



Enhancing Productive Vocabulary of ESL Learners Through Multimedia Solutions: A Qualitative Case Study

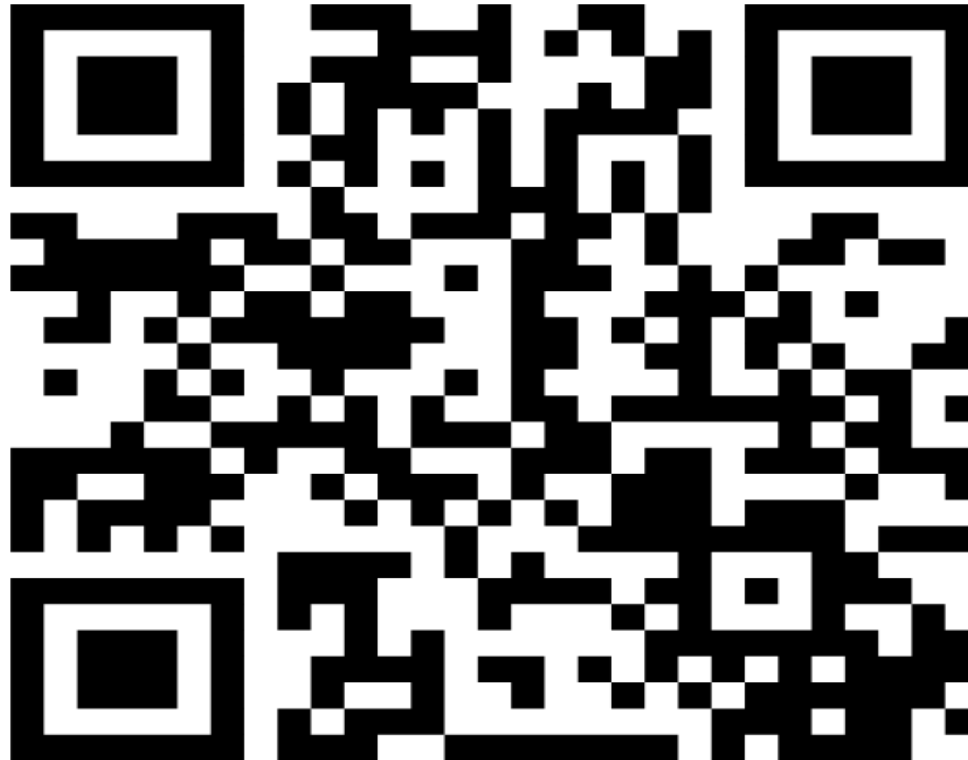
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AGENDA

- A. Quick Survey
- B. The Problem in Online Course Design
- C. Purpose of the Study
- D. Key Multimedia Design Principles
- E. Summary of Thematic Findings
- F. Learners' Preferences and Feedback
- G. Key Takeaways
- H. Q&A



A. Quick Survey: Based on your experience, what are the challenges that you have observed among your learners in online classes?



<https://www.menti.com/alw4z6y49mzc>

C. Purpose of the Study

The purpose of this **qualitative** single-embedded case study is to **examine** how implementing multimedia theories and applications in online courses can **improve** vocabulary **acquisition, retention,** and **production** among adult ESL learners. This study was guided by **Richard Mayer's** Cognitive Theory of Multimedia Learning (CTML).

