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Real-Time Learning Theory

- Define what is Real-Time Learning Theory

- What theories influenced Real-Time

- 🖈 How VR can be used in this theory

- Significance to the field of Instructional Design

- Research needed to be done for Learning Theory

- Knowledge Check

- References

Introduction to Real-Time LearningTheory

Theories that influence Real-Time

How VR can be used in RT

How RT can help the field of Instructional Design

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Introduction to Real-Time LearningTheory

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What is Real-Time Learning Theory?

Real-Time Learning Theory (RT) is utilizing **extended reality (XR)/ virtual reality (VR)** technology to create an engaging and interactive learning experience that learners will be able to learn about new technology while engaging with others.

CONTINUE

Background on Real-Time Learning Theory

The background for the **Real Time learning theory (RT)** as the purpose of Extended Reality (XR)/ Virtual Reality (VR) is to bring the real world and virtual reality into one place. It was inspired by the fact that real-time is like being able to facetime or make a video call; you can do that in real time even if the other person lives in another time zone. So being able to easily slip into the virtual world with the real world and have that human interaction is why it is called Real-Time (RT).

CONTINUE

1 It also was inspired by the lack of technology being used in the instructional design field and how little technology is being used by the instructional designer which limits their ability to keep up with the newest in-demand technology that is being created and researched.

2 It was also inspired by the pandemic, the move to remote and virtual work, studying, and other home-based activities has created interest in new and more useful applications of VR and AR beyond gaming.

3 Virtual fitness, business collaboration, and distance learning are just three of many examples. With more development and more demand, VR and AR are increasingly being seen as viable replacements for in-person training, meetings, events, conventions, customer service, healthcare, and other activities.

Theories that influence Real-Time

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The 3 Theories

The three theories that influenced Real-Time Learning Theory are **Gagne's 9 Steps of Instruction, Connectivism Learning Theory,** and **Media Comparison and Value-Added Research**

Gagne's 9 Steps of Instruction

There are nine steps in this instruction 1) gain attention, 2) inform learners of objectives, 3) stimulate recall of prior learning, 4) present stimulus, 5) provide learner guidance, 6) elicit performance, 7) provide feedback, 8) assess

Connectivism learning theory is a relatively new learning theory that

Connectivism Learning Theory

combines the learner with
technology by accepting
technology as a part of
the learning process. Part
of this learning theory is
its connectedness
between learning and

Media Comparison and Value-Added Research

The media comparison and
value-added research are
important in showing the
difference between 2D, 3D,
and VR. While value-added
research is showing what the
student has learned while in
the educational setting
typically in higher education.

CONTINUE

How these theories influence RT

Introduction

This will give you an overview of how the three learning theories influence Real-Time Learning Theory and how they would be utilized.

Gagne's 9 Steps of Instruction

1. Gain attention
2. Inform learners of objectives
3. Stimulate recall of prior learning
4. Present stimulus
5. Provide learner guidance
6. Elicit performance
7. Provide feedback
8. Assess performance
9. Enhance retention and transfer

1) gain attention - as the technology is new people tend to want to learn about the newest technology

2) inform learners of objectives - share learning objectives about what they can expect to learn about RT

3) stimulate recall of prior learning - be able to recall how FaceTime and Zoom applications work

4) present stimulus - show visually appealing graphics

5) provide learner guidance - create a small infographic or video with a list

6) elicit performance - allow time for people to be able to learn the technology presented and learning theory

7) provide feedback - get feedback on Real-Time Learning Theory

8) assess performance - allow for learner to be able to explore VR worlds, play games

9) enhance retention and transfer - allow the learner to be able to play games in VR and be able to recall what RT means and teach it.

Connectivism learning theory

a relatively new learning theory that combines the learner with technology by accepting technology is a part of the learning process. Part of this learning theory is its connectedness between learning and technology as it is known that technology is a part of our everyday lives with social media. Being able to connect and learn is one of the biggest issues that was had during the pandemic, where there was a huge disconnect and learning was put to the side.

The media comparison and value-added research

are important media comparisons in showing the difference between 2D, 3D, and VR. While value-added research is showing what the student has learned while in the educational setting typically in higher education.

Summary of how these theories influence RT

With Gagne's 9 steps of instructions, it would be used most for first being able to utilize VR technology as many may not know how it is used, and then how it could be implemented in a class setting. Then with connectivism learning theory, it would help learners to make the connection of this is a virtual world but it can also help in creating face-to-face social interactions like how *TikTok* does with many of their how-to videos. The media comparison and value-added research would help as well to slowly introduce VR by starting out with 2D, then 3D, and then finally VR and working that seamlessly into the class setting.

