underlying rationale behind the information provided being provided to them.
7. Students must account for their responsibility to learn the foundational information provided, as their personal work and contribution will be reflected in the grade that they receive at the end of the course. This will, in turn, make them better prepared for future, more difficult courses.
8. Although there is a lack of support in the pre-class section, the questions aroused during watching the video could serve as the raw materials for subsequent class activities, such as discussion. As a result, students are more focused in the in-class session and thus the use of video could potentially boost the effect of the in-class activities.
9. Recent applications have demonstrated that students not exclusively exhibit amplified demeanor towards accomplishment of an exercise, but also show elevated passion for their progression and output.

Limitations and Criticism

Critics argue the flipped classroom model has some consequences for both students and teachers.

- For students, there exists a 'digital divide'. Not all families are from the same socio-economic background, and thus access to computers or video-viewing technology outside of the school environment is not possible for all students. This model of instruction may put undue pressure on some families as they attempt to gain access to videos outside of school hours.

- Additionally, some students may struggle due to their developing personal responsibility. In a self-directed, home learning environment students who are not at the developmental stage required to keep on-task with independent learning may fall rapidly behind their peers.
- Others argue that the flipped classroom leads to increased computer time in an era where adolescents already spend too much time in front of computer screens. Inverted models that rely on computerized videos do contribute to this challenge, particularly if videos are long.
- Additionally, flipped classrooms that rely on videos to deliver instruction suffer some of the same challenges as traditional classrooms. Students may not learn best by listening to a lecture, and watching instructional videos at home is still representative of a more traditional form of teaching. Critics argue a constructivist approach would be more beneficial.
- Teachers may find challenges with this model as well. Increased preparation time is initially likely needed, as creating high quality videos requires teachers to contribute significant time and effort outside of regular teaching responsibilities. Additional funding may also be required to procure training for teachers to navigate computer technologies involved in the successful implementation of the inverted model.
- The potential performance increase from flipped classrooms varies greatly on classroom by classroom basis. The potential benefits may be affected by the method of conducting the classroom and the level of intensity of the course. Currently, the amount of research available is not enough to create rigorous practical guidelines for all teachers to use. Therefore, some teachers may conduct the flipped classroom more effectively than others. In addition, the level of intensity of the course may also play a crucial role in the efficacy of the flipped model. Researchers often witness a more defined performance increase in K-12 education as opposed to college or

graduate education. In foreign language education, flipped classrooms seem less effective for students with lower proficiency in the target language.

To Sum up: 10 Pros and Cons of a Flipped Classroom

| No. | Pros. | Cons. |
|------------|-----------------------------------------------------------------|--------------------------------------------------------|
| 1 | Students have more control. | It can create or exacerbate a digital divide. |
| 2 | It promotes student-centered learning and collaboration. | It relies on preparation and trust. |
| 3 | Lessons and content are more accessible (Provided Tech access). | There is significant work on the front end. |
| 4 | Parents can get access to see what's going on. | Not naturally a test prep form of learning. |
| 5 | It can be more efficient | Time in front of screens instead of people and places. |

Six Steps to Flip your Classroom

Step 1: PLAN

Nothing good ever comes if you don't have a plan in place. Determine which lessons in particular you want to flip. Once decided, outline the key

learning outcomes you want the students to take away when the lesson is complete. Having these objectives in place will guide the lesson plan.

Step 2: RECORD

Once you have the learning objectives outlined, you can create the content. After the content is created you should figure out how you want to deliver it. Recording a screencast is often the easiest way to get started. Make sure you include everything that you normally would in a regular class lecture.

Step 3: SHARE

With the lesson content available for viewing, it's time to share it with the students. If you have a learning management system, this is quite easy. All you need to do is upload the video and then add your students to the course. You can then monitor the activity to make sure everyone is logging in to view the material.

Step 4: CONFIRM

You won't be able to monitor all student activity in real time from the learning management system you choose, so you should set-up a mechanism that confirms the student has viewed the content. A simple end-of-lecture quiz (the points of which will be added to the activity), is a good place to start. This will also make it possible for you to deliver on the next step more effectively.