D. Key Multimedia Design Principles for Vocabulary Retention

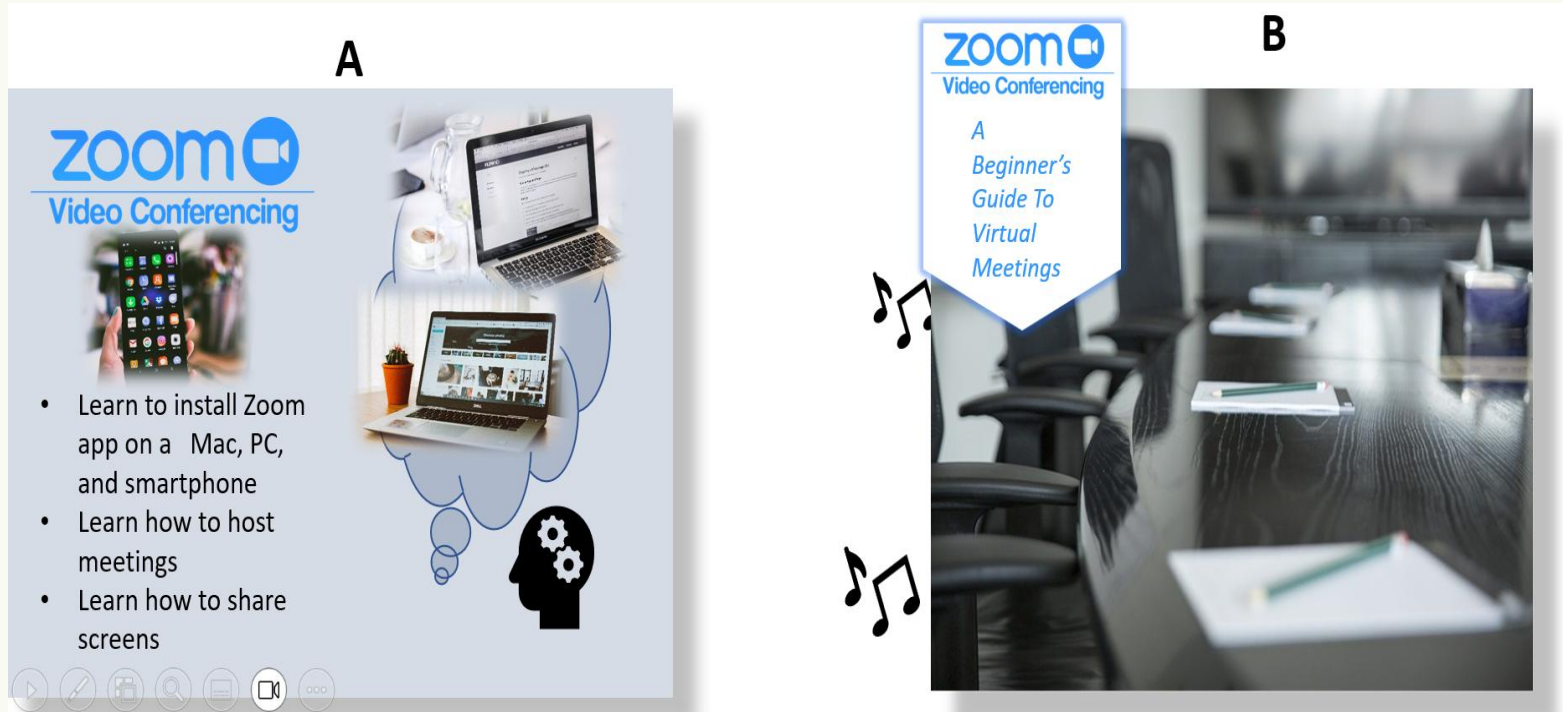
The Cognitive Theory of Multimedia Learning (CTML) is **based** on two main theories as follows:

1. **Sweller's Cognitive Load Theory (CLT)** (Sweller, 2010), which posits that learning is most effective when instructional materials are designed to **minimize unnecessary cognitive load**, allowing learners to focus their cognitive resources on understanding and retaining new information.
2. **Paivio's Dual Coding Theory (DCT)** (Paivio, 2013), which proposes that human cognition is enhanced by processing information through both **verbal and visual channels**, improving memory retention and understanding. (Şendurur et al., 2020).

Mayer's 12 Multimedia Design Principles

Guess which picture is easier to remember?

1.



Coherence Principle



People learn better when extraneous words, pictures, and sounds are excluded rather than included.

2.

A

B

Zoom is a useful collaboration tool for companies, schools, and teams.

ACCOUNT SET-UP

Go to www.zoom.us then click **Sign-Up** in upper right corner



ACTIVATION

Check your **email** for an activation link message

Zoom is a useful collaboration tool for companies, schools, and groups.

An account can be easily set up by going to www.zoom.us. Then go to the upper right corner and click Set Up Account. Once you have completed the information, check your email for an Activation link. When you return to the Zoom site, you will be prompted to start a test meeting.

