360 CAMERA LEARNING TASK

Capturing a 360° View

Learning area
Digital Technologies

Year level
Year 4

Duration
60 minutes

Task summary

This task enables students to learn how to use 360° cameras as a peripheral device to capture images and videos with a 360° view.

Session overview

Students can practise the skill of 360° camera photography with the understanding of the difference between regular and 360° cameras. They will be able to capture, edit, and share images with 360° views.

Digital technologies

- ☐ VR
- ☐ AR
- ☐ Robotics
- ☐ Drones
- ✓ Other: 360° cameras

Required resources

Hardware:

- **Ricoh Theta 360° cameras** - Ideally, one camera may be used by 2 to 3 students taking turns in small groups.
- **Devices** and/or **computers** - For processing and transferring images and videos captured by the 360° camera, as well as for viewing 360° presentations. Please note that while devices with the accompanying apps are recommended, students may also opt not to use devices as the cameras may be connected directly to their student laptops using a USB cable.
- **Tripods** and/or **selfie sticks** - For attaching the 360° cameras to take photos.

Apps:

- **Theta** - Ricoh's app for the 360° camera which makes it easier to process the data (images and videos) from the camera. Download via Google Play OR Apple App Store and/or directly

via the Ricoh Theta website. You can also access the **web/desktop version** (login required).

- **Theta+** - Ricoh's editing app for the 360° camera. Download via Google Play OR Apple App Store.

- **Google Arts and Culture** - To access various 360° tours. Teachers can find different tours on different topics (Suggested topic: Street View - Students will be able to tour famous sites and landmarks). Download the app via Google Play OR Apple App Store.

Teaching resources:

- Teaching deck - this is a slide deck template that teachers can download and use for this learning task.

Other resources to try (optional)

Apps:

- **Paint 3D** - For editing photos. You will need a 360° image viewer after editing the photos.
- **Thinglink** or **CoSpaces** - To create and view annotated 360° tours.

Planning and preparation

Assumptions

Students will have:

- Some understanding of basic photography.

- A basic understanding of what 'peripheral devices' means.
  NOTE: A peripheral device is a device that is external to the main computer, such as a mouse, a camera, or headphones. They may be connected either wirelessly or via a cable. Some peripheral devices may also be internal to the digital system (e.g., internal web camera, built-in microphones, etc).

- Developed basic skills in using a tripod and selfie sticks, as well as basic photo editing (may use Paint 3D with Magic Selector tool for removing people and objects from the images). If students are new to using this software, teachers might need to spend at least 1 or 2 lessons to learn and practise these skills.

- Knowledge on how to upload images to an online drive or classroom management system, as well as change file names or labels.

Additional preparations for teachers

- Make sure all recommended apps are installed and working on your devices.

- Make sure all cameras and devices are fully charged and working properly.

- Familiarise yourself with the 360° cameras that you are using at your school/site, so you are able to do a live demonstration of how to use them in class. Each type of camera may have different functions and features, so it's good to know them beforehand. Below are a couple of tutorial videos for some Ricoh users. You might need to find something else that's suitable for your devices:
  - Getting started with Ricoh Theta - A PDF guide on how to use the Ricoh Theta cameras.
  - Theta Tips - Tips on how to shoot, edit, save, and share 360 photos from Ricoh Theta.
  - How to set up RICOH THETA SC2 and trouble shooting tips of Wireless LAN issues (2:34) - A quick video tutorial to help you to get started with your Ricoh Theta 360°

camera.

- Prepare a folder where students can upload their 360° images. Remind students to change file names and/or label their images accordingly.

- Take note of the following tips and share them with students:
  - Photos should be taken at eye level, otherwise they may look strange when viewed in VR.
  - Camera protective slip should be left on the camera at all times, except when taking a photo, or when downloading the photo onto the computer, in which case it should be rested on the camera slip.
  - If individuals can't physically disappear from a photo; make sure to take the photo above the head to avoid being in it.
  - Try and position the camera in the shade, to avoid the shadow of the tripod and selfie stick appearing in the photo.
  - Make sure to edit out people in the photos if they are not allowed to be in any photos.