Step 5: GROUP & MONITOR

Most activities will require that you group your learners. Using the outcomes from the quiz, you can now group students who have a stronger

grasp on the concepts with those who may need some additional coaching. As the learners go through the activity, make yourself available to provide guidance and to ensure everyone is progressing.

Step 6: DEBRIEF

At the end of the activity, bring all groups back together so that you can debrief the key objectives you outlined in Step 1. Ask questions to the learners and foster a discussion rather than a lecture.

The Flipped Classroom is NOT:

- Just online videos
- About replacing teachers with videos
- An online class
- Students working without structure
- Students working in isolation
- Students spending the entire class online

Lesson Evaluation



Question One: Complete the following statements:

1. A flipped classroom is an instructional strategy and a type of

Answer: **blended learning**

2. In-class activities when adopting flipped classrooms may include,,and.....

Answer in-depth laboratory experiments, original document analysis, debate or speech presentation, current event discussions, peer reviewing, project-based learning, and skill development or concept practice.

3. Students may have certain doubts or fears regarding the use of flipped classrooms including,and

Answer:

The fear to teach oneself, the fear of obtaining a greater amount of academic work and the fear of obtaining a greater sense of confusion on topics discussed.

4. A flipped classroom is composed of various components, such as,,and

- video collections
- digital slideshows (e.g. PowerPoint)
- student discussion
- teacher/student online communication

5. Flipped classrooms rely onand

Answer: preparation and trust.

6. There are six steps to flip your classroom. They are,,,, and

Answer: plan, record, share, confirm, group & monitor and debrief.

7. Recording a is often the easiest way to get started.

Answer: screencast

Question Two: Evaluate the following sentences as true or false:

1. In a flipped classroom, 'content delivery' may take a variety of forms. (T)
2. The ideal length for a video lesson is widely cited as eight to 30 minutes
(F) 12 minutes
3. The flipped classroom intentionally shifts instruction to a teacher-centered model. (F) a learner-centered model
4. The Flipped Classroom frees up time for the exploration of topics in greater depth. (T)
5. In Flipped classrooms , teacher's interaction with students can be more personalized and less didactic. (T)
6. Flipped classrooms are about replacing teachers with videos. (F)

Unit Two: Educational Trends in Technology

Lesson 4: Mobile Learning

Behavioral Objectives:

1. define mobile learning.
2. give examples of mobile learning tools.



3. illustrate the advantages of mobile learning
4. illustrate the disadvantages of mobile learning.
5. identify the basic elements of effective mobile learning.
6. identify the learners' roles in mobile learning.
7. identify the teacher's role in mobile learning.
8. identify the main characteristics of mobile learning.

What is mobile learning?

Mobile learning (M-learning) is a kind of learning model allowing learners to obtain learning materials anywhere and anytime using mobile technologies and the internet.

Mobile learning (M-learning) is the ability to gain learning through portable devices such as smart and android phones, tablets and watches. Learning is virtual and accessible from anywhere as long as the device is available.

What kind of technology does it involve in mobile learning?



The basic elements of an effective mobile learning are:

1. Learner

Learners are the center in all teaching and learning activities according to new education approaches. Mobile learning builds on the learner’s interests, experiences and needs. The learner plays an active role from determination of the goals until the evaluation stage.

Learner’s roles are:

- Access information when they need.
- Responsible for own learning.
- Discover and use their learning styles.
- Create and share new information or product.
- Study with their peers collaboratively.
- Evaluation themselves and other groups.

2- Teacher

The main roles of the teachers in traditional learning were *expert* that presents information to the students. With the mobile technologies the role of the teacher changes slowly towards a *consultant*.

Teachers' roles in mobile learning

- Qualified to use required mobile tools and technologies
- Facilitator guide.
- Advisory.
- Learn with their students.
- Increase motivation of learners.
- Arrange activities to support interactive interactions between collaborative groups.
- Arrange activities for evaluation of process.

3- Environment:

Environment must design to obtain positive learning experiences. It is that place when learners reach information. Environment must increase interaction between students-students and students-teachers. Wikis, social networks, or blogs can be used to increase social interaction. Environment must design available for mobile phones, laptops and other mobile tools.

4.Content

Content should be decided in consultation with all stakeholders such as learners, teachers, parents etc.. Learning content must enable a user to quickly zone into needed information. The content can be presented with interactive games or quizzes. Content should support with graphics video and other multimedia elements.

