ASTANA IT UNIVERSITY

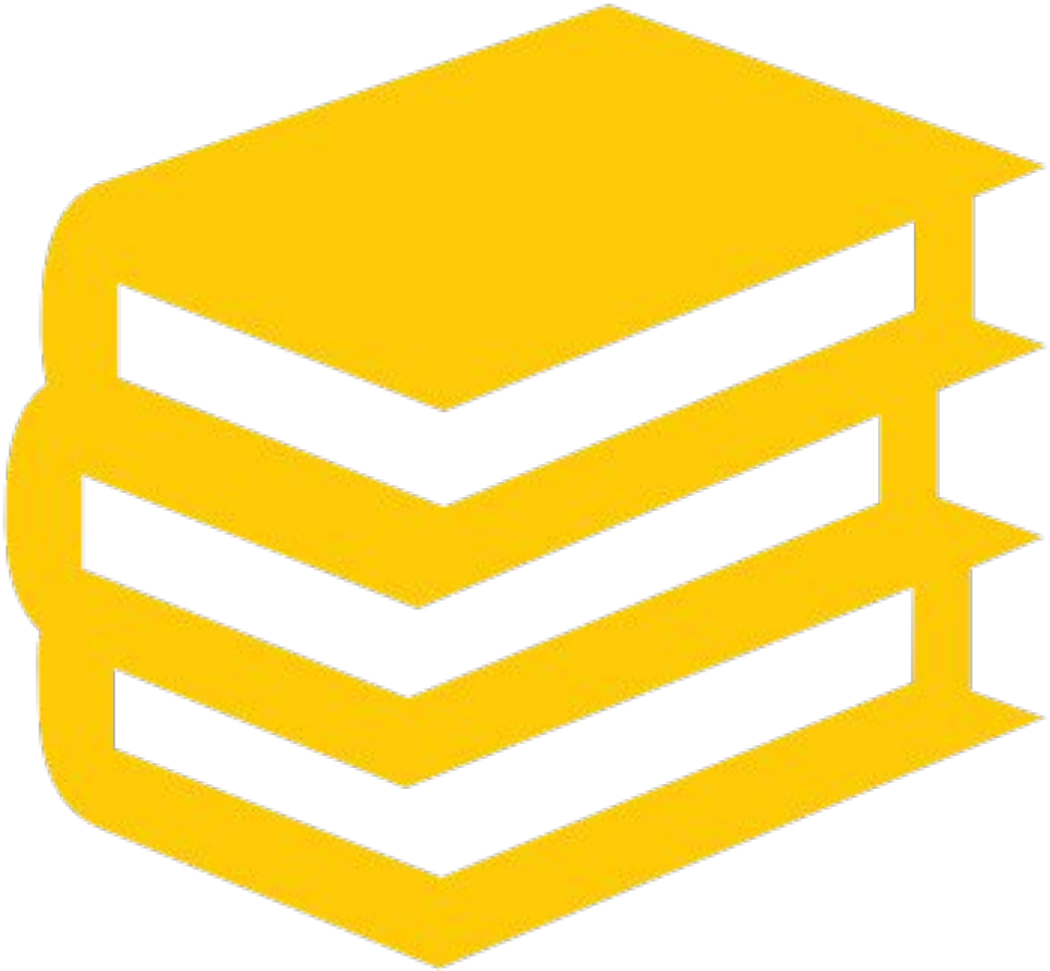
The Internet

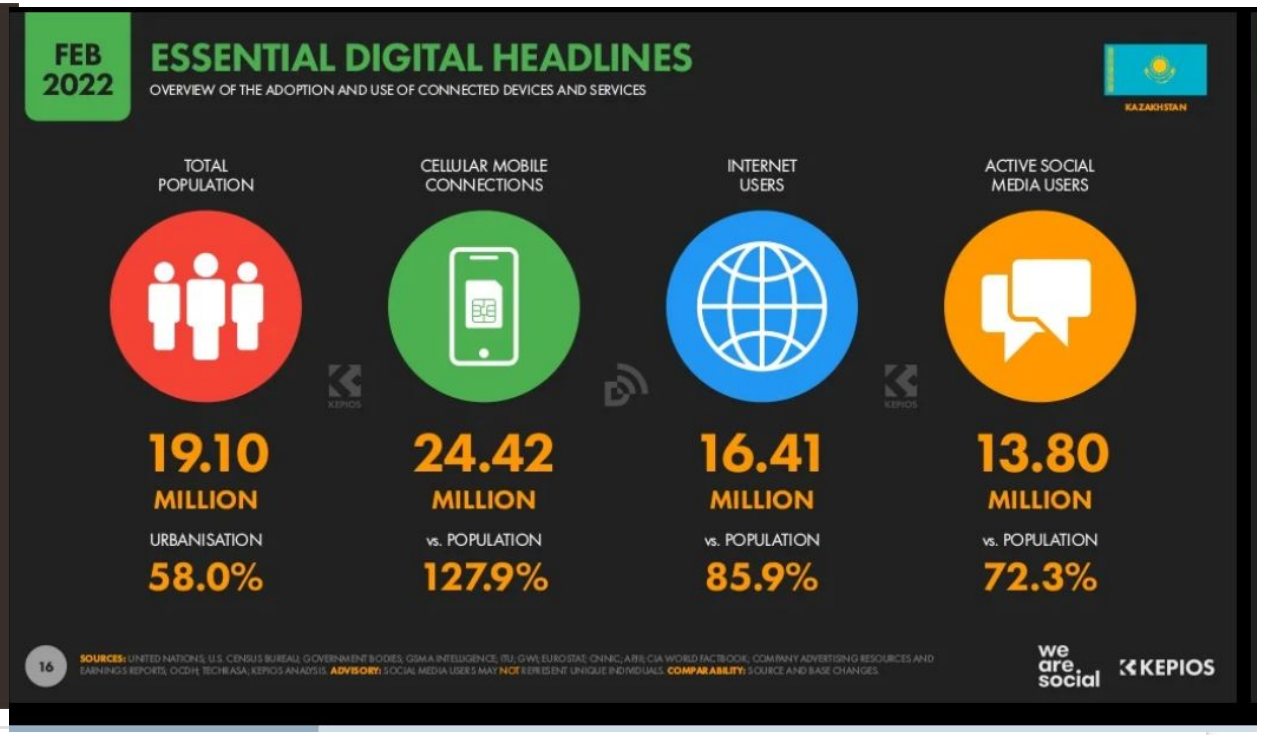
Week -1

English for Academic purposes

Outline

- **Reading (Unit 6, pp. 46-53)**
- **Listening (Starlink)**





Warm-up activity

Compare the data.
What changes have you noticed?

JAN 2018

ALEXA'S RANKING OF TOP WEBSITES

RANKINGS BASED ON THE NUMBER OF VISITORS TO EACH SITE, AND THE NUMBER OF PAGES VIEWED ON EACH SITE PER VISIT

#	WEBSITE	TIME	PAGES
01	YOUTUBE.COM	8M 18S	4.79
02	GOOGLE.KZ	6M 29S	8.92
03	VK.COM	10M 28S	4.74
04	MAIL.RU	5M 23S	3.63
05	NUR.KZ	5M 33S	3.53
06	YANDEX.KZ	3M 37S	2.42
07	GOOGLE.COM	7M 32S	8.56
08	OK.RU	4M 48S	2.15
09	OLX.KZ	11M 19S	9.86
10	WIKIPEDIA.ORG	4M 16S	3.31

#	WEBSITE	TIME	PAGES
11	GOOGLE.RU	5M 50S	9.76
12	INSTAGRAM.COM	5M 23S	3.34
13	KOLESA.KZ	17M 57S	13.80
14	KUNDELIK.KZ	1M 04S	10.09
15	ALIEXPRESS.COM	14M 15S	11.29
16	KASPI.KZ	8M 25S	8.70
17	BASKINO.CO		
18	KINOGO.CC		
19	ZAKON.KZ		
20	INFOUROK.RU		

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SOURCE: ALEXA, JANUARY 2018. NOTES: 'TIME' REPRESENTS TIME SPENT ON SITE PER DAY. 'PAGES' REPRESENTS NUMBER OF PAGE VIEWS PER DAY. ALEXA USES A C
DAILY VISITORS AND PAGE VIEWS OVER A ONE-MONTH PERIOD TO CALCULATE ITS RANKING. RANKINGS ON THIS SLIDE ARE BASED ON THE MONTH TO 16 JANUARY 20
WEBSITES REFERENCED ON THIS SLIDE MAY CONTAIN ADULT CONTENT, OR CONTENT THAT IS UNSUITABLE FOR THE WORKPLACE. PLEASE USE CAUTION WHEN VISITIN