Task Sequence

1

Introductory activity / Provocation
(5 mins)

Tell students that you are going to learn how to use a peripheral device during this lesson - the 360° camera.

Ask students if they know what a 360° camera is. Get students to share what sort of images they would create if they had a 360° camera. Why?

2

Prior knowledge check
(5 - 10 mins)

Using slide 3 of the teaching deck, conduct a review of what peripheral devices means. Ask students:

- Do you remember what a peripheral device is? *(Possible answer: external to the computer, attached via cable or wirelessly)*
- Can you give examples of peripheral devices? *(e.g. mouse, headphones, etc)*

Ask students what they think a 360° camera might do that a regular camera can't do *(i.e., capture a 360° view of a scene)*. Talk through the comparison on slide 4 and 5 to give students an idea of what 360° cameras can do.

3

Activities

Display slide 6 of the teacher deck to give students an idea of what 360° photos or tours would look like. Students can scan the QR codes using the devices to view some examples of 360° tours on ThingLink and CoSpaces.

NOTE: If students don't have individual devices they can view the examples through a web browser.

(60mins)

Model to the students how to use the 360° camera, and how to connect the camera to a device using the Theta app (slide 7). Use slide 8 of the deck to talk through some tips and tricks for how to get the best 360° photo.

Please note: The 360° cameras can be used without connecting to a device if preferred.

Use slide 9 to talk through the safe handling of the cameras.

Get students in small groups of 2 or 3. Assign a 360° camera and device *(optional)* for each group. They can take turns taking 360° photos using different prompts. Slide 10 can be displayed as a reminder of what students need to do.

Slide 11 provides some sample prompts that teachers can use with students:

- A room/classroom using the tripod (make sure no people are in the shot)
- A selfie with a friend/s using a selfie stick
- An outdoor photo of your choice
- A photo taken at a low angle
- A photo taken at a medium height (attach the flexible tripod on something that is not too high and use the timer)
- A view of the playground.

If there are not enough cameras, students who are waiting for their turn may use the Google Arts and Culture app to view more 360° tours for ideas and inspiration. QR Codes for these can be found on slide 12.

Students can view their 360° cameras within the device using the Theta app.

Ask students to share or upload their 360° images onto a classroom management system. Make sure that their images are uploaded to a document or folder where they are able to identify themselves as the photographer of the image. Please remind students to delete the photos from the device after they have downloaded them onto a computer.

To create and view annotated full 360° tours, students will need access to ThingLink or CoSpaces accounts.

4

Check for understanding
(5 - 10 mins)

Head to slide 13 to conduct a class quiz about 360° cameras. Students can give a thumbs up if they believe the statement is true, and a thumbs down if they believe it is false.

- 360° images can be taken on a normal camera. (Thumbs Down)
- A mouse is a peripheral device. (Thumbs Up)
- The 360° camera can capture both photos and videos in 360 degrees. (Thumbs Up)
- If you don't want to be seen in the 360 photo, you must hide. (Thumbs Up)
- You can take 360° photos without using the Theta app. (Thumbs Up)

Differentiation for students with additional needs	Extension ideas	Video tips
This lesson can be divided into two separate sessions, with the first focusing on how to use the camera and the second on taking and uploading 360° images. Break each section of the task into smaller steps.	Students use an app such as CoSpaces or ThingLink to create a full 360° tour using their images. Use the 360° cameras to deliver an oral presentation from another subject area. Students create a poster or presentation instructing others on how to operate the 360° cameras.	The video for this learning task talks gives some helpful tips and tricks for using the Ricoh Theta 360 cameras. https://youtu.be/ckpmfZNVwF0

Curriculum Connections

Australian Curriculum Version 9.0

Year 3 and 4 - Digital Technologies
Explore and describe a range of digital systems and their peripherals for a variety of purposes. (AC9TDI4K01)

Cross-curriculum priorities

- ☐ Aboriginal and Torres Strait Islander Histories and Cultures
- ☐ Asia and Australia's Engagement with Asia
- ☐ Sustainability

General capabilities

- ☐ Literacy
- ☐ Numeracy
- ✓ Digital literacy
- ✓ Critical and creative thinking
- ✓ Personal and social capability
- ☐ Ethical understanding
- ✓ Intercultural understanding

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