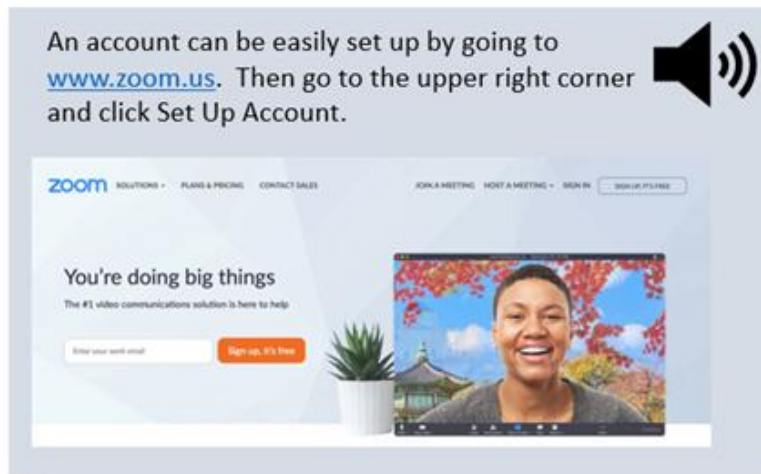


Signaling Principle

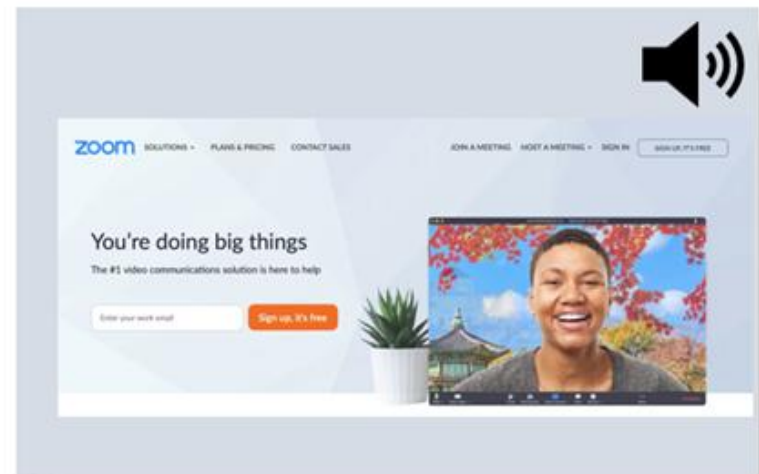
People learn better when cues that highlight essential material are added.

3.

A



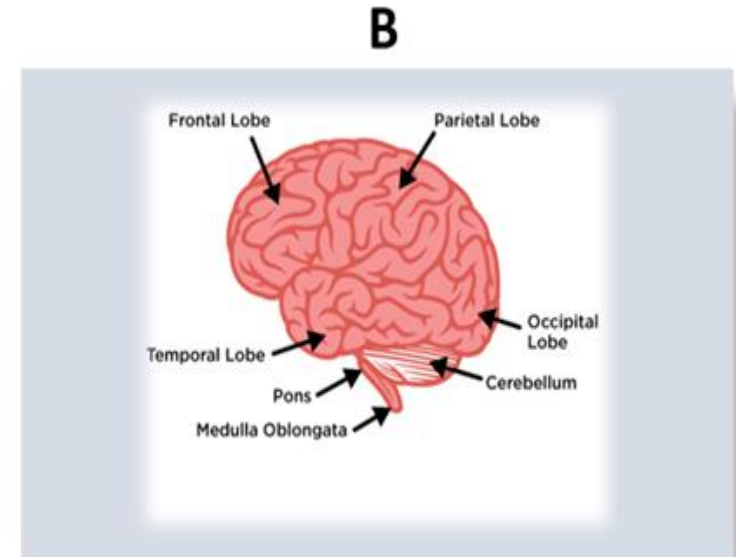
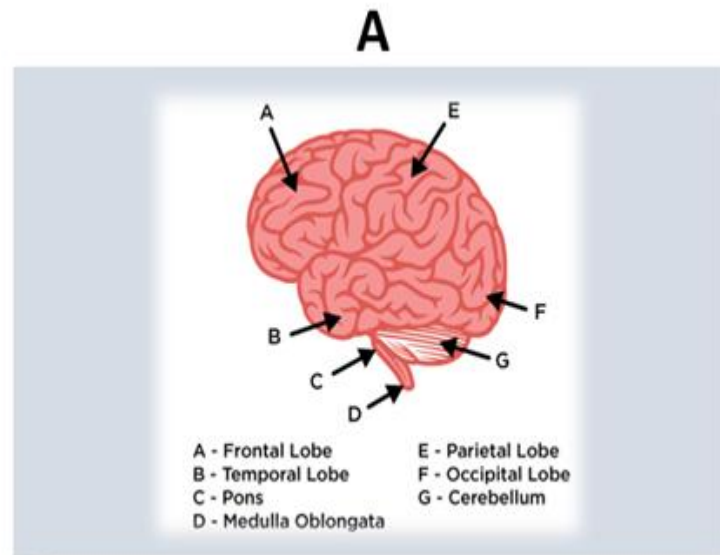
B



