



ROADSHOW TECHNOLOGY

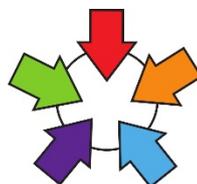
Using Epson's ELPDC21 Visualiser for
Whole Class Engagement

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Technology for Learning Spaces

Seeing is Believing

Bringing Whole Class Active Learning to Life

Easy-to-use Epson visualisers offer educators an opportunity to transform learning and teaching by enabling their students to visualise almost anything and everything; for example, a process that needs real-time explanation and recording, or immediate feedback as a whole-class critique.

This transformation, that improves teaching, cannot be achieved by simply replacing existing practices with digital adaptations; it requires an alternative approach to whole class participation that makes teaching inclusive and engaging for the broadest range of students.

Introduction

Didactic teaching has traditionally been built around lecture activities that require students to have well-developed skills around reading, writing and notetaking. When higher education was only accessed by a small percentage of academically elite students, this may have been more appropriate, but today's students no longer 'fit' into this narrow categorisation. Academic practices must therefore continue to evolve if students with this wider-range of different abilities and skills are to be effectively engaged by their studies, as those traditional methods of academic learning will not be suitable for them.

Visualisers

Visualisers are part of an exciting digital toolkit that, when properly used, will engage and support the widest range of students who require a more inclusive and accessible environment in order to thrive in their studies.

EdTech is constantly embracing new software, hardware and ideas that will reinvigorate curriculum design and better suit the learning needs of today's students. There is a danger that in the ubiquity

of mobile wireless devices with instant connectivity to screens in the room and people across the globe, that visualisers are overlooked by this influx of and concentration on mobile digital resources.

Many people, especially academics who have presented information to their students using Overhead Projectors (OHPs), now consider modern visualisers to be nothing more than a digital replacement for their much-loved OHP. No digital tool should simply be a replacement for previous analogue processes but should instead drive forward the opportunities for usage and engagement.

Epson's easy-to-use ELPDC21 Visualiser, a key component of The Sticky Campus Roadshow (www.thestickycampus.com), provides educators with a compelling tool for challenging and engaging young people in ways that are inclusive and highly accessible, and a great addition to a range of digital solutions that put students at the centre of their learning, that generate true collaboration, and which offer personalised, flexible learning. Epson's visualiser can be used alongside these other digital solutions to provide context and build connections between concepts that might have been previously 'hidden'.

Engagement to Shape the Student Experience

Using an Epson ELPDC21 Visualiser for student learning:

- Increases levels of **proactive engagement** with their studies that should be innovative, challenging and inspiring.
- Promotes **personalised learning**. When used in conjunction with Kramer VIA technology, students can create their own personalised learning notes on objects and processes being shown from the Epson visualiser to the whole class.
- Is a great example of learning technology that positively contributes to creating the **best learning spaces** that share visual information and ignite a passion for **life-long learning**.

Student Engagement Beyond Presenting

When presenting with slides, a committed expert will display images which they expand on using a passionate narrative, incorporating images carefully selected to provide a visual connection to the spoken material. The brain processes images far more quickly than text, allowing better concentration on what the presenter is saying. With text-heavy slides, if these are still being read then not all the spoken accompaniment will be taken in.

One slide inevitably follows another in linear formation. We are all used to it, and this predictability stifles creativity and leads to boredom for students, and probably for most presenters too. So instead of turning to view, read and reinforce yet another slide, with your eyes on the screen instead of your students, being behind the Epson visualiser allows you to engage the visual attention of your students and better gauge their verbal and non-verbal reactions.

Whilst minimal training is required in the physical use of the Epson visualiser, consideration needs to be given in advance to the ways that your teaching can derive the most benefit from it.

By replicating the content placed under the visualiser onto a large projector screen or display, many different scenarios can be used to make the best use of the visualiser for advancing learning. Let's consider some of these now.

Magnification of Objects.

Look at a British £20 banknote with the naked eye, and you can see the words "pounds" written three times. Zoom in to the bottom right of the front side of this banknote, where to the right of the Queen's head you can see the number "20" repeated several times, and you can now see that the word "pounds" is indeed written many more times. Just imagine how this level of detail would help with intricate plant identification, or a medical procedure, or with nano-technology. The Epson ELPDC21 being used in the Sticky Campus Roadshow has a 12x optical zoom, enhanced further by a

10x digital zoom to provide this level of clarity under high magnification. And once the zoom level is changed, a single press of the 'auto focus' button produces a pin-sharp image every time.

Sharing a Scarce or Copyright-Protected Resource

If you have something valuable or fragile in a non-digital format that you want the class to experience, instead of passing this around, or repeatedly gathering a small group of students at the front of the class so that they can all see, an Epson visualiser will allow you to show this to everyone, clearly, and at the same time.

And what if you have a text or image that can't be photocopied for copyright reasons? Using a visualiser, an individual group of students or the whole class can now benefit from seeing it.

Modelling a Complex Procedure

Students can follow the written development of a complex formula whilst you face forward and engage. Seeing the hand create the material with a real-time vocal explanation is powerful. Because it's not a pre-recorded video, you can determine the pace, reinforce and repeat areas that are not understood initially, and break-up the reliance on slides that has the effect of re-engaging students from these other activities that may have become monotonous and predictable. All of the static or video images, captured handwriting, etc., together with audio from the built-in microphone, can be recorded for students to access again from the VLE. If students are informed that this will be the case, it will allow them to concentrate more on the instruction and not be distracted by applying their energy into extensive notetaking.