5- Assessment

Assessment is a critical component in m-learning. Students evaluation should make via database logs, software packages, online exams, chat room, discussion board, online quizzes, or project evaluation.

A good designed course should provide immediate feedback so that the learner is able to judge how well he/she has understood the content of the course.

The feedback shouldn't be such that it discourages the learner and makes him/her feel like he/she doesn't know anything. A feel good factor is very important for the learner after he takes the course along with the assessment.

Characteristics of Mobile Learning

1- Ubiquitous/Spontaneous

Mobile learning is more spontaneous than other learning types. It is this spontaneity that is probably the most defining characteristic of mobile learning. Mobile learning is context aware, meaning that students can learn everywhere. Wireless technologies such as laptop computers, palmtop computers, and mobile phones are revolutionizing education and transforming the traditional classroom based learning and teaching into *anytime* and *anywhere* education.

2- Portable size of mobile tools

Mobile learning tools are small and portable. Students can use it everywhere during their learning activities.

3- Private

Mobile learning is private. It means that only one learner at a time has access to the mobile tool and that when students want to access information connects and downloads independently from other learners.

4- Interactive

Mobile learning environments which utilizes the latest technologies to bring an interactive learning environment into learning and teaching activities. Students are not passive, the functions of mobile tools and environments allow varying levels of interactivity.

5- Blended

Students can use mobile tools for homework, projects or etc. in the education. Blended learning, which combines classroom instruction with m-learning, can maximize the benefits of both face-to-face and online methods.

6- Collaborative

Mobile technologies are support communication between students and teachers. So mobile technologies may use for collaborative learning activities in the education.

7- Instant information

Using a mobile tool is all about immediacy. According to Cohen (2010) the need is for quick answers to specific questions. Learning content must reflect this requirement by providing material that enables a learner to quickly zone into information. Examples of instant information are definitions, formula, and equations, etc.

The Advantages of Mobile Learning

- Learning can be accessed anywhere and anytime and from multiple devices.
- Information is more readily accessible when needed for on-the-job training.
- Learners can collaborate through online forums and chats.
- Mobile can incorporate all learning styles.
- Appeals to millennial learners.

The Disadvantages of Mobile Learning

- Battery life, device failure, updates, and crashes are all a concern.
- Courses and learning objects MUST be responsive design.
- Internet access and overall connectivity.
- Mobile devices mean more opportunities for distraction.
- Responsive design and device and software compatibility.
- Multitasking might not be the best for learning retention.
- Cost of devices.

When Mobile Learning is effective?

- ❖ Learners choose the learning content.
- ❖ Learners are integrating artifacts, realia, objects, and experiences that surround their daily lives (real world learning).
- ❖ Learners are moving around with the device.
- ❖ Learners are motivated to expand the learning outside the classroom walls.
- ❖ Learners work collaboratively to explore the world around them.
- ❖ Learners are motivated to search for several possible options, solutions, and answers to problems.
- ❖ Learners are presented with problems in which they must find many possible solutions and are able to test out these solutions.

Lesson Evaluation



Question One: Complete the following sentences:

1. Mobile learning can be defined as.....

Answer: is a kind of learning model allowing learners to obtain learning materials anywhere and anytime using mobile technologies and the internet.

2. Some of the kinds of technologies that are used in mobile learning areand

Answer: Smartphones, Labtops, kindle, gaming device (X box 360), personal media players (I pod), Laptop, tablets (i pad)

3. The basic elements of mobile learning areand

- Learner
- Teacher
- Environment
- Content
- Assessment

4. Some of the learners' roles in mobile learning are and

- Access information when they need.
- Responsible for own learning.
- Discover and use their learning styles.
- Create and share new information or product.
- Study with their peers collaboratively.
- Evaluation themselves and other groups.

5. Some of the teacher's roles in mobile learning are.....and

- Qualified to use required mobile tools and technologies
- Facilitator guide.
- Advisory.
- Learn with their students.
- Increase motivation of learners.
- Arrange activities to support interactive interactions between collaborative groups.

- Arrange activities for evaluation of process.