FEB 2022

MOST-VISITED WEBSITES: ALEXA RANKING

RANKING OF THE MOST-VISITED WEBSITES ACCORDING TO ALEXA INTERNET, BASED ON TOTAL MONTHLY WEBSITE TRAFFIC

KAZAKHSTAN

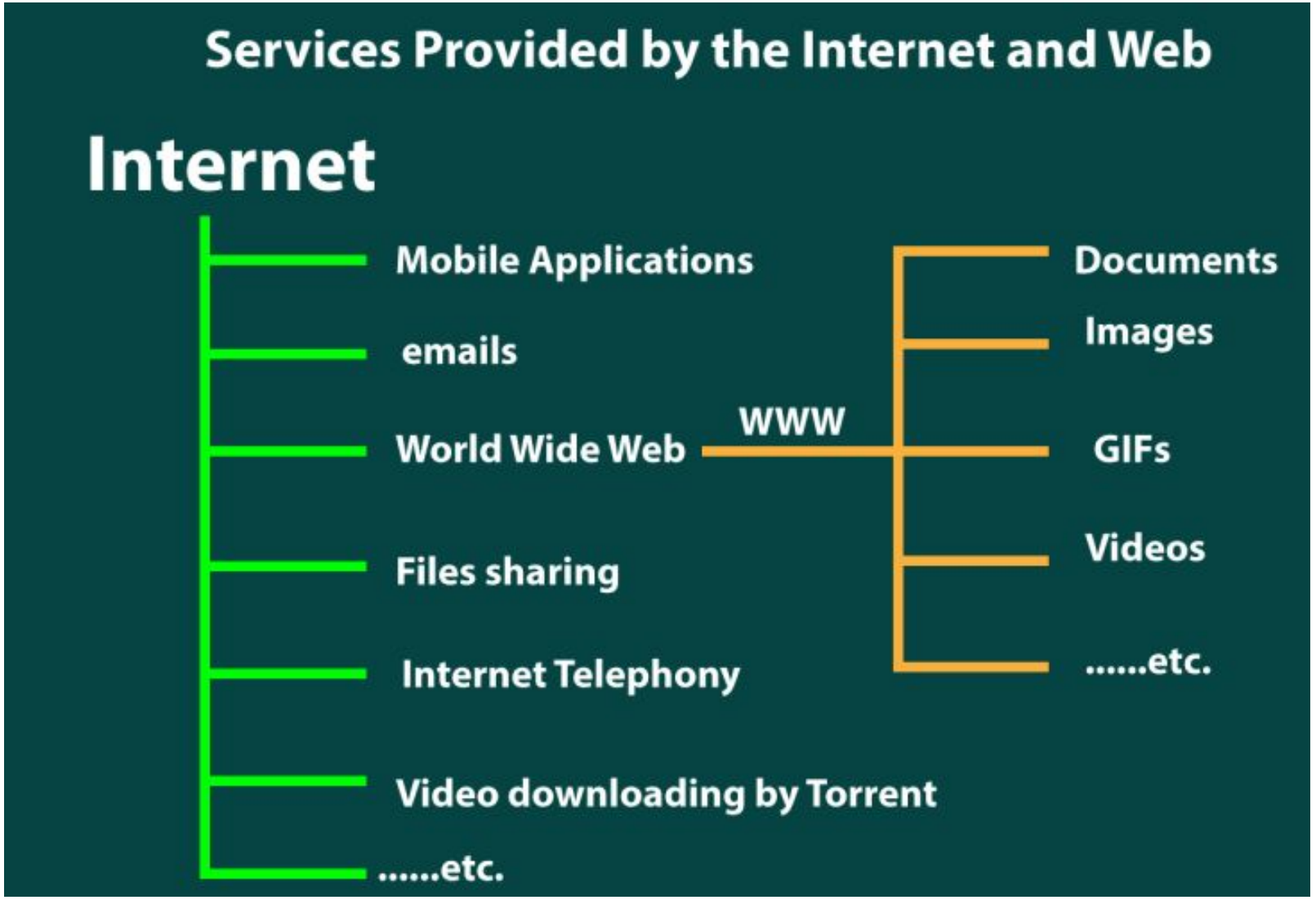
#	WEBSITE	TIME PER DAY	PAGES PER DAY
01	GOOGLE.COM	17M 26S	18.49
02	YOUTUBE.COM	19M 22S	10.53
03	KUNDELIK.KZ	00M 28S	11.30
04	MAIL.RU	04M 06S	3.22
05	NUR.KZ	03M 49S	2.00
06	VK.COM	07M 03S	3.58
07	GOOGLE.KZ	04M 34S	4.68
08	EGOV.KZ	10M 41S	6.50
09	WIKIPEDIA.ORG	03M 39S	3.05
10	YANDEX.KZ	03M 40S	1.94

#	WEBSITE	TIME PER DAY	PAGES PER DAY
11	OK.RU	04M 15S	2.24
12	UST.KZ	03M 54S	2.54
13	OLX.KZ	10M 56S	7.68
14	GOOGLE.RU	03M 39S	4.35
15	KOLESA.KZ	15M 07S	9.91
16	YANDEX.RU	07M 41S	4.34
17	ZOOM.US	06M 27S	3.52
18	TELEGRAM.ORG	05M 58S	2.84
19	GOSZAKUP.GOV.KZ	21M 36S	15.70
20	REZKA.AG	03M 03S	3.86