Redundancy Principle



People learn better from graphics and narration
than from graphics, narration and on-screen
text.



Spatial Contiguity Principle




People learn better when corresponding words and pictures are presented near rather than far from each other on the page or screen.

5.

A

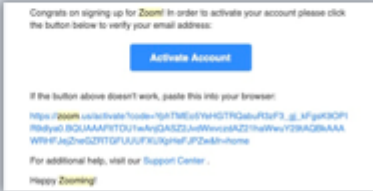
ACCOUNT SET-UP

Click **Sign-Up** in upper right corner





ACTIVATION

Check your email for an activation link message



B

Click **Sign-Up** in upper right corner, then check your email for an activation link message


Temporal Contiguity Principle

People learn better when corresponding words and pictures are presented simultaneously rather than consecutively.

6.

A

ZOOM

- Account Set-up
- Activation
- Launching Mtg
- Screen Share

ACCOUNT SET-UP
Click **Sign-Up** in upper right corner

ACTIVATION
Check your email for an activation link message

RETURN TO ZOOM
Start a test meeting

B

Zoom is a useful collaboration tool for companies, schools, and teams.

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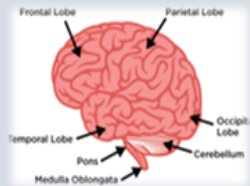


Segmenting Principle

People learn better from a multimedia lesson is presented in smaller segments rather than as a continuous unit.

A

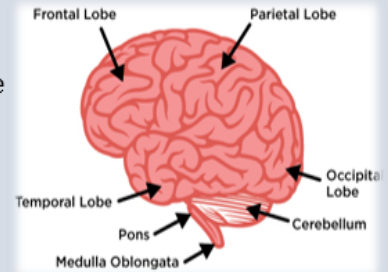
There are many important parts of the brain. The frontal lobe is the part of the brain that controls important cognitive skills in humans, such as emotional expression, problem solving, memory, language, judgment, and sexual behaviors. Meanwhile, the temporal lobe is the region where sound is processed and it is also a region where auditory language and speech comprehension systems are located.

**B****Frontal Lobe:**

the part of the brain that controls important cognitive skills in humans, such as emotional expression, problem solving, memory, language, judgment, and sexual behaviors.

Temporal Lobe:

the region where sound is processed and, not surprisingly, it is also a region where auditory language and speech comprehension systems are located.



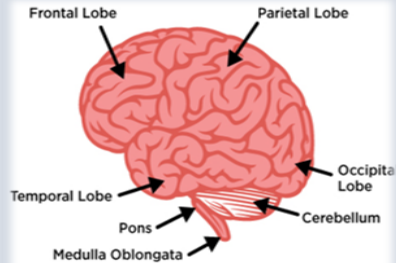
Pre-training Principle

People learn better from a multimedia lesson
when they know the names and
characteristics of the main concepts prior to
the lesson.

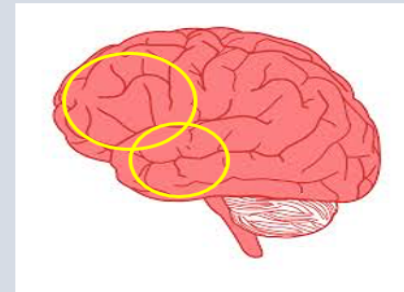
A

There are many important parts of the brain:

The frontal lobe is the part of the brain that controls important cognitive skills in humans, such as emotional expression, problem solving, memory, language, judgment, and sexual behaviors.