6. Some of the characteristics of mobile learning are,.....,.....,.....
and

- Spontaneous
- Portable size of mobile tools
- Private
- Interactive
- Blended
- Collaborative
- Instant information

7. Mobile learning has several advantages . Some of them are
.....,.....,.....and

- Learning can be accessed anywhere and anytime and from multiple devices.
- Information is more readily accessible when needed for on-the-job training.
- Learners can collaborate through online forums and chats.
- Mobile can incorporate all learning styles.
- Appeals to millennial learners.

8. Some of the disadvantages of mobile learning are,.....,.....and
.....

- Battery life, device failure, updates, and crashes are all a concern.
- Courses and learning objects MUST be responsive design.
- Internet access and overall connectivity.
- Mobile devices mean more opportunities for distraction.
- Responsive design and device and software compatibility.

- Multitasking might not be the best for learning retention.
- Cost of devices.

Question two: Evaluate the following sentences as true or false:

1. In mobile learning, learners work collaboratively to explore the world around them. **T**
2. Learners are passive in mobile learning. **F**
3. A good designed course should provide immediate feedback. **T**
4. Mobile Learning is less spontaneous than other learning types. **F**
5. Mobile learning does not incorporate all learning styles. **F**
6. In mobile learning, Learners are motivated to expand the learning outside the classroom walls. **T**
7. Using a mobile tool is all about immediacy. **T**
8. Mobile learning is private. **T**
9. Assessment is neglected in mobile learning. **F**
10. In mobile learning, the Content should support with graphics video and other multimedia elements. **T**

Unit Three: The Internet as a Research Gate

Unit Objectives:

1. Familiarizing students with the concept of " Web Quest" its main parts and characteristics.
2. Familiarizing students with the concept, advantages and categories of "E-journals".

3. Familiarizing students with the history , Hinds and features of "Web browsers"

Unit Three: The Internet as a Research Gate

Lesson One: WebQuest

Behavioral Objectives:

By the end of this lesson, students will be able to:

- 1.define "WebQuest".
2. identify the main characteristics of WebQuest.

3. identify the essential parts of a webquest.
4. identify the role of webquests in Education.
5. mention the limitations of webquests.
6. illustrate how webquests are developed.
7. Illustrate the developments in webquest methodologies.

A **WebQuest** is an inquiry-oriented lesson format in which most or all the information that learners work with comes from the web. These can be created using various programs, including a simple word processing document that includes links to websites.

Distinguishing Characteristics

A WebQuest is distinguished from other Internet-based research by four characteristics. First, it is classroom-based. Second, it emphasizes higher-order thinking (such as analysis, creativity, or criticism) rather than just acquiring information. And third, the teacher preselects the sources, emphasizing information use rather than information gathering. Finally, though solo WebQuests are not unknown, most WebQuests are group work with the task frequently being split into roles.

Structure

A WebQuest has 5 essential parts: introduction, task, process, resources, evaluation, and conclusion. The original paper on WebQuests had a component called guidance instead of evaluation.



Task

The task is the formal description of what the students will produce in the WebQuest. The task should be meaningful and fun. Creating the task is the most difficult and creative part of developing a WebQuest.

Process

The steps the students should take to accomplish the task. It is frequently profitable to reinforce the written process with some demonstrations.

Resources

The resources the students should use. Providing these helps focus the exercise on processing information rather than just locating it. Though the instructor may search for the online resources as a separate step, it is good to incorporate them as links within the process section where they will be needed rather than just including them as a long list elsewhere. Having off-line resources like visiting lecturers and sculptures can contribute greatly to the interest of the students.

Evaluation

The way in which the students' performance will be evaluated. The standards should be fair, clear, consistent, and specific to the tasks set.

Conclusion

Time set aside for reflection and discussion of possible extensions.

Use in Education

Webquests can be a valuable addition to a collaborative classroom. One of the goals is to increase critical thinking by employing higher levels of Bloom's Taxonomy and Webb's Depth of Knowledge. This is a goal of the American educational system's Common Core and many new American state standards for public education. Since most webquests are done in small collaborative groups, they can foster cooperative learning and collaborative activities. Students will often be assigned roles, allowing them to roleplay in different positions, and learn how to deal with conflict within the group.