28

SOURCE: ALEXA INTERNET, USING FIGURES PUBLISHED IN DECEMBER 2021. NOTES: ALEXA INTERNET IS THE NAME OF AMAZON'S INSIGHTS ARM, AND DATA SHOWN HERE ARE NOT RESTRICTED TO ACTIVITIES ON ALEXA VOICE PLATFORMS. "TIME PER DAY" FIGURES REPRESENT THE AVERAGE DAILY AMOUNT OF TIME THAT GLOBAL VISITORS SPEND ON EACH DOMAIN, MEASURED IN MINUTES AND SECONDS. "PAGES PER DAY" REPRESENT THE AVERAGE NUMBER OF PAGES THAT GLOBAL VISITORS OPEN ON THE DOMAIN EACH DAY. BECAUSE FIGURES FOR "TIME PER DAY" AND "PAGES PER DAY" REFLECT GLOBAL ACTIVITY, VALUES WILL BE THE SAME ACROSS ALL COUNTRIES. ADVISORY: SOME WEBSITES FEATURED IN THIS RANKING MAY CONTAIN ADULT CONTENT. PLEASE USE CAUTION WHEN VISITING UNKNOWN DOMAINS.

we are social KEPIOS



What is the difference between the Internet and the web?

Warm-up activity

- How many phrases or compound nouns can you make with the word *web*?

Website
Web page
Web mail
web address
Web server
Web design
Web browser
Webcam
Web log (‘blog’)
Web technologies
etc.

6.1 Vocabulary

paraphrasing at sentence level

A Study the words in the blue box.

1. Copy and complete the table. Put the words in one or more boxes, in each case.
2. Add affixes to make words for the empty boxes. (Some will not be possible.)
3. What is the special meaning of each word in relation to the Internet?
4. Find a synonym for each word in the blue box.

Group work

browser cache connection
distribution host hypertext
interaction layer link packet
peer request response scale
server spider stream visit

Group 1

Noun	Verb	Adjective	ICT/internet meaning	ICT/Internet synonyms
visit	visit	visited	(n) A period during which a user browsing the Internet	(n) session
browser		-		
cache				
connection				
distribution				
host				
hypertext		-		

Group 2

Noun	Verb	Adjective	ICT/internet meaning	ICT/Internet synonyms
interaction				
layer				
link				
packet				
peer	-	-		
request				

Group 3

Noun	Verb	Adjective	ICT/internet meaning	ICT/Internet synonyms
scale				
server		-		
spider				
stream				
response				

Answers for 6.1

Answers 6.1

Noun	Verb	Adjective	ICT/Internet meaning	ICT/Internet synonym
browser	browse	–	⟨n⟩ a program that allows you to view information on the Internet	(n) web browser, Internet Explorer, Mozilla Firefox
cache	cache	cached	⟨n⟩ frequently used data which is stored locally and periodically updated, rather than being downloaded fresh each time	(n) stored data
connection	connect	connected	⟨n⟩ a code or instruction which makes it possible to transfer information between two points, (e.g., across a network)	(n) link
distribution	distribute	distributed	⟨n⟩ a process shared across two or more hosts (e.g., as in peer-to-peer networking)	(n) sharing (as in file sharing)
host	host	hosted	⟨n⟩ the computer on which a website is located or hosted	(n) server, remote computer
hypertext	–	hypertextual	⟨n⟩ a piece of text which, when clicked on, opens another page or file	(n) link
interaction	interact	interactive	⟨n⟩ exchange of data between two devices on the Internet	(n) transaction* (n) communication
layer	layer	layered	⟨n⟩ the different parts of a protocol which carry out specific functions	(n) level
link	link	linked	⟨n⟩ code connecting two parts of a program, website, etc.; from a user's perspective, a piece of text which, when clicked on, opens another page or file	(n) hyperlink
packet	package	packaged	⟨n⟩ unit of data sent across the Internet	(n) bundle (the term for a directory or file in some systems)
peer	–	–	⟨n⟩ where computers on a network have equal status; used in term peer-to-peer (P2P) networking	(n) equal
request	request	requested	⟨v⟩ to ask for specific data to be sent	(v) ask for
response	respond	responsive	⟨n⟩ a signal or data transfer which is sent as a result of a request	(n) answer (received electronically)
scale	scale (up/down)	scaled (up/down)	⟨v⟩ to increase/reduce (e.g., a system) in size based on user requirements	(v) increase/decrease
server	serve	–	⟨n⟩ a centralized computer (program) which answers requests for data from a client using a network	(n) host
spider	spider	spidered	⟨n⟩ a program used to feed pages to search engines	(n) webcrawler
stream	stream	streaming	⟨v⟩ transfer multimedia data across the Internet	(v) flow
visit	visit	visited	⟨n⟩ period during which a user is browsing a website	(n) session

* *transact* ⟨v⟩ and *transaction* ⟨n⟩ = interact(ion) between *people*

6.2 Reading

B Look at the illustration, the title, the introduction and the first sentence of each paragraph on the opposite page.

1 What will the text be about?

Web 2.0: Real change or hype?

