



HANDONG
UNITWIN
FELLOWSHIP



School of
Education

Lecture 5

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C-EDUC2: Technology for Teaching and Learning 1

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Lecture 5

Adaptive Learning Technologies



Image 1: Tech company seeks to address digital, education divide in Philippines (Source: Tipchai in Cruz, 2022: Online)



Adaptive Learning

**How does it take to flex education
in the post-pandemic era?**

Let's think about this.

Is the
COVID-19
pandemic a
CURSE
or a
BLESSING
in disguise
to the education
system?

Learning Loss
Home-schooled
Disrupted pedagogy

Learning made adaptive
and flexible
Technological
advancement

Looking back at LECTURE 4



Image 2: Information literacy: Learning to spot what is and what isn't online (Source: Pangalangan, 2021: Online))

The digital and information literate educator can adapt to the ever-shifting digital landscape, effectively use technology in the classroom, promote critical thinking and creativity, and help students learn to be responsible and ethical in consuming and producing knowledge.



Lecture Objectives

- 1. To describe an adaptive learning environment in the context of educational technology; and,**
- 2. To discuss how major learning theories relate to using adaptive learning technologies in teaching.**



Topic 1

The Adaptive Learning Environment



1. The Adaptive Learning Environment

**What do
you do
when big
changes
happen?**

❖ **Avert**

❖ **Avoid**

❖ **ADAPT**



1. The Adaptive Learning Environment

ADAPTING to change makes
teaching and learning more
relevant to the times.



1. The Adaptive Learning Environment

Contextualized Learning Platforms

Mobile Learning

Blended Learning Environment



1. The Adaptive Learning Environment

Contextualized Learning Platforms

- Objective-based tools and features
- Customized to actual circumstances
- Freedom to modify learning tasks



1. The Adaptive Learning Environment

Contextualized Learning Platforms

Mobile Learning

Blended Learning Environment



1. The Adaptive Learning Environment

Mobile Learning

- Portable devices used
- Allowing multitasking
- Learning engagement anytime, anywhere



1. The Adaptive Learning Environment

Contextualized Learning Platforms

Mobile Learning

Blended Learning Environment



1. The Adaptive Learning Environment

Blended Learning Environment

- Alternate synchronous and asynchronous
- Seamless shift of learning strategies
- Breaking the monotony of classroom learning

1. The Adaptive Learning Environment



**Could adaptive
learning
environments
really enhance
teaching?**



Topic 2

Adaptive Learning Theories: Bases for technologizing the teaching through adaptive learning

2. Adaptive Learning Theories

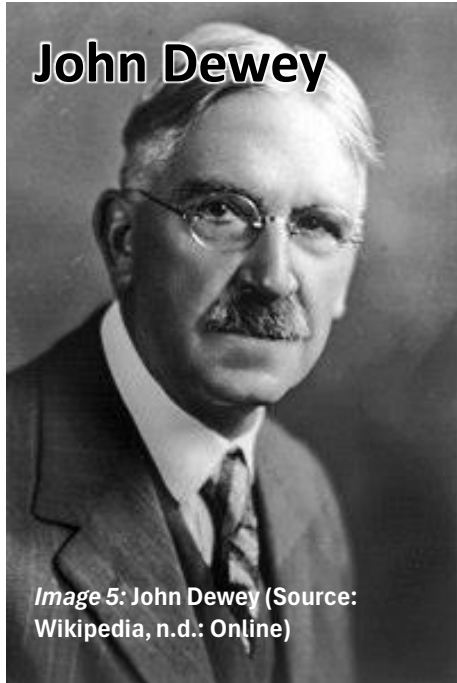
John Sweller



*Image 4: Cognitive Load Theory +
Simulation (Source: Halliwell, 2018:
Online)*

**Cognitive
Load**

John Dewey



*Image 5: John Dewey (Source:
Wikipedia, n.d.: Online)*

Constructivism

Howard Gardner



*Image 6: Howard Gardner: Biography
& Multiple Intelligence (Source:
School Work Helper, n.d.: Online)*

