

Creating 3D learning media

Your guide to creating engaging and effective content at **UNE**.

une
University of New England

Table of Contents

About this guide 3

When to choose 3D for teaching and learning 3

Choosing an approach 4

Live-rendered 3D 4

Pre-rendered 3D 4

Hybrid approaches 4

Planning the learning experience 5

Considerations for VR and AR 5

Getting started 6

Working with the Learning Media team 6

Create on your own (DIY) 6

Practical considerations 7

Accessibility and usability 7

Performance & platform constraints 7

Time, scope, and complexity 7

Assets 7

Post-production 8

Testing 8

Review 8

Future use 8

Next steps 9

About this guide

This guide is a starting point for staff who are exploring how 3D media might support their teaching goals and learning outcomes.

When to choose 3D for teaching and learning

Choosing 3D for the right reasons is important. 3D is especially useful for helping students understand structure, scale, movement, sequence, and spatial relationships.

3D can also make learning more immersive or engaging, but other media can sometimes achieve the same result. Let the learning outcome guide the decision.

Start with the teaching goal. What do students need to understand or do?



A few key ingredients for effective 3D-based learning media:

- **Purposeful interaction -** Interactions should support learning by helping students focus on what matters most.
- **Visual clarity -** 3D media should make important forms, processes, and relationships easy to see and understand.
- **Aligned with learning need -** The chosen 3D approach should match the teaching goal and the type of learning being supported.

Choosing an approach

As your ideas take shape, it is useful to keep in mind that 3D comes in different forms:



Live-rendered 3D

Live-rendered content gives students more freedom to inspect 3D elements from different angles and explore them interactively. VR (virtual reality) and AR (augmented reality) are examples of this.

Pre-rendered 3D

Pre-rendered 3D usually refers to animated video sequences. These can stand alone as videos or be embedded into broader learning experiences such as branching scenarios or simulations.

Hybrid approaches

Sometimes a mix of approaches is the best way to meet teaching objectives.

A simple guide:

- **Consider live-rendered 3D when students need to inspect, rotate, zoom, compare, or explore at their own pace.**
- **Consider pre-rendered 3D when you need stronger visual clarity, tighter narrative control, or guided explanation.**
- **Consider for a hybrid approach when students need both guided explanation and opportunities for exploration.**

Planning the learning experience

When planning the learner experience, start by asking:

- What should students understand?
- What should students be able to do?

Keep the experience clear and focused. It can be tempting to add lots of effects or advanced features, but these can confuse learners. Guided views can often be more effective than giving students too much freedom. Design interaction with purpose. Every interaction should support learning and reduce confusion.

A simple, focused interaction is often more effective than a large, complex 3D experience.

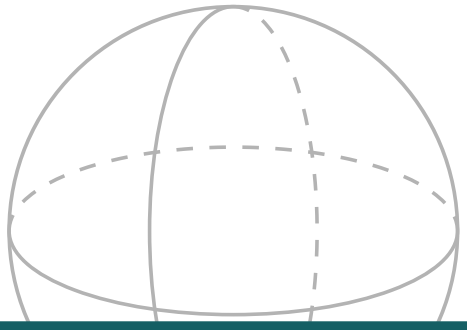
Considerations for VR and AR

VR and AR offer forms of learning that go beyond standard 3D media by placing digital content into the learner's physical point of view or surrounding environment.

VR can be useful when learning benefits from immersion, embodied movement, or a strong sense of presence. It is especially helpful for experiences that would be dangerous, expensive, inaccessible, or otherwise impractical in real life.

AR can be useful when learners need to see digital information, models, or guidance layered onto the real world. This can help connect abstract ideas to physical spaces, objects, or tasks.

These technologies have clear strengths, but access should be considered carefully. Not all learners will have access to headsets or up-to-date mobile devices, and some may find these formats uncomfortable or unsuitable. Where possible, it can be helpful to provide fallback options, such as non-VR or non-AR equivalents.



Rule of thumb:

Design from the student's point of view. What should they notice, understand, and do, and what might confuse or distract them?

Getting started

Consider whether your goal is to create a 3D learning experience on your own, or to co-create with the Learning Media team.

Working with the Learning Media team

Feel free to use our media request form to send through your initial ideas. We can review your concept, help develop the idea, and suggest suitable solutions.

Before getting in touch, it can help to prepare:

- the unit or topic
- the learning outcomes
- a brief description of the idea
- what students need to understand or do
- any existing reference materials or assets
- important deadlines or teaching dates

When working with our team on longer projects, a weekly check-in is generally advisable for keeping momentum and providing feedback.

Create on your own (DIY)

If you have a project that you wish to explore on your own, the Learning Media team are available to offer advice and guidance, so feel free to get in touch if you would like input on your own project. We can suggest simple ways to begin, useful tools, suitable project types, and ways to keep things manageable.

If you're planning to work with AI-generated 3D content, we can help set the context and style, and share other tips and tricks we've learnt along the way.