Around the year 2005, a series of radical developments appeared to be changing the way the Internet was used. Large numbers of new online services such as video sharing and social networking were being developed, and huge numbers of people were signing up to use them. For some writers the changes were so significant they used the term 'Web 2.0' to describe them. In software engineering, when a new version of a software package is a huge improvement on the old version, the convention is to add one to the number before the decimal, so that 1.0 becomes 2.0, for example. Where the transition is more gradual, one is added after the decimal. Other writers, however, felt that the term Web 2.0 was unhelpful and the changes were evolutionary rather than revolutionary. So, which view is correct? The best way to analyze Web 2.0 is to identify its key technologies and services. By looking at each service in the context of the developments in web technology which made it possible, we can evaluate the nature of the changes.

The first development we should look at is the creation of *static websites*. Initially, these consisted of mainly text-based web pages, with the occasional image. The pages were written in HyperText Markup Language (HTML), which allowed the writer to vary the size, colour and emphasis of the text, and to include hypertext links to other web pages. Some websites contained forms which allowed users to submit their details, but otherwise the pages were fixed and there was little interactivity. Over time, static websites became bigger, and web pages began to be spidered, indexing the pages so they could be found by search engines. They also began to use more graphics, and to link to document and video files which could be downloaded by users and viewed on desktop applications.

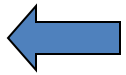
The next stage to consider is the development of *dynamic websites*. These sites used server-side scripting languages to extract data from databases, which was then used to create web pages. One of the most popular languages was PHP (Pre-Hypertext Processor), an open source product. From 1998 onwards, PHP was routinely used with three other open source products – the Linux operating system, Apache web server and MySQL database packages – to power dynamic websites, giving rise to the term *LAMP stack*. Server-side scripting languages made it easy to move data between active web pages and databases, making bulletin boards, blog services and early versions of social networking services possible. Wikipedia, the online encyclopedia, also grew from this technology. However, these developments were limited by the need to load complete pages each time new data was selected from the database, which made them relatively slow.

It was against this background that Flash and Ajax, the two technologies seen as key to Web 2.0, emerged. A major component of Web 2.0 was the way in which users could directly access visual and audio-visual material in their browser. The first release of Flash was introduced in 1996 as a freely available web-based animation program which would run in a browser plug-in or add-on. The software subsequently went through many incremental changes and became increasingly popular. When a version was released in 2003 which included video streaming, a very high proportion of web browsers had the plug-in installed. Flash fundamentally altered the way in which users could access visual and audio-visual material. Flickr, the online photo album service and YouTube, the video sharing service, which both launched in 2005, were among the first to use and to benefit from the new features of the Flash package. By 2010, Flickr was hosting five billion images and YouTube was serving over two billion videos per day. The other technology associated with Web 2.0 was Ajax (Asynchronous JavaScript and XML), a client-side scripting language which allowed elements of a page to be refreshed without reloading the whole page. This allowed web pages to become almost as interactive as desktop applications.

An important effect of these technologies was on the use of peer-to-peer technologies for accessing audio and video content. Since the late 1990s, users have exchanged music and video files over these networks, much of it copyright material. By making it possible to listen to music and to watch video online, there was less need to download files using P2P in order to share files, and so this type of Internet traffic experienced a drop. However, the fall was gradual and P2P remains popular for higher quality video, games and other materials, as well as in geographical areas with low bandwidth. Although not everyone agrees on how significant technologies such as P2P will continue to be, there is little doubt that the developments associated with Web 2.0 have changed the way we interact online for good.

D Study the highlighted sentences in the text. Find and underline the subject, verb and object or complement in each sentence.

See Skills bank



Skills bank

Finding the main information

Sentences in academic and technical texts are often very long.

Example:
Following the debate at a conference organized by Tim O'Reilly in 2004, a number of Internet theorists agreed that ***the term Web 2.0 was useful*** *in explaining the changes from a web where users only received data, to one where they exchanged it.*

You often don't have to understand every word, but you must **identify the subject, the verb and the object**, if there is one.

For example, in the sentence above, we find:
subject = *the term Web 2.0*
verb = *was*
complement = *useful*

Remember!

You can remove any leading prepositional phrases at this point to help you find the subject, e.g., *Following the debate ...*

You can also remove any introductory phrase, e.g. *a number of Internet theorists agreed that ...*

You must then find the **main words which modify** the subject, the verb and the object or complement.

In the sentence above we find:

What *term?* = *Web 2.0*

Why *useful?* = to explain the change from users only receiving data, to users exchanging data

Answers

Model answers:

Subject	Verb	Object/complement
The best way to analyze Web 2.0	is	to identify its key technologies and services.
The first development we should look at	is	the creation of *static websites*.
The next stage to consider	is	the development of *dynamic websites*.
One of the most popular languages	was	PHP (Pre-Hypertext Processor *), ...
Server-side scripting languages	made	it easy ** to move data between active web pages and databases, ...
Flash fundamentally	altered	the way in which users could access visual and audio-visual material.
An important effect of these technologies	was	on the use of peer-to-peer technologies for accessing audio and video content.