**Multiple
Intelligences**

Lev Vygotsky



*Image 7: Lev Vygotsky (Source:
Wikipedia, n.d.: Online)*

**Zone of Proximal
Development**

Richard Ryan



*Image 8: Richard Ryan (Source:
Wikipedia, n.d.: Online)*

**Self-
Determination**

2. Adaptive Learning Theories

John Sweller



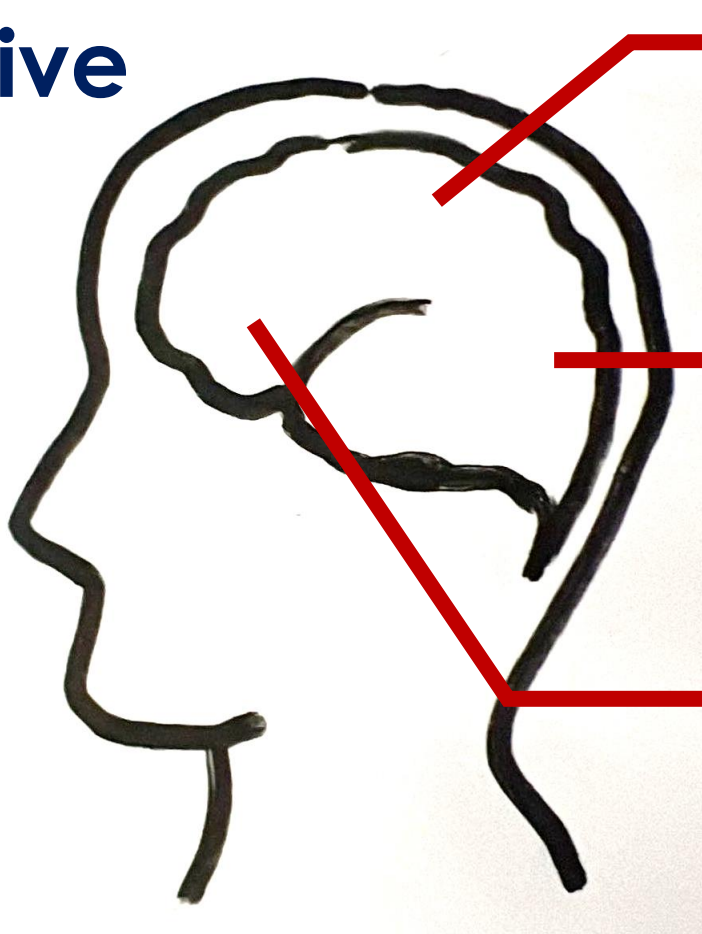
*Image 4: Cognitive Load Theory +
Simulation (Source: Halliwell, 2018:
Online)*

Cognitive Load Theory

- Learning at own pace
- Decongested learning tasks
- Differentiated instruction

2. Adaptive Learning Theories

Cognitive Load Theory



Intrinsic Load (Complex)
> *Simplify*

Extraneous Load (Distracted)
> *Reduce*

Germane Load (Organized)
> *Maximize*

2. Adaptive Learning Theories

John Dewey



Image 5: John Dewey (Source:
Wikipedia, n.d.: Online)

Constructivist Learning Theory

- Active engagement
- Creative learning
- Project-based encounter



2. Adaptive Learning Theories

Constructivist Learning Theory

Ideation
Exploration
Evaluation
Innovation

Engaging the mind to
form concepts

Meaningful
Learning

Verifying concepts in
the environment

Discovery
Learning

Critical discussion
through collaboration

Generative
Learning

Practicing the learned
processes

Creative
Learning

2. Adaptive Learning Theories

Multiple Intelligences Theory

- Engaging students in their cognitive strengths
- Differentiated instruction and learning tasks

Howard Gardner



Image 6: Howard Gardner: Biography & Multiple Intelligence (Source: School Work Helper, n.d.: Online)