With the Epson ELPDC21, a memory card can be inserted to record this real-time information.

Alternatively, this visualiser can be connected to a computer and the supplied software used to record and provide even more functionality.

Modelling real-time activities that can be seen by everyone minimises the time spent teaching and maximises the student learning opportunity. If the modelling process is recorded, it can be made available on the VLE for students to recap later if required.

Classcam

Most built-in laptop and tablet cameras and webcams are not sufficiently powerful to be used with large cohort groups. The flexible arm and high quality optics of the Epson ELPDC21 Visualiser make it ideal as a 'classcam' when connecting your class to another location, either for input from a subject expert or for peer-to-peer interactions over distance with another class.

It's not about the technology itself – it's about confident usage

Many universities have already equipped their classrooms and lecture spaces with visualisers, but they remain under-utilised for several reasons:

- Tutors haven't themselves been awoken to the potential for student engagement that they offer.
- They require connectivity to a PC with specific software, which limits their use for spontaneous interactions.
- They didn't have the benefit of a single button auto-focus and other easy-to-access features that provide a great user experience.
- Attending awareness training sessions – which we might rightly think of as opportunities for continuous professional development – are left to chance as little or no mandatory CPD exists within HE teaching and learning. All too often a small number of technology trailblazers will adopt digital tools that enhance their own professionalism, but the very people whose teaching would benefit most from just a few simple engagement methods all too often choose not to engage in such awareness and training.

T.E.F.

In the UK, the Teaching Excellence Framework within Higher Education is increasing the scrutiny on learning spaces and the technology used within them, with the aim of improving the engagement that students have with their learning, which should result in learning gain and improved final grade outcomes and better employability prospects.

Better use of visualisers to engage students in the ways described in this paper, will drive up engagement, and set an expectation for their use in many different subject areas and scenarios.

A reoccurring theme of the annual Jisc Digital Tracker Report – a survey of 22,000 students’ usage and perception of digital tools in higher and further education – is student frustration that digital resources already purchased and installed to enhance their learning are not being (effectively) used. This covers everything from student response systems (clickers), lecture capture systems, interactive whiteboards, visualisers and more.

Inclusivity and Accessibility

The Equality Act 2010 requires educators to provide ‘reasonable adjustments’ so that learning is an inclusive experience for all students. For a university or college, developing more inclusive learning scenarios not only assists students in class today, but contributes to a culture where building inclusivity into learning environments becomes an embedded aspect of campus development and technology selection.

Traditionally, learning and teaching has focused on listening and notetaking, viewing slide decks, reading, and essay writing. Blended learning has been successful because in flipped classroom models, the difficulties that some students might have with traditional approaches are minimised.

These difficulties might include:

- Not having English as a first language

- Having sight or hearing impairments
- Attention deficit disorders such as ADHD
- Dyslexia – and a natural struggle with reading and notetaking

We can easily recognise how, with a visualiser, students can see content more clearly. If there are a number of foreign students in the class, wouldn't it help to use the visualiser to replicate the PowerPoint content being shown in English in their native language, so that both are simultaneously visible? Many learning spaces are already equipped with dual projection or screens to facilitate this.

Within the realms of a digital classroom, such as that evaluated by participants at The Sticky Campus Roadshow, using the wireless Kramer technology students can access the visualiser content on their own devices, and the addition of their own individual notes and comments, which will be more understandable to them, will improve the quality and context of their notetaking, enabling this better personal understanding.

If a student has assistive technology, such as screen magnification, they can use this to view the visualiser image at an enlarged size on their own device, providing them with the same accessibility as their peers.

Campus-Wide

For any EdTech to be widely adopted so that it becomes an automatic element of classroom instruction without thinking about it, it needs to be available whenever and wherever required. The Epson ELPDC21 is both small enough to be incorporated into almost any teaching desk or lectern, and surprisingly inexpensive given the high-quality optics and intuitive features provided. These are both important if all learning spaces are going to incorporate the level of uniformity to ensure that the benefits of visualise usage are embedded within the teaching culture. Campus-wide provision offers a consistent student experience, and creates a familiarity for educators that drives adoption and breeds confident usages.

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Epson ELPDC21

Bring lessons to life with this user-friendly document camera and share pictures and objects in Full HD on a large screen for the benefit of the whole class. Bursting with a range of clever features and functionality, teachers can create a dynamic environment to enhance student learning.



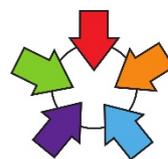
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Duncan Peberdy is an independent consultant specialising in the development of inclusive and accessible active learning spaces that engage all students in the achievement of their educational outcomes and personal development.



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Duncan's Sticky Campus Roadshow, www.thestickycampus.com in partnership with Jisc, evangelises campus-wide solutions for BYOD active learning, and challenges organisations to involve all stakeholders in their own pedagogical developments so that better-informed decisions about the organisation's requirements for their own active learning facilities can be determined.

Duncan works with academics, technology manufacturers, and architects to help ensure that technology and space designs enrich these new spaces, rather than restricting them.

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