*note: PHP can also be referred to as hypertext pre-processor

**note: *make* can be followed by noun and adjective as object and object complement

E Two students paraphrased part of the text.

1 Which part of the text are these paraphrases of?

2 Which paraphrase is better? Why?

Student A

An important Web 2.0 development was that users could now view video and images directly, using their web browser.

Introduced in 1996 as a web-based animation program, Flash ran as a freely available browser plug-in or add-on.

In 2003, when a version of Flash was released which included video streaming, a very high proportion of web users downloaded the plug-in.

The first video was uploaded to YouTube, a web-based video sharing application, in 2005.

Student B

The ability, with Web 2.0, to view pictures and video online, without having to download files, marked a major advance.

Originally introduced in 1996, Flash started out as a free animation program which could be run in a web browser.

When a new release of Flash appeared in 2003, which included video streaming, the plug-in was downloaded by a large number of web users.

YouTube, a web-based application which allowed users to upload and view videos, was launched in 2005.

Answers

1 The sentences appear in the first seven sentences of paragraph 4.

2 Student B's paraphrase is better, because it uses fewer words from the original text and uses different sentence structures.

F Work in groups. Write a paraphrase of a different part of the text.

See Vocabulary bank

Vocabulary bank

Reporting findings

You cannot use another writer's words unless you directly quote. Instead, you must restate or **paraphrase**.

There are several useful ways to do this:

use a synonym of a word or phrase	*active → dynamic* *data using VoIP protocols → VoIP traffic*
change negative to positive and vice versa	*sales rose slowly → sales didn't increase quickly*
use a replacement subject	*VoIP traffic was increasing → there was an increase in VoIP traffic*
change from active to passive or vice versa	*the cache updated the page → the page was updated from the cache*
change the order of information	*in the introduction phase, HTTP usage declined gradually → there was a gradual decline in HTTP usage early in the cycle*

When reporting findings from one source, you should use all the methods above, as far as possible.

Example:

Original text	*Streaming more than doubled between 2007 and 2010.*
Report	*The proportion of Internet data using streaming protocols in 2010 was over twice as much as it had been in 2007.*

Important

When paraphrasing, you should aim to make sure that 90% of the words you use are different from the original. It is not enough to change only a few vocabulary items: this will result in plagiarism.

Example:

Original text	*Web 2.0 provided social networking with the tools it needed to develop fully.*
Plagiarism	*Web 2.0 gave social networking the tools it needed to develop fully.*

Use Padlet or chat to post your paraphrased paragraph

6.3 Extending skills

Read the text and complete the summary with the words from A

a

radical version transition
evolutionary development static
dynamic extract product

Answers

Model answers:

The term Web 2.0 comes from a convention in numbering new software versions/releases. If transitions/changes are evolutionary/incremental, the number *after* the decimal is changed. If they are radical/revolutionary, the number *before* is changed. The development in which websites changed from static/fixed to dynamic/active was very important in the move to Web 2.0. Particularly important were products/packages such as PHP, which could create web pages by extracting/selecting data from databases.

The term Web 2.0 comes from a convention in numbering new software 1_____. If 2_____ are 3_____, the number *after* the decimal is changed. If they are 4_____, the number *before* is changed. The development in which websites changed from 5_____ to 6_____ was very important in the move to Web 2.0. Particularly important were 7_____ such as PHP, which could create web pages by 8_____ data from databases.

6.3 Extending skills

C Study the words in box b.

1 What is each base word and its ICT meaning?
2 How does the affix change the part of speech?
3 What is the meaning in the text in Lesson 6.2?

b

development revolutionary
hypertext interactivity indexing
asynchronous refresh reload

