

Pedagogical Avatars: Learning in the 21st Century

Video Transcript

Hello and welcome to this presentation of 'Pedagogical Avatars: Learning in the 21st Century'. This is an introduction to an innovation for the classroom that brings the fun of animation and the structure of pedagogy together to meet the needs of 21st Century Learners!

Digital Learners need to experience the classroom differently than their non-digital counterparts. Often referred to as 'Generation M', these learners require a learning experience that will engage, excite, inspire, teach, and challenge them in new and fun ways.

Pedagogical avatars may be the answer. Avatars have often been considered only useful in gaming environments but thanks to the vision of such innovators as Jason Tan, Yanna Wu, and Amy Baylor, avatars have found a place in the classroom. Learning can involve game-like interactions while presenting clear educational content. Other major innovators and researchers include Kayur Patel and Jeremy Baylenson who have studied the relationships between humans and avatars to create more a more meaningful learning experience.

Because the use of pedagogical avatars in the K-12 classroom is an emerging field, there is a gap in the research related to the innovation timeline. No information is available regarding the persuasion, decision, implementation, confirmation, and communication stages of innovation adoption.

Exactly what are pedagogical avatars? Pedagogical avatars are animated, intelligent agents who engage learners in human-like scripted interactions. Pedagogical avatars can assist in the classroom by providing instructions to learners or can be customized to respond to specific questions.

Pedagogical avatars use computer-based tools to motivate learners in a socially-constructive manner to interact with academic content. Learning strategies such as scaffolding, anchored instruction, concept mapping, and computer-aided instruction can be incorporated into pedagogical avatars. ALICE, an Artificial Intelligence foundation, has worked to improve and perfect the use of chatbot avatars in the classroom. These avatars include human-like expressions, eye movements, and lip synchronization during speech.

The benefits of using avatars in the classroom include using teaching agents in the classroom that can present material clearly and without human distractions and annoyances such as irritability, impatience, and anger. Pedagogical avatars lack feelings and focus only on the educational content and the learner.

Here are a few examples of the many types of avatars available for use in the classroom. Some avatars are textual, while others speak and respond to text. Let an avatar teach a lesson on desert biomes. Let students learn from a former politician.

Conversational avatars are pedagogical avatars that engage in two-way communication with the learner. Though avatar speech sounds somewhat robotic, Verbots offer the added benefit of a captioned script of the avatar's response to the learner. This is especially important for visual learners. The accompanying text with the spoken response makes conversational pedagogical Verbot avatars attractive to teachers since they meet some criteria for ADA compliance.

What does the research say about pedagogical avatars?

Wayne, Chignall, and Ishizuka report that avatars are able to personalize learning, motivate learning, and inspire reflection through a more personalized approach to instruction. A study by Okita, Baylenson, and Schwartz reported that measures of skin conductance of electrical impulse for students interacting with avatars was greater than those learning without avatars, indicating more learner engagement and resulting in better post-test performance. Reeves noted that avatars in the classroom are viewed as trusted social partners who make the learning experience easier.

Pedagogical Avatars are not new and have been used to teach and train outside of the K-12 environment for years. Colleges, universities, and higher education institutions used pedagogical avatars to enrich the learning experience for college students. Medical training often uses avatars to place health-care professionals in simulated crises to gauge reactions and responses to simulated events. Corporations have begun to use avatars for corporate training to reduce the expenses of a human presenter while providing the same content and knowledge base. Curtis and Thomas report that the U.S. Air Force uses instructional interactive avatars to assure readiness for military missions.

Who is NOT using pedagogical avatars? Strangely, the educators of Generation M who grew up playing video games and relating most closely with avatars. Navigating a video game is not much different than constructing knowledge with the help of an avatar!

Consider these reasons to adopt pedagogical avatars into your K-12 school.

Pedagogical avatars are cost-effective, re-useable, provide consistent educational content, capture student attention, improve learning retention, and can be adapted to different learning styles.

It is important that K-12 schools follow certain strategic guidelines to enhance the innovation adoption process of the stakeholders. Schools should share research regarding avatars in education, involve teachers, students, technology coordinators, and school administrators in course design process, be certain that all avatar-led courses are standards-based, design a student trial group for pre- and post- assessment of learning objectives for avatar-led courses, compare standardized test scores of students who participate in avatar-led instruction with non-treatment group

The following are smart suggestions to promote the adoption of pedagogical avatars. Provide an interactive demonstration of pedagogical avatars to stakeholders. Also, provide extensive training on pedagogical avatar creation and integration process. We offer a free trial period before you decide whether to adopt so that teachers and students will get to know the feel of the pedagogical avatar experience.

These are the seven steps that you can take to ensure that the pedagogical avatar reaches critical mass within your K-12 district:

Use a decentralized approach to meet the specific learning needs of students within each school following district acceptance.

1. *Present benefits of Pedagogical Avatars*
2. *Discuss district AYP progress*
3. *Determine why current actions are not working*
4. *Try Pedagogical Avatars before you buy!*
5. *On-site training & support (1 week)*
6. *Feedback session*
7. *Satisfaction Report & Referrals*

Let's recap your organizational need. Your greatest organizational need is to improve K-8 student performance on state and district assessments. The agenda that will be constructed will meet the needs of digital learners that are not being adequately addressed using current methods. Pedagogical Avatars match this need by providing customized and engaging instruction to digital learners.

21st Century Learners: Engage them with Pedagogical Avatars!