

# 6 Core Competencies to Enhance Digital Teaching and Learning





## Dr Caroline Steel • Senior Strategic Consultant

Dr Caroline Steel, a Senior Strategic Consultant with Blackboard, has a strong reputation in the field of digital learning and teaching. Before Blackboard, Caroline was President of ASCILITE (Australasian Society for Computers in Learning in Tertiary Education), Director of Digital Learning at La Trobe University and an expert academic in digital learning at the University of Queensland. She has published and spoken widely on the potential of digital and mobile learning. Caroline holds a PhD on the interrelationship between teacher beliefs and their technology practices, as well as a Master's degree and a Graduate Diploma of Adult and Vocational Education.

### DIGITAL TEACHING SCHOLARSHIP

## What is digital teaching practice without theory?

Being a digital teacher means you will need to design, facilitate and manage learning through a digital environment. This also means that your teaching will be more visible or transparent compared to teaching behind doors in purely physical spaces. Therefore, demonstrating teacher scholarship is integral to demonstrating quality. This blog post is intended to get you thinking about your teaching practices in terms of the beliefs you bring to your teaching and the role of theory in understanding what you believe and why. Developing this kind of understanding can help you imagine how your learning and teaching model can be enacted in a technology environment. This includes being able to identify the potential (affordances) of technology tools as you plan for learning and teaching.

When you think of your preferred teaching practices, how much do you draw on learning theories to guide the ways you design and deliver your teaching and how much do you draw on your own beliefs about learning and teaching? Is it necessary to understand the fundamental theories of learning and teaching in order to be an

effective digital teacher? We were all students at some time before we were teachers, so does that give us a scholarly foundation to inform our practices?

We all come to teaching with varying personal beliefs about how learning occurs, how knowledge is acquired and what teaching means in our disciplines. Our belief systems, personal theories or conceptions of learning and teaching mediate the way we teach and how we interact with and respond to learners. However, our beliefs are often implicitly held, as we rarely have the opportunity to discuss them.

First, let's look at this model (Figure 1, adapted from Kember, 1997). Kember's model employs two broