

DESIGN FOR DIGITAL EDUCATION

RODDY MUNRO  @roddyanmunro | MARY JANE BENNETT  @MaryJaneBennet2 | SUSANNE MACLEOD  @SusanneMMacleod

Design for digital education is a process that ensures that learners have an environment in which they can learn effectively, and fully engage with their learning regardless of whether it is in a physical or online space. The design is led by pedagogy and the needs of the learner, rather than by a focus on the technological tools available.

Design for digital education is more than posting classroom slides or a lecture recording on to your Virtual Learning Environment (VLE), it is about ensuring that the use of digital technology enhances the learning experience and students can move seamlessly between physical and online environments that are supportive, stimulating, engaging, challenging and inspiring.

The design, informed by pedagogy, determines what and where things are taught and the tools used to support this.

WHY IS DESIGN FOR DIGITAL EDUCATION IMPORTANT?

A key aspect of designing for digital education is the blend between use of physical and online space. An online environment enables learners to work at their own pace, and at a time and place convenient to them. Often the VLE is the most visible digital aspect of a course, therefore it is essential to design this space well. If it's not designed well, learners are less likely to engage with it, which may be detrimental to their learning.

It can be tempting to try out the latest digital tool or online resources, however as with face-to-face learning, this use needs to be informed by pedagogy, planned in advance and must contribute to creating an effective learning environment and attainment of the learning outcomes.

Alignment with learning outcomes

Good learning outcomes should be achievable, measurable and realistic. Good learning outcomes should be achievable, measurable and realistic. The design of the course should support this, and the assessment should be constructively aligned, whether in an online space or not.

Organise the elements of your course logically so that the learner knows where they are, and where they should go next, and whether activities are mandatory or optional.

“Learning outcomes for any course or programme do not exist in isolation. They must be linked or aligned with the assessment processes, the learning tasks, the teaching strategies and the external drivers on quality.”

Stefani 2008, p. 47

Therefore, the design of your course must give learners what they need to meet the learning outcomes.

HOW DO I SHAPE THE LEARNER EXPERIENCE?

A major element of good course design is providing a clear pathway through the course. In digital education this means being clear about what is provided online, in real life or in either space so that the pathway is seamless. Organise the elements of your course logically so that the learner knows where they are, and where they should go next, and whether activities are mandatory or optional.

Elements hidden in online sub-menus and after multiple clicks can be missed, so keep things clear and obvious.

The elements of your course must be learner-centred, and each element should meet the criterion of bringing the learner closer to being able to achieve the learning outcomes. In an online space a mixture of text, media and activities can create an engaging learner experience, allowing learners to read, watch or listen to the course content, and to apply knowledge within a learning unit. It's also important to use the tool or learning space that will be most effective for that particular aspect of learning and the subject matter.

Learners can benefit from both passive and active learning so it's important to keep a balance. This balance will vary depending on the subject or skills being taught. Creating activities that build on passive learning tasks provides learners with the opportunity to apply recently acquired knowledge (Bonwell and Eison, 1991). The table provides some examples of how to progress from passive learning to active learning.

Passive Learning	Active Learning
Watching a video	Discussion with other learners or educators of the content in the video
Listening to a lecture	Participating in post-lecture quiz which test understanding of threshold concepts
Reading text e.g. newspapers, journal articles, websites	Undertaking problem-solving activities using the information from the texts

Don't think of physical and online space as two separate entities; activity in one space can lead to and inform activity in the other.

“Too little activity will have a negative impact on engagement, knowledge retention and ultimately completion rates. But too much interaction without careful consideration of design implications can be confusing for students.”

Levy 2007

HOW DO I WRITE FOR A BLENDED OR ONLINE COURSE?

Use clear, accessible language

As with campus-based learning you should use clear and concise language. This means providing jargon-free accessible language, useful to all but in particular to learners for whom English is not their first language. You should address the learner directly and set the tone in both course content and in your interactions via discussion boards or other course-based communication. It's particularly important to think about what you say as what you write online does not have the benefit of verbal tone, facial expression or physical gesture to aid interpretation. Think about how you can avoid reinforcing stereotypes or categorisation via unconscious bias and ensure that you are respectful by referring to ethnic groups by their self-accepted name.

Break content into manageable chunks

People can only really hold a few pieces of information in working memory at any given time (Miller 1956), and large pieces of text can be more difficult to read on screen than on paper. This means that breaking down content into manageable, digestible 'chunks' for the learner is good practice and assists with on-screen reading.

Use images, video and sound

The use of images, videos and sound can all help aid comprehension if used appropriately. When using any of these remember to consider issues of accessibility e.g.

It's also important to use the tool or learning space that will be most effective for that particular aspect of learning and the subject matter.

providing text descriptions of images, transcripts of videos or sound recordings.

Reuse existing media

It is possible to use existing media (images, diagrams, video and audio) as well as to develop your own. When using media that you have found elsewhere it is essential that you have permission to use it. For copyright materials this means having the express permission of the copyright owner, for openly licensed materials (e.g. Creative Commons licences, Public Domain licences) then you may use the materials provided that you follow the terms of the licence. When developing your own materials, you will also need to decide whether or not to make it openly licensed.

Stay conversational and build connection

It is useful to project your personality in the online course environment to help connect with your learners. For example:

- Give the learners a sense of yourself by providing details of your background, academically and / or socially.
- Include a recent picture,
- Provide a video introduction in which you talk about what the course means to you, and why they should study it.
- Use a conversational yet professional tone online, similar to that which you use in everyday conversations with learners. Being online does not mean that you need to be more or less formal.

Your aim is to build a connection with the learner, and also to help them to connect with others through their online interactions. Through modelling your online behaviour, learners can understand how to behave online in professional / academic circumstances.

HOW DO I USE MY TIME AND RESOURCES WISELY?

1. If time for course design and content creation is limited, you may wish to focus on aspects of your course that are the most important e.g. threshold concepts, or on the areas learners find most difficult.
 - Put your efforts into resource that helps explain a topic in another way or develop an activity that enables them to apply their knowledge or practise what they've learned.
 - Set up a discussion around that topic, and encourage the learners to ask questions, share experiences, and help each other to understand the complexities of the topic in a collaborative space.
2. Once you've developed a piece of media or other digital learning resource it can be reused in a variety of ways, sometimes even on different courses or programmes. It may feel like a big investment of time and resources in the short term, however because the resource is reuseable it can pay off in the medium term.

3. If you have access to a dedicated staff member or team within your institution whose focus is digital education design/development, ask for their support to design and create effective and engaging digital learning resources. You can also access self-help materials online.
4. Small changes such as embedding videos, sharing links to relevant materials from the web, encouraging and facilitating discussion online can make a substantial positive impact on your learners.

NOTES

KEY TAKEAWAYS

1. The use of digital tools/online resources should be supported by pedagogy.
2. Design your course to help your learner best achieve the learning outcomes.
3. Structure and organise your course in a clear and logical manner.
4. Clearly signpost when activities / interactions are online, in real life, or both.
5. Strike the right balance of text, media and activities for your course.
6. Write clearly and concisely with a consistent tone of voice and break the learning down into manageable 'chunks'.
7. Prioritise the most important or most difficult sections of your course if time is limited.
8. A well-designed course which facilitates effective learning needs to be planned and whilst this takes time, it is time well spent.

REFERENCES

- Bonwell, C., and Eison, J.** (1991). Active learning: Creating excitement in the classroom, ASHEERIC Higher Education Report No. 1. Washington, DC: The George Washington University, School of Education and Higher Education
- Ferrell, G., Smith, R., and Knight, S.** (2018). *Designing learning and assessment in a digital age*. Available at <https://www.jisc.ac.uk/full-guide/designing-learning-and-assessment-in-a-digital-age> (Accessed November 2019).
- Kapor, M.** (1990) 'A software design manifesto', *Dr. Dobb's Journal*, 16(1), pp. 62-67.
- Levy, D.** (2007) 'No time to think: reflections on information technology and contemplative scholarship'. *Ethics and Information Technology*, 9 (4), pp. 237-249.
- Miller, G. A.** (1956) 'The magical number seven, plus or minus two: some limits on our capacity for processing information'. *Psychological Review*, 63, pp. 81-97.
- Stefani, L.** (2008) 'Planning teaching and learning: curriculum design and development'. In Fry, H., Ketteridge, S. and Marshall, S. (eds), *A Handbook for Teaching and Learning in Higher Education*, third edition. London: Routledge.

ACKNOWLEDGEMENTS

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License



CONTACT US

E: LTAcademy@hwu.ac.uk

FOLLOW US

 @LTA_HWU