Webquests can be a versatile tool for teaching students. They can be used to introduce new knowledge, to deepen knowledge, or to allow students to test hypotheses as



part of a final interaction with knowledge. The integration of computers and the Internet also increase students' competency with technology. By having specific task lists, students can stay on task. By having specific sources of information, students can focus on using resources to answer questions rather than vetting resources to use which is a different skill altogether.

In inclusive classrooms (classrooms that have students of varying exceptionalities interacting such as learning disabled, language impaired, or giftedness) tasks can be differentiated to a skill level or collaborative groups for the same level of task. A skill level may have students with learning disabilities working on a basic task to meet the minimum standard of learning skills and gifted students pushing their task to the higher end of the learning skill. More commonly, groups are composed of learners of all skill levels and completing the same level of task. This is typically easier because the teacher is only creating one webquest, but can cause less student interaction from lower students and less learning from higher students.



Limitations of WebQuests

WebQuests are only one tool in a teacher's toolbox. They are not appropriate to every learning goal. In particular, they are weak in teaching factual total recall, simple procedures, and definitions.

WebQuests also usually require good reading skills, so are not appropriate to the youngest classrooms or to students with language and reading difficulties without accommodations. One might ask an adult to assist with the reading or use screen-reading technologies, such as Voice Over or Jaws.

How WebQuests are developed?

Learners typically complete WebQuests as cooperative groups. Each learner within a group can be given a "role," or specific area to research. WebQuests may take the form of role-playing scenarios, where students take on the personas of professional researchers or historical figures.



A teacher can search for WebQuests on a particular topic or they can develop their own using a web editor like Microsoft FrontPage or Adobe Dreamweaver. This tool allows learners to complete various tasks using other cognitive tools boxes (e.g. Microsoft Word, PowerPoint, Access, Excel, and Publisher). With the focus of education increasingly being turned to differentiated instruction, teachers are using WebQuests more frequently. WebQuests also help to address the different learning styles of each student. The number of activities associated with a WebQuest can reach almost any student.

WebQuests may be created by anyone; typically they are developed by educators. The first part of a WebQuest is the introduction. This describes the WebQuest and gives the purpose of the activity. The next part describes what students will do. Then is a list of what to do and how to do it. There is usually a list of links to follow to complete the activity.

Finally, WebQuests do not have to be developed as a true web site. They may be developed and implemented using lower threshold (less demanding) technologies, (e.g. they may be saved as a word document on a local computer).

Developments in WebQuest methodologies

The WebQuest methodology has been transferred to language learning in the 3D virtual world Second Life to create a more immersive and interactive experience.

Tools

WebQuests are simple webpages, and they can be built with any software that allows you to create websites. Tech-savvy users can develop HTML in Notepad or Notepad++, while others will want to use the templates available in word processing suites like Microsoft Word and OpenOffice. More advanced web development software, like Dreamweaver and FrontPage, will give you the most control over the design of your webquest. Webquest templates allow educators to get a jump start on the development of WebQuest by providing a pre-designed format which generally can be easily edited. These templates are categorized as "Framed" or "Unframed," and they can have a navigation bar at the top, bottom, left, or right of the content.

There are several websites that are specifically geared towards creating webquests. Questgarden, Zunal, and Teacherweb all allow teachers to create accounts, and these websites walk them through the process of creating a webquest. OpenWebQuest is a similar service, although it is based in Greece and much of the website is in Greek. These websites offer little control over design, but they make the creation process very simple and straightforward.

Alternatively, teachers can use one of a number of free website services to create their own website and structure it as a webquest. Wordpress and Edublogs both allow users to create free blogs, and navigation menus can be created to string a series of pages into a

webquest. This option offers a greater deal of flexibility than pre-made webquests, but it requires a little more technical know-how.

Lesson Evaluation



Question One: Complete the following sentences:

1. A WebQuest is defined as.....

Answer: an inquiry-oriented lesson format in which most or all the information that learners work with comes from the web. These can be created using various programs, including a simple word processing document that includes links to websites.

2. A WebQuest is distinguished from other Internet-based research by four characteristics,.....and

Answer:

- it is classroom-based.
- it emphasizes higher-order thinking (such as analysis, creativity, or criticism) rather than just acquiring information.
- The teacher preselects the sources, emphasizing information use rather than information gathering.
- most WebQuests are group work with the task frequently being split into roles.