Real-Time Theory works in that it will be very similar to how connectivism learning theory works as it combines the learner and technology together as a part of the learning process. In Real-Time learning theory the most important thing to remember is being able to have human interaction when you are not in a face-to-face setting.
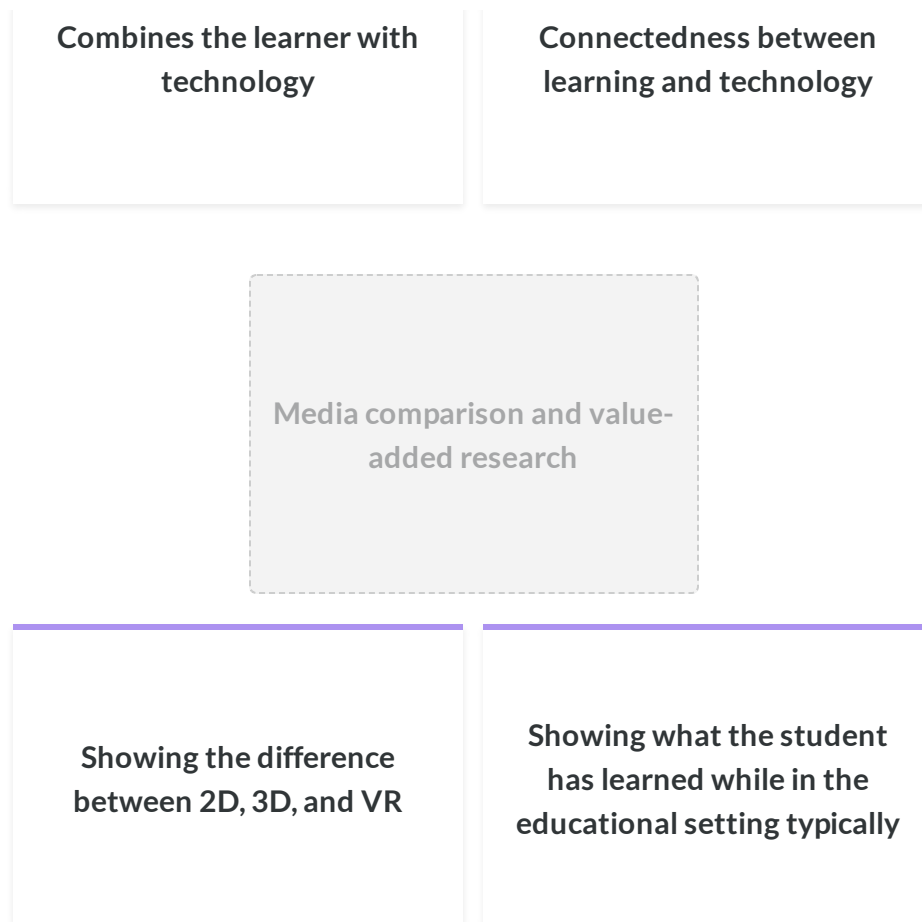
CONTINUE

Gagne's 9 Steps of Instruction

As the technology is new people tend to want to learn about the

Be able to recall how FaceTime and Zoom applications work

Connectivism learning theory

| Combines the learner with technology | Connectedness between learning and technology |

Media comparison and value-added research

| Showing the difference between 2D, 3D, and VR | Showing what the student has learned while in the educational setting typically |

CONTINUE

How these theories connect

With Gagne's 9 Steps of instruction, it would first be on how to implement VR technology into a classroom setting by using Media Comparison and Value-Added Research by introducing 2D learning first, then 3D, and finally VR learning. There would also be a learning guide on how to use VR as many are unfamiliar with the technology or will need it to be able to teach others. Along with the Connectivism Learning Theory that combines the learner with technology accepting technology as a part of the learning process would help to assist the teacher or professor in better allowing themselves and students to learn new technology along with their own teachings.

How VR can be used in RT

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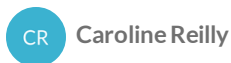
Virtual Reality

Virtual reality is a simulated experience that employs pose tracking and 3D near-eye displays to give the user an immersive feel of a virtual world. VR is under the umbrella term Extended Reality (XR) of new and upcoming technologies.

VR CAN BE USED BY ANYONE	LIMITATIONS TO VR	OTHER INDUSTRIES USING VR

Virtual Reality (VR) can be used by anyone who wants to learn or use new technology. It can be used to create art, take you on virtual field trips, and many others!

Some problems with the RT learning theory would be that VR headsets have been known to cause what is called a **post-VR "hangover"**.