2. Adaptive Learning Theories

Multiple Intelligences Theory

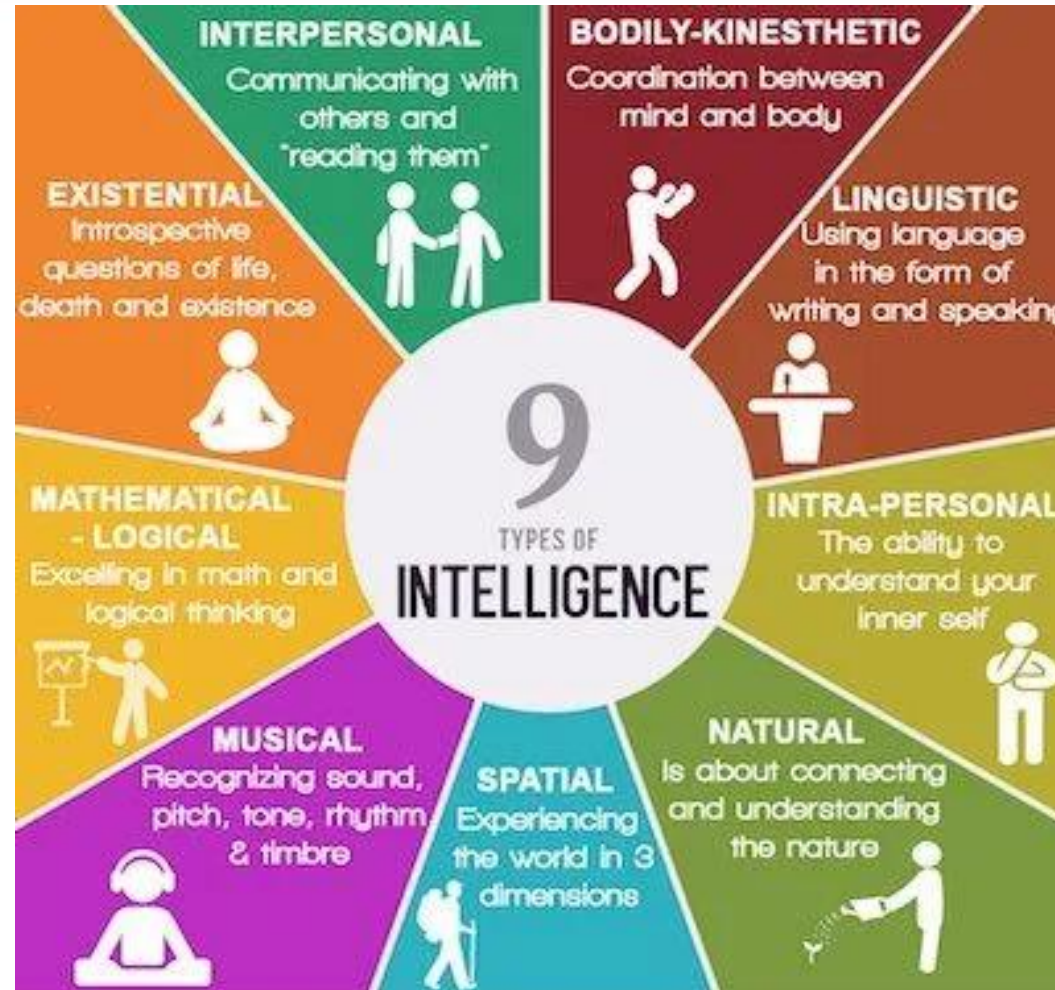
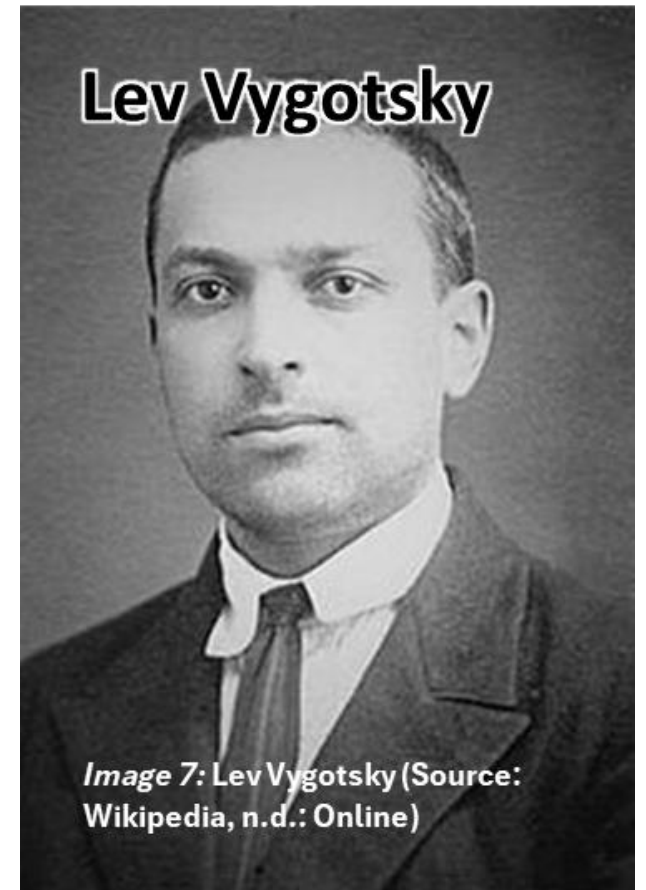


Image 9: Multiple Intelligences by Howard Gardner (Source: Nanivadekar, 2022: Online)