3. A WebQuest has five essential parts:,.....and

Answer: introduction, task, process, resources, evaluation, and conclusion.

4. The original paper on WebQuests had a component called instead of

Answer: The original paper on WebQuests had a component called **guidance** instead of **evaluation**

5. The standards should be,,, and

Answer: The standards should be **fair**, **clear**, **consistent**, and **specific to the tasks set**.

6. The task of the Webquest should be and

Answer: **meaningful and fun**.

7. Since webQuests are done in small collaborative groups, they can foster and

Answer: they can **foster cooperative learning** and **collaborative activities**.

8.,..... and allow teachers to create accounts and these websites help in creating a WebQuest.

Answer: **Questgarden, Zunal, and Teacherweb**

9. andboth allow users to create free blogs, and navigation menus can be created to string a series of pages into a webquest.

Answer: **Wordpress and Edublogs**

10. More advanced web development software, like and, will give you the most control over the design of your webquest.

Answer: **Dreamweaver** and **FrontPage**

Question Two: Evaluate the following sentences as true or false:

1. Creating the task is the most difficult and creative part of developing a WebQuest. **T**
2. A WebQuest has four essential parts. **F**
3. WebQuests also usually require good reading skills. **T**
4. WebQuests are appropriate to the youngest classrooms or to students with language and reading difficulties without accommodations. **F**
5. WebQuests are weak in teaching factual total recall, simple procedures, and definitions. **T**
6. WebQuests do not have to be developed as a true web site. **T**
7. WebQuests allow students to test hypotheses as part of a final interaction with knowledge. **T**
8. WebQuests do not help in fostering higher order thinking. **F**
9. WebQuests are can be built with any software. **T**
10. WebQuests are appropriate to every learning goal. **T**

Unit Three: The Internet as a Research Gate

Lesson One: E-Journals

Behavioral Objectives:

By the end of this lesson students will be able to:

1. identify the meaning of "E-Journals".
2. mention the advantages of e-journals.
3. identify the categories of e-journals.

An electronic journal is a periodical publication which is published in electronic format, usually on the Internet. Electronic journals have several advantages over traditional printed journals:

1. You can search the contents pages and/or the full text of journals to find articles on a certain subject.
2. You can read journal articles on your desktop, you don't have to be in the Library.
3. You can e-mail articles to yourself or download them for printing.
4. The article that you want to read will always be available, even when the Library is closed.
5. Hypertext links allow you to move to different sections within individual journals or articles and can link you to related resources on the Internet.
6. Journals can include more images and audio-visual material.
7. Journals can be interactive - you can e-mail the author or editor with your comments.

Many electronic journals which are available are electronic versions of journals which exist in print. For example, if you wanted to see the journal called "Man" this journal is available physically on Level F in the Library, but is also available to SOAS users in electronic format.

Some journals are only available in electronic format and although some of these journals are of a high "academic" quality, please be aware that not all of them have gone through the same process of academic peer review as traditional print journals.

Categories of E-Journals:

Based on the level of content e-journal can be classified as:

- a. Scholarly or research e-journal.
- b. Popular or general public e-journal.
- c. Industry or Trade e-journals.

Based on availability and pricing e-journals may be categorized as followings:

Free online e-journal: The journals, which are totally free in online. Such as Fulltext Database/ service.

Free along with print subscription e-journal: The journals, which online access are free and also provide print subscription. i.e. Cambridge University Press, John Hopkins University Press, Oxford University press.

Priced e-journal: The journals, which are online and priced marginally less than the printed version. i.e. Blackwell, Blackwell Navigator etc.

Lesson Evaluation



Question One: Complete the following sentences:

1. An electronic journal is defined as a.....

Answer: periodical publication which is published in electronic format, usually on the Internet

2. Electronic journals have several advantages over traditional printed journals:,.....and

- You can search the contents pages and/or the full text of journals to find articles on a certain subject.
- You can read journal articles on your desktop, you don't have to be in the Library.
- You can e-mail articles to yourself or download them for printing.
- The article that you want to read will always be available, even when the Library is closed.
- Hypertext links allow you to move to different sections within individual journals or articles and can link you to related resources on the Internet.
- Journals can include more images and audio-visual material.
- Journals can be interactive - you can e-mail the author or editor with your comments.