The temporal lobe is the region where sound is processed, and it is also a region where auditory language and speech comprehension systems are located.

B

Modality Principle

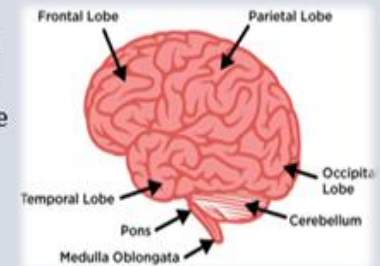
People learn better from graphics
and narrations than from animation
and on-screen text

A

There are many important parts of the brain. The Frontal Lobe is the part of the brain that controls important cognitive skills in humans, such as emotional expression, problem solving, memory, language, judgment, and sexual behaviors. Meanwhile, the Temporal Lobe is the region where sound is processed and it is also a region where auditory language and speech comprehension systems are located.

B

There are many parts. Of the brain. The Frontal Lobe is the part of the brain that controls important cognitive skills in humans, such as emotional expression, problem solving, memory, language, judgment, and sexual behaviors.



The Temporal Lobe is the region where sound is processed and, not surprisingly, it is also a region where auditory language and speech comprehension systems are located.



Multimedia Principle

People learn better from words and pictures than from words alone.

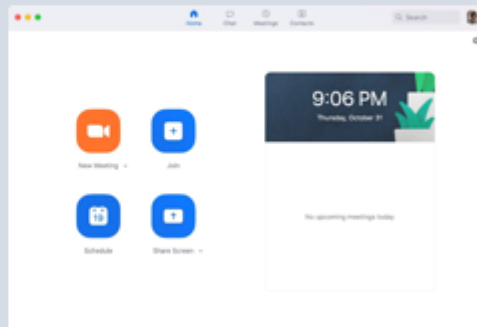
10.

A

Below is the Zoom home screen when you are logged in through the Desktop App.

Using the top toolbar, you can simply navigate to your:

- Chats
- Meetings List
- Contacts Directory
- Search feature

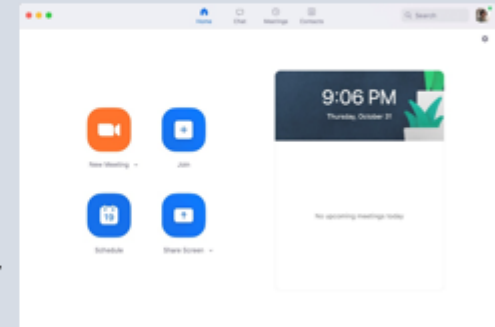


B

A Zoom home screen can be accessed through the Desktop App:

The top toolbar provides navigation ability to:

- Chats
- Meetings List
- Contacts Directory
- Search feature



Personalization Principle

People learn better from multimedia lessons when words are used in a conversational style rather than a formal style.

A

Hello.

I. am. Roboto.

I. will. explain. to. you. the. features. of. Zoom.



B

Hi folks.

I'm Mary and today I will walk you
through the features of Zoom.



Voice Principle

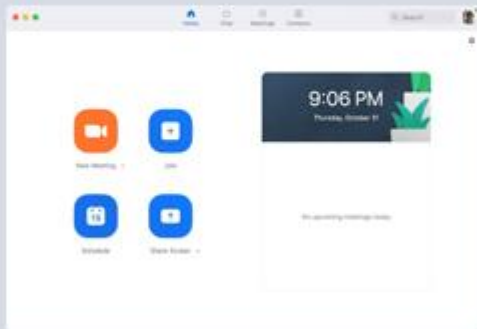


People learn better when the narration in multimedia lessons is spoken in a friendly human voice rather than a machine voice.

12.

A

This is the Zoom home screen when using the Desktop App.



B

This is the Zoom home screen when using the Desktop App.