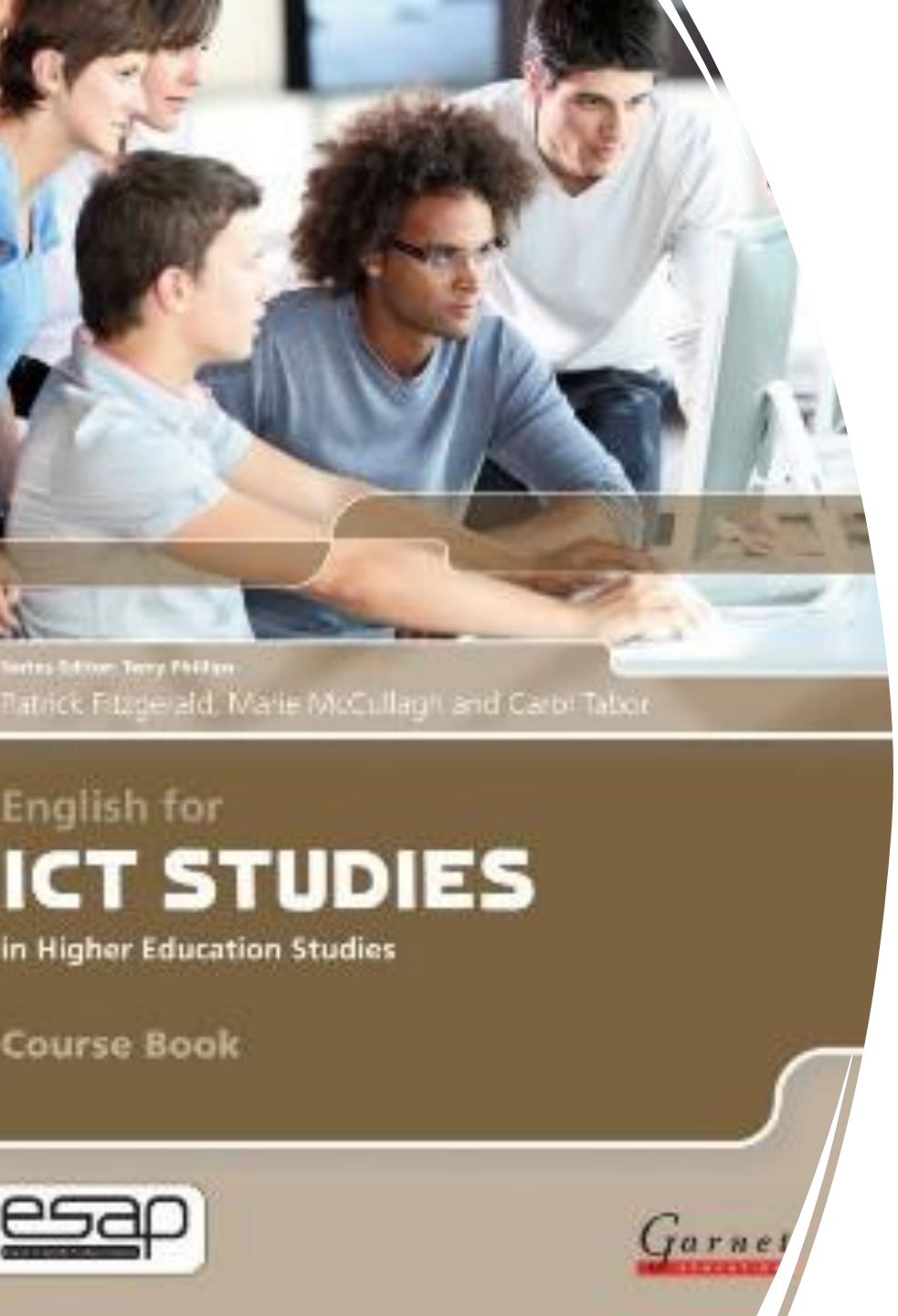
Word	Part of speech	Similar meaning
radical ⟨1⟩	adj	revolutionary ⟨1⟩
version (1)	n ⟨C⟩	release (4)
transition (1)	n ⟨C, U⟩	change (1) (4)
evolutionary (1)	adj	incremental (4)
development ⟨2⟩	n ⟨C⟩	stage (3)
static (2)	adj	fixed (2)
dynamic (3)	adj	active (3)
extract (3)	v ⟨T⟩	select (3)
product (3)	n ⟨C⟩	package (3)

Discussion:

What is Web 3.0? What features does it have?

Below are 5 main features that can help us define Web 3.0:

1. Semantic Web
   The next evolution of the Web involves the Semantic Web. The semantic web improves web technologies in order to generate, share and connect content through search and analysis based on the ability to understand the meaning of words, rather than on keywords or numbers.
2. Artificial Intelligence
   Combining this capability with natural language processing, in Web 3.0, computers can understand information like humans in order to provide faster and more relevant results. They become more intelligent to satisfy the needs of users.
3. 3D Graphics
   The three dimensional design is being used extensively in websites and services in Web 3.0. Museum guides, computer games, ecommerce, geospatial contexts, etc. are all examples that use 3D graphics.
4. Connectivity
   With Web 3.0, information is more connected thanks to semantic metadata. As a result, the user experience evolves to another level of connectivity that leverages all the available information.
5. Ubiquity
   Content is accessible by multiple applications, every device is connected to the web, the services can be used everywhere.



Source

- Fitzgerald, P., McCullagh, M., and Tabor, C. (2012). English for ICT Studies in Higher Education Studies. Reading: Garnet Publishing Ltd.

Key vocabulary

active
Ajax
asynchronous
blog
cache
capability
change
client
convention
development
evolutionary
fixed
Flash
host
HTTP (hypertext transfer protocol)
hyperlink
hypertext
incremental
indexing
interactivity
LAMP (Linux operating system, Apache web server and MySQL database packages)
P2P (peer-to-peer)
phase
PHP (pre-hypertext processor)
private
products
public
qualitative
radical
refresh
release
reload
revolutionary
rule
select
server
SNS (social networking services)
spider
stack
stage
static
transition
version
VoIP (voice over IP)
web page
website
world wide web
XML (extensible mark-up language)

ASTANA IT UNIVERSITY

The Internet

Week -1

English for Academic purposes

Lesson objectives

1

learn vocabulary connected with how the internet works

2

practice listening for detail by watching the video about Elon Musk's Starlink project

3

improve oral fluency through group discussions about the internet and digital divide

Warm up

- Is the access to the internet a human right or a privilege?