3. Based on the level of content e-journal can be classified as.....,.....and.....

a. Scholarly or research e-journal.

b. Popular or general public e-journal.

c. Industry or Trade e-journals

4. Based on availability and pricing e-journals may be categorized as followings:.....,.....and.....

Free online e-journal, Free along with print subscription e-journal and Priced e-journal

5. Journals can be interactive - you can

Answer: Journals can be interactive - you can e-mail the author or editor with your comments.

Question two: Evaluate the following sentences as true or false:

1. Journals can include more images and audio-visual material. **T**
2. Some journals are only available in electronic format. **T**
3. "Full text Database" is an example of priced online e-journal. **F**
4. "Blackwell Navigator" is an example of free online e-journal. **F**
5. Journals can be interactive. **T**

Unit Three: The Internet as a Research Gate

Lesson Three : Web Browser

Behavioral Objectives:

By the end of this lesson students will be able to:

1. define a " Web browser".
2. differentiate between "a web browser" and a "search engine".
3. identify the purpose of a web browser".
4. identify the history of web browsers.
5. identify the user interface (UI) features of most browsers.
6. identify some different settings of a web browser.

A **web browser** (also referred to as an **Internet browser** or simply a **browser**) is application software for accessing the World Wide Web or a local website. When a user requests a web page from a particular website, the web browser retrieves the necessary content from a web server and then displays the page on the user's device.

A web browser is not the same thing as a search engine, though the two are often confused. A search engine is a website that provides links to other websites. However, to connect to a website's server and display its web pages, a user must have a web browser installed.

Web browsers are used on a range of devices, including desktops, laptops, tablets, and smartphones. In 2020, an

estimated 4.9 billion people used a browser. The most used browser is Google Chrome, with a 63% global market share on all devices, followed by Safari with 20%.

In Hypertext Transfer Protocol technical texts, web browsers (and other clients) are commonly referred to as user agents.

Function

The purpose of a web browser is to fetch content from the Web or from a local storage device and display it on a user's device.

This process begins when the user inputs a Uniform Resource Locator (URL), such as <https://en.wikipedia.org/>, into the browser.

Virtually all URLs on the Web start with either [http:](http://) or [https:](https://) which means the browser will retrieve them with the Hypertext Transfer Protocol (HTTP). In the case of secure mode (HTTPS), the communication between the browser and the web server is encrypted for the purposes of security and privacy.

Once a web page has been retrieved, the browser's rendering engine displays it on the user's device. This includes image and video formats supported by the browser. Many web browsers can display partial content, while the retrieval is still in progress, providing more responsive behavior, especially on slower network connections.

Web pages usually contain hyperlinks to other pages and resources. Each link contains a URL, and when it is clicked or tapped, the browser navigates to the new resource. Thus, the process of bringing content to the user begins again.

Most browsers use an internal cache of web page resources to improve loading times for subsequent visits to the same page. The cache can store many items, such as large images, so they do not need to be downloaded from the server again. Cached items are usually only stored for as long as the web server stipulates in its HTTP response messages.

Setting

Web browsers can typically be configured with a built-in menu. Depending on the browser, the menu may be named Settings, Options, or Preferences.

The menu has different types of settings. For example, users can change their homepage and default search engine. They can also change default web page colors and fonts. Various network connectivity and privacy settings are also usually available.

Privacy

During the course of browsing, cookies received from various websites are stored by the browser. Some of them contain login credentials or site preferences. However, others are used for tracking user behavior over long periods of time, so browsers typically provide a section in the menu for deleting cookies. Finer-grained management of cookies usually requires a browser extension.

Browsers also usually provide menu items for deleting browsing history, cache entries, and other potentially sensitive data. An alternative approach is the private browsing mode, in which the aforementioned items are not stored by the browser. But this is a temporary option, only activated when using this special mode.

Features

The most popular browsers have a number of features in common. They automatically log browsing history or can be used in a non-logging private mode. They also allow users to set bookmarks, customize the browser with extensions, and can manage user passwords. Some provide a sync service and web accessibility features.