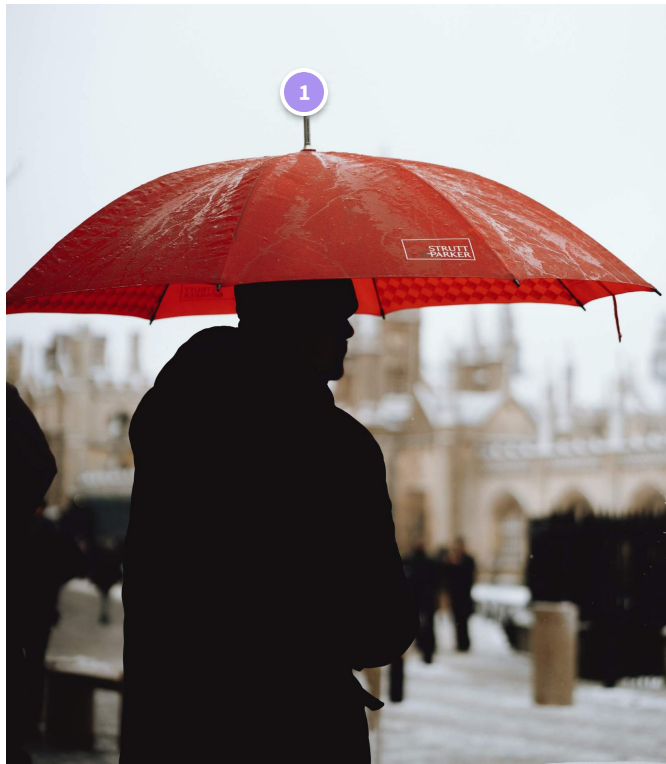| VR CAN BE USED BY ANYONE	LIMITATIONS TO VR	OTHER INDUSTRIES USING VR

Some examples of other industries using VR are:

- Automotive

- Healthcare

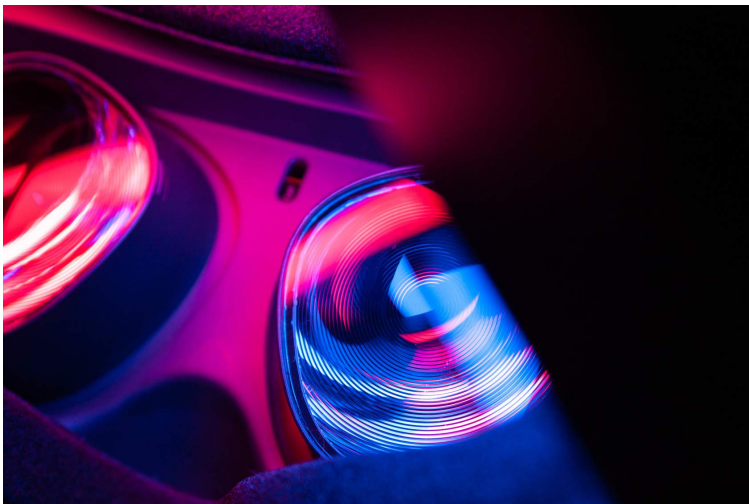- Real Estate

- Tourism

- Education

Under the Technological Umbrella

Extended Reality

Extended Reality (XR) is the umbrella term used to cover VR, AR, and MR.

Virtual Reality

Virtual reality (VR) is a simulated experience that employs pose tracking and 3D near-eye displays to give the user an immersive feel of a virtual world.
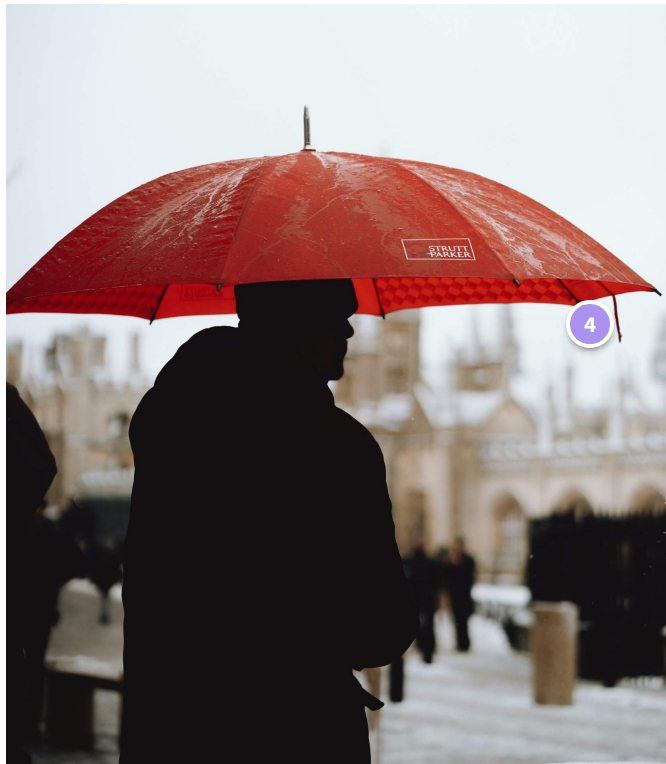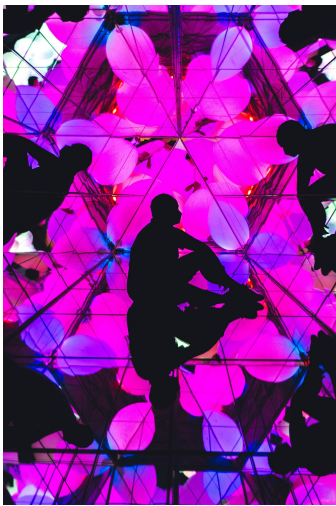
Augmented Reality