Write three reasons to justify your answer.

1.

2.

3.

Group discussion

What is the digital divide?

What is being done to bridge the digital divide globally and locally?

Starlink

What do you know about Elon Musk’s Starlink project?

Pre-listening:
Match the words below with the definitions

Fibre-optic

Transmit

Constellation

Broadband

Revenue

Debris

Latency

a. consisting of or using thin flexible fibres with a glass core through which light signals can be sent with very little loss of strength.

b. money that a company receives, especially from selling goods or services

c. to broadcast something, or to send out or carry signals or messages

d. broken or torn pieces of something larger

e. a high-capacity transmission technique using a wide range of frequencies, which enables a large number of messages to be communicated simultaneously.

f. the **time** it takes for a data packet to travel from the sender to the receiver and back to the sender

g. an assemblage, collection, or group of usually related persons, qualities, or things

a. fibre-optic b. revenue c. transmit d. debris e. broadband f. latency g. constellation

Fill in the gaps using the words from the previous slide.

1. The Global Positioning System consists of a _____ of around 30 satellites orbiting 20,000 kilometers above Earth.
2. The most common types of Internet _____ connections are cable modems (which use the same connection as cable TV) and DSL modems (which use your existing phone line).
3. Most space _____ comprises human-generated objects, such as pieces of space craft, parts of rockets, satellites that are no longer working, or explosions of objects in orbit flying around in space at high speeds.
4. Bluetooth chips allow mobile phone users to _____ data over short distances to other mobile phones.
5. It said that the installation of _____ cables would be too expensive in remote areas.
6. Long delays that occur in high-_____ networks create bottlenecks in communication.
7. The sport doesn't generate much _____ from ticket sales.

1. Constellation 2 broadband 3. debris 4. transmit 5. fibre-optic 6. latency 7. revenue


Reuters

Watch the first part of the video and complete the table about the project.

For instructors: Pause the video at 1:47.

The number of satellites SpaceX sought permission to launch in October 2019	12,000
"Starlink megaconstellation" project plans to start its service in	Country: North America Date: 2020
The total number of satellites SpaceX would like to launch into orbit	42,000
The main selling point of the project	global connectivity (something that would benefit people in rural areas or in places where current internet service is too expensive or unreliable)
The project's estimated annual revenue	30 to 50 billion dollars

Watch the second part of the video and complete the following tasks. Start the video from 1:47

1. Using fiber optic cables is the fastest way to transmit large amounts of information over long distance.

True False

False: because light has to travel through the medium of glass, it doesn't reach the same top speed it does in a vacuum-like in space.

2. Sending information through space helps to cut latency time.

True.

True False

3. SpaceX satellites will have to stay over one spot to send data.

True False

False: SpaceX plans on putting its satellites much closer to home, operating at 550 kilometers up.

At this altitude they can't stay over one spot—they have to move faster to stay in orbit.

4. What points SpaceX will have to address before launching the project?

- 1.
- 2.
- 3.

1. satellites will have to be cheap and reliable enough to justify launching thousands

2. satellites need working autonomous collision avoidance to keep from smashing into other satellites and causing a runaway debris problem

3. SpaceX should ensure that satellites sending so many radio waves will not interfere with ground-based optical and radio observations

In pairs, read the sentences from the video and **come up with the definitions of the words** in bold. Do not use dictionaries.

•The billionaire behind companies like Tesla and SpaceX is known for his audacious plans, and in October of 2019 he took them one step further,when SpaceX sought permission to launch 30,000 satellites into orbit.

•If you were to head over to SpaceX's Starlink website, you'd see that their main selling point is global connectivity: something that would benefit people in rural areas or in places where current internet serviceis too expensive or unreliable. And that's all commendable, since it'd be great if everyone around the globe had access to the internet.

•It aims high and promises huge returns, and it's not without its skeptics and dissenters.

•Even if the speed information is sent around the world speeds up, a slow wifi router can still bottleneck your system.

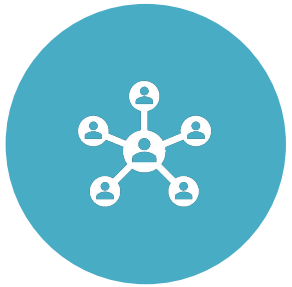
Work in groups of 4. Each group should explain and discuss **the impact of digital divide** from one of the following perspectives:

You must use the following 4 words in your speech: audacious, commendable, bottleneck, a dissenter

Educational

Economic

Cultural



Social

Lesson reflection

What new things did you learn?

How did you participate in the lesson?

What confused you?

What interested you?

Thank you for your active participation!