CoSpaces

Virtual Reality   Constructionism   Media   Learning Experience

CoSpaces is a mixed reality web-based application that allows users to create and engage with interactive media content. CoSpaces affords the student the ability to demonstrate their knowledge in new ways by building virtual interactive worlds, simple or complex, that is approachable to the uninitiated.

Users can create:

- _Virtual Reality (VR, 3D, and 360-degree photo/video)_
- _Augmented Reality (AR)_
- _Interactive 3D content using a visual programming language_
- _Simulations_

[Watch on YouTube](#)

Tool Snapshot

Topic	Details
Learning	[Constructionism](#)
[Price](#)	Free & Paid Plans
Access	★★★★☆
Ease of Use	★★☆☆☆
Student Learning	★★★★★
Accessibility	★★☆☆☆
Power & Bias	★★★★☆
Class Size	30, including teacher
Privacy	★★★★☆
Login	Yes
[ISTE*S](#)	Knowledge Constructor, Creative Communicator, Computational Thinker
COPPA/ FERPA	Yes

Terms:

- **Virtual Reality** – Immersive digital experience in a simulated environment. The user wears a headset and sometimes has controllers to engage with the virtual environment.
- **Augmented Reality** – Digitally-created content is overlaid in the real world. A person uses either a device with a camera (e.g., a phone) or uses a device that produces holographic images to view/interact with digital content. One example is [Pokemon Go](#).
- **Mixed Reality** – A combining of virtual and augmented reality content.
- **Visual Programming Language**: This allows users to create programs graphically rather than textually. This type of language alleviates issues related to programming syntax (the writing structure of code) and semantics (the meaning of programming elements).
- **360 Photos/video** – Content that captures a spherical view of an environment (see the [coral reef with textual data overlain the photo](#))

CoSpaces Overview Video

[Watch on YouTube](#)

CoSpaces & the SAMR Model

Dr. Ruben Puentedura's [SAMR model](#) offers a lens for examining how technology is adopted in a classroom. As you strive to incorporate online tools into your classroom, we encourage you to use this model as an analytic tool.

Here is an example of how CoSpaces might fit within the SAMR model:

- **Substitution**: Students use CoSpaces as a simulation of real-world activities and engagements.
- **Augmentation**: Students create virtual environments instead of a slide show presentation.
- **Modification**: Students engage in problem-based learning via activities such as a storyline and dialogue.
- **Redefinition**: Students can engage in virtual training (that avoids safety hazards) and recreate real-world locations, past or present.

Source: [SAMR Model: VR & AR 3D Technologies](#)

Far too often, technology is used as a direct substitute for other low-tech tools (e.g., pencil and paper). While substitution has some benefits (e.g., students develop their technological skills and knowledge), we encourage you to think about how you might use CoSpaces to modify or redefine learning.

Learning Activities

- Game Development
- Historical recreations
- Scientific models
- Art exhibits
- Infographics
- Interpretations of literature
- Learning language
- Programming: Learn to create interactive content with a visual programming language. An example is [Scratch](#)
- [Pinterest by CoSpaces](#)

Example interdisciplinary lesson: [Transcend the Classroom with Virtual Place-Based Learning](#) – Students designed a virtual representation of District 2020 as an urban area emphasizing sustainability and food security and reflecting the area's social history. This created a place-based interdisciplinary project where students drew from English, history, and geography learning and applied their knowledge to a contemporary challenge in a local context.

Resources

How to Use CoSpaces

- [CoSpaces YouTube Channel](#)
- [What is CoSpaces?](#)

Projects

- [Simulation-Flooding](#)

Research

Heller, S., Campbell, L., & Laguardia, E. (2020, April). [Virtual and Augmented Reality to Enhance Computational Thinking and Content Knowledge in Advanced Placement History](#). In *Society for Information Technology & Teacher Education International Conference* (pp. 1751-1755). Association for the Advancement of Computing in Education (AACE).

Kaplan, A. D., Cruit, J., Endsley, M., Beers, S. M., Sawyer, B. D., & Hancock, P. A. (2021). [The effects of virtual reality, augmented reality, and mixed reality as training enhancement methods: A meta-analysis.](#) *Human factors*, *63*(4), 706-726.ve virtual reality for students with ASD: A review between 1990−2017. *Education and Information Technologies*, *24*(1), 127-151.

Wang, H. Y., & Sun, J. C. Y. (2021). [Real-time virtual reality co-creation: collective intelligence and consciousness for student engagement and focused attention within online communities](#). *Interactive Learning Environments*, 1-14.

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