Augmented Reality (AR) is the integration of digital information with the user's environment in real time.

- Think of the popular game *Pokémon Go* that is a mobile game

Mixed Reality

Mixed Reality (MR) is a term used to describe the merging of a real-world environment and a computer-generated one.

How RT can help the field of Instructional Design

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RT and Instructional Design

Real-time learning theory can help the instructional design field by keeping IDTs updated on the newest in-demand technology that is being created and researched. It also showed a lack of technology being used in the instructional design field and how little technology is being used by the instructional designer which limits their ability to create new learnings/pieces of training.

"To master a new technology, you have to play with it".

-Jordan Peterson

Research needed for RT

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Research for RT

For RT learning theory would be that **VR headsets** have been known to cause headaches, eye strain, dizziness, and nausea after using the headsets giving what is called a **post-VR "hangover".** VR also still needs to have more research looked into as VR technology is still a new technology that is always evolving.

Limitations of a theory

Media Comparison and Value-Added Research

The limitation of the media comparison is that many argue that media comparison has no real significant difference as many other research projects have already shown that there was no difference in learning outcomes. The limitation of value-added research is that it shows an estimate that while it may seem like the school and teachers are teaching their students but this is not always credible. This means that while 2D, 3D, and VR learning have been used not many have shown it is important as it still needs to be researched and allowed to show this technology is not dangerous and can allow others to be able to experience a class without

having to leave their home. RT will slowly gain trust by starting out slowly by introducing familiarity with FaceTime, 2D learning, then 3D learning, and finally VR learning.

Video

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Real-Time Learning Theory Video

Real-Time Learning Theory Video

Knowledge Check

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1

What does VR stand for?

○ Extended Reality

○ Virtual Reality

SUBMIT

2

True or False, are XR and VR the same?

◯   True

◯   False

SUBMIT

3

What can VR do for you?

☐   Watch live/participate in events from the comfort of your home

☐   Leak data to Mark Zucherberg

☐   Use the headset as sunglasses

☐ Interact with friends, family, classmates, and teachers

☐ All of the above

SUBMIT

What is Real-Time learning theory?

☐ No interaction between people

☐ Learning while using XR/VR technology

☐ Bridge together real life with the virtual world and be able to create a seamless connection

Combines learning online but gives that human
connection with a simulated face-to-face interaction

None of the above

SUBMIT

What are some drawbacks to VR learning?

There is not interaction

Post VR "hangover"

None of the above

SUBMIT

What are some problems that Real-Time learning may have?

- [ ] VR is still new technology and many would still need to learn it

- [ ] Interactivity between people

- [ ] Seeing how well various households would take to VR learning over face-to-face learning

- [ ] All of the above

SUBMIT

Fill in the blank. RT stands for what?

Type your answer here

SUBMIT

Match the correct technology to the correct term.

Augmented Reality (AR)	Interactive experience that combines the real world and computer-generated content
Mixed Reality (MR)	Used to describe the merging of a real-world environment and a computer-generated one.

SUBMIT

9

Besides art, film, and media, what other industries use VR?

☐ Education

☐ Automotive

☐ Healthcare

☐ Tourism

☐ Architecture
/ Real Estate

☐ All of the above

SUBMIT

In Real-Time learning theory what is the most important idea to this theory?

○ Having VR chat logs

○ Creating superior classes with little to no
participation from the students or teachers in any

way shape or form

○ Is being able to have human interaction when you are not in a face-to-face setting

○ None of the above

SUBMIT

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