Practical considerations

Accessibility and usability

Content will need to be designed with accessibility, ease of use, and students' level of digital confidence in mind. Where needed, provide supporting materials such as captions, transcripts, text explanations, guided narration, or alternative non-3D pathways.

Performance & platform constraints

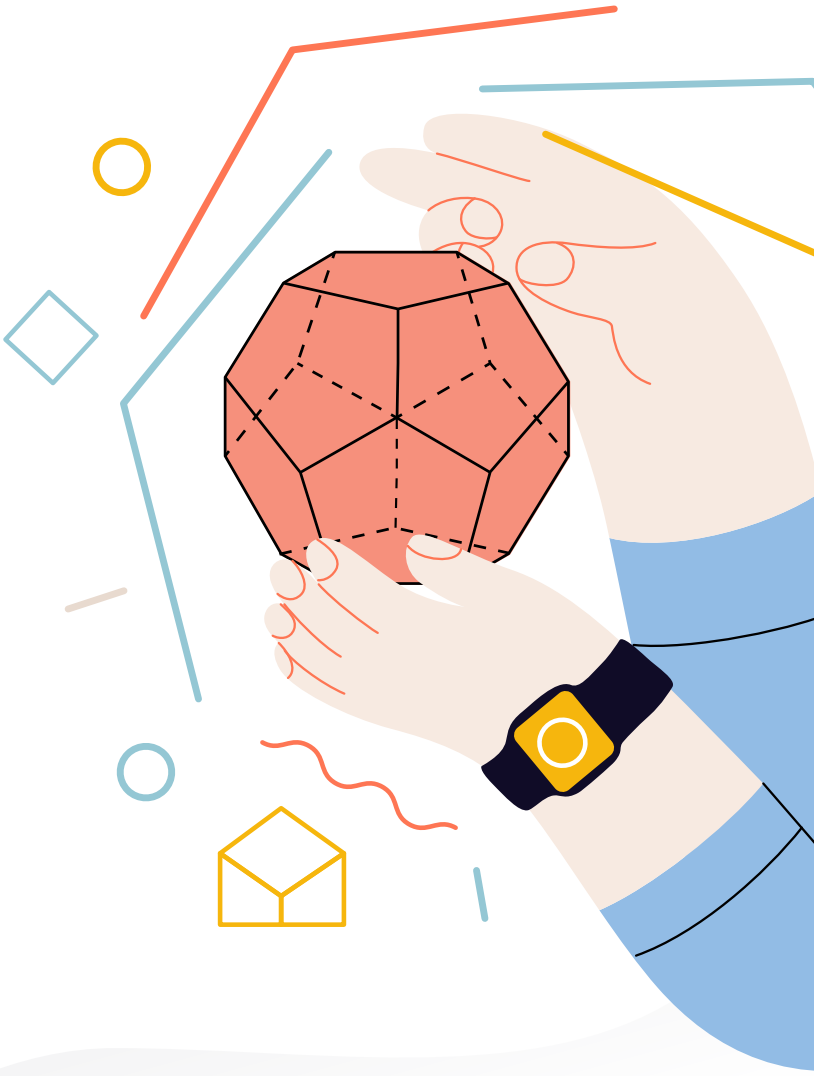
Content will need to run on the minimum hardware specified by university policy, so be sure to check policies.une.edu.au for up-to-date information.

Time, scope, and complexity

Projects can vary greatly in complexity and development time - from a few hours to a few weeks. Our team is happy to help conceptualise time and effort needed for a smooth project run.

Assets

Various assets will need to be created or sourced. In addition to 3D models, the media may require additional sounds, graphics, datasets and more. The media team can assist you with sourcing both free and paid assets, and we have staff available for developing assets that need to be created from scratch.



Post-production

Testing

Testing is important because it helps reveal practical issues before students encounter them. It can highlight unclear controls, confusing interactions, technical problems, or platform limitations that may reduce the effectiveness of the learning experience. Content should be tested across devices (tablets, desktops, phones) and browsers (Chrome, Safari, Firefox)

Review

Review is important because it helps ensure the media is accurate, clear, and aligned with the intended learning outcomes. It is a chance to refine the experience and confirm that the design choices are genuinely supporting learning.

Future use

Thinking about longterm use of the media is important because 3D resources may need to be updated, reused, or adapted over time. Planning for this early can make it easier to maintain the resource and extend its value beyond a single use. For example, avoid mentioning assessment dates as these will change.



Have you considered?

- **Whether the media should be viewable by anyone or locked down for UNE students only?**
- **Where the media is to be hosted and what will be required to keep it maintained and updated.**
- **Whether the media will remain relevant for many years without modification**
- **Whether the media will require regular updates to ensure the information is useful and relevant?**

Next steps

Be sure to explore the example 3D projects on the **Learning Media Showcase website** to see the range of possible approaches. Scan the QR code to take a look.

If you have an idea you would like to discuss, feel free to get in touch with our team at any time. We're here to help!