2. Adaptive Learning Theories

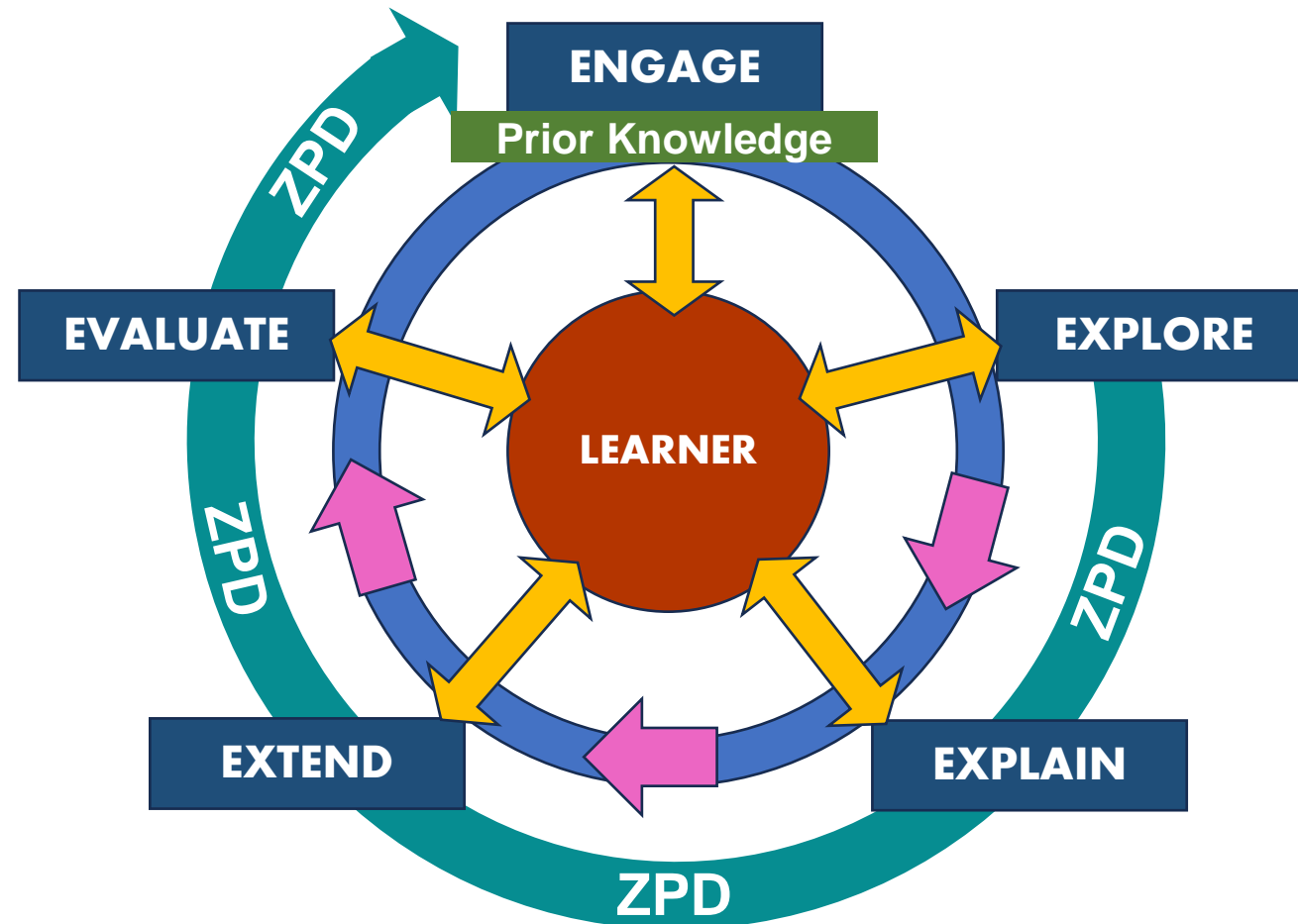
Zone of Proximal Development (ZPD)

- Engaging students in their cognitive strengths
- Varying learning complexities based on capabilities and abilities



2. Adaptive Learning Theories

ZPD Theory



2. Adaptive Learning Theories

Self-Determination Theory

- Intrinsic Motives
- Autonomy
- Social Competence

Richard Ryan



Image 8: Richard Ryan (Source: Wikipedia, n.d.: Online)



Lecture 5: CONCLUSIONS

Adaptive technologies revolutionize education by tailoring learning to various needs and interests. They give students individualized support and challenges to boost engagement, retention, and mastery. Personalized learning maximizes performance, helping students succeed in changing educational situations.

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