Most browsers have these user interface (UI) features:

- Allow the user to open multiple pages at the same time, either in different browser windows or in different tabs of the same window.
- Back and forward buttons to go back to the previous page visited or forward to the next one.
- A refresh or reload and a stop button to reload and cancel loading the current page. (In most browsers, the stop button is merged with the reload button.)
- A home button to return to the user's home page.
- An address bar to input the URL of a page and display it, and a search bar to input terms into a search engine. (In most browsers, the search bar is merged with the address bar.)

While mobile browsers have similar UI features as desktop versions, the limitations of touch screens require mobile UIs to be simpler. The difference is significant for users accustomed to keyboard shortcuts. The most popular desktop browsers also have sophisticated web development tools. Besides the common usage of graphical browsers, there are niche text-based and headless types of browsers.

Security

Web browsers are popular targets for hackers, who exploit security holes to steal information, destroy files, and other malicious activities. Browser vendors regularly patch these security holes, so users are strongly

encouraged to keep their browser software updated. Other protection measures are antivirus software and avoiding known-malicious websites.

History

The first web browser, called World Wide Web, was created in 1990 by Sir Tim Berners-Lee. He then recruited Nicola Pellow to write the Line Mode Browser, which displayed web pages on dumb terminals.

1993 was a landmark year with the release of Mosaic, credited as "the world's first popular browser". Its innovative graphical user interface made the World Wide Web system easy to use and thus more accessible to the average person. This, in turn, sparked the Internet boom of the 1990s, when the Web grew at a very rapid rate. Marc Andreessen, the leader of the Mosaic team, soon started his own company, Netscape, which released the Mosaic-influenced Netscape Navigator in 1994. Navigator quickly became the most popular browser.

Microsoft debuted Internet Explorer in 1995, leading to a browser war with Netscape. Within a few years, Microsoft gained a dominant position in the browser market for two reasons: it bundled Internet Explorer with its popular Windows operating system and did so as freeware with no restrictions on usage. The market share of Internet Explorer peaked at over 95% in the early 2000s.

In 1998, Netscape launched what would become the Mozilla Foundation to create a new browser using the open source software model. This work evolved into the Firefox browser, first released by Mozilla in 2004. Firefox market share peaked at 32% in 2010.

Apple released its Safari browser in 2003. Safari remains the dominant browser on Apple devices, though it did not become popular elsewhere.

Google debuted its Chrome browser in 2008, which steadily took market share from Internet Explorer and became the most popular browser in 2012. Chrome has remained dominant ever since.

Microsoft released its Edge browser in 2015 as part of the Windows 10 release. (Internet Explorer is still used on older versions of Windows.)

Since the early 2000s, browsers have greatly expanded their HTML, CSS, JavaScript, and multimedia capabilities. One reason has been to enable more sophisticated websites, such as web apps. Another factor is the significant increase of broadband connectivity, which enables people to access data-intensive content, such as YouTube streaming, that was not possible during the era of dial-up modems.

Lesson Evaluation



I. Complete the following statements :

1. A web browser is

application software for accessing the World Wide Web or a local website.

2. A web browser retrieves the necessary content from

Answer: a web server

3. "URL" stands for

Answer: a Uniform Resource Locator

4. A search engine is

Answer: a website that provides links to other websites.

5. To connect to a website's server and display its web pages, a user must have a installed

Answer: a web browser

6. "HTTP" stands for

Answer: Hypertext Transfer Protocol

7. Web browsers can typically be configured with a built-in menu. Depending on the browser, the menu may be named, or

Answer: Settings, Options, or Preferences.

8. The most used browser is

Answer: is Google Chrome

9. In most browsers, the search bar is merged with the

Answer: address bar

10. The first web browser, called, was created in 1990 by

Answer: The first web browser, called **World Wide Web**, was created in 1990 by **Sir Tim Berners-Lee**.

11.....remains the dominant browser on Apple devices, though it did not become popular elsewhere

Answer: **Safari** remains the dominant browser on Apple devices, though it did not become popular elsewhere

II. Evaluate the following statements as true or false:

1. Web browsers are popular targets for hackers. **T**
- 2."Internet explorer " remains the dominant browser on Apple devices. **F**
Safari
3. The first web browser was called "Firefox". **T**
4. Most browsers have several user interface (UI) features. **T**
5. Web browsers are used on a range of devices including desktops, laptops, tablets, and smartphones. **T**