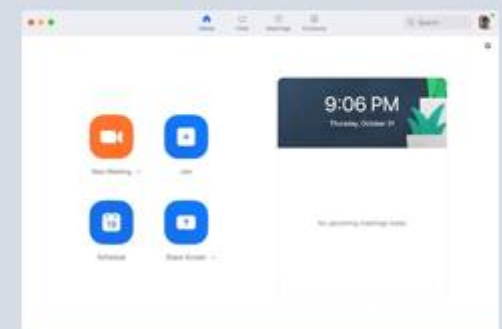


Image Principle

People do not necessarily learn better from a multimedia lesson when the speaker's image is added to the screen.

**E. Summary of Thematic Findings
and their Alignment to Mayer's Key
Principles for Online Learning**

1. Narration (13.85%)

Alignment: Redundancy Principle – Highlights graphics + narration rather than graphics + narration + text.

2. Repetition (12.31%)

Alignment: Multimedia Principle – Emphasizes the importance of providing learners with opportunities to practice and reinforce their knowledge through repetition in different formats, especially when textual explanations accompany visual elements.

3. Visuals (10.77%)

Alignment:

Multimedia Principle – Suggests that learners perform better when information is presented using both **words and visuals** (such as images, diagrams, and videos). This dual-channel approach helps engage multiple cognitive processes.

Signalling Principle: Learning is enhanced when **cues, colours, and highlights** are added to draw attention to vital information.

4. Human Voice (9.23%)

Alignment: Voice Principle – using a **human voice** in narration makes the material more relatable and engaging.

Figure 1: Top-Level Code Statistics

	A	B	C
1	Segments		Percentage
2	TOTAL	130	100.00
3	Narration	18	13.85
4	Repetition	16	12.31
5	Visuals	14	10.77
6	Human Voice	12	9.23
7	Emotion	11	8.46

Figure 1: *Top-Level Code Statistics using MAXQDA*

Results from the webinar audience on September 21, 2025



← Challenges in Online Classes
My presentations

Responses



Based on your experience, what challenges have you observed among your adult ESL learners in online classes?

40

65

Most popular

engagement

8

Also prominent

technical issues

5

distractions

4

digital literacy

3

Other responses

ai

attention span

boredom

camera phobia

computer skills

connection

connectivity issues

cultural differences

different levels

difficulty evaluating

digital divides on have d

digital illiteracy

distracted

distraction

feedback

focus

focus on learning

help from others

internet issues

isolation

join with camera on

lack of attention

lack of communication

listening exercises

literacy barriers

log

no hands on help

of understanding

part of speech

participation

practicing pronunciation

proving more talk time

response

retention

short attention span

staying on the task

stress

structure

tech issues

technical

technical problems

technological literacy

technology

using technology

video is not turned on

G. Key Takeaways

1. Use Multimedia and AI for Personalized Learning

Combine visuals and narration, while using AI tools (e.g., ChatGPT, Quizlet) to tailor lessons to **engage your learners**, **adapt vocabulary difficulty** in real-time, and create a more **personalized learning experience**. Create flashcard sets based on student progress.

2. Simplify Visuals and Focus on Key Content

To avoid cognitive overload, use **simple visuals** and **highlight key** information, as well as employ **scaffolding** approaches that offer small and timely bits of information.

3. Gamify Repetition with Digital Badges

Make *spaced repetition* engaging with games (e.g., Kahoot!); implement and award **digital badges** to **personalize** learning, kindle **motivation**, and help learners **showcase their skills** and achievements.

4. Enhance Learning with Interactive Video Lessons

Use **interactive** videos (e.g., Edpuzzle or H5P activities) as assessments or as a reflection on learning to help learners recall information. Embed questions and **give instant feedback** during your lessons.

Free Apps for Practice:

1. Quizlet Live

Features: Create **flashcards**, use image/audio integration, and access games like "Match" to make learning fun.

Quizlet also offers a "**Learn**" **mode**, which adapts to student progress.

2. WordUp

Features: A **vocabulary** learning app that provides word definitions, uses examples, and has a **spaced repetition** feature. Learners can practice conversations with AI tools.

3. Duolingo

Features: Duolingo covers vocabulary, phrases, and simple sentences through **bite-sized lessons**. It's like your private tutor. It's ideal for beginners and helps reinforce vocabulary with repetition and visual aids.

4. Vocabulary.com

Features: Provides **vocabulary practice** through interactive quizzes, using context-rich sentences for reinforcement.

H. Q&A





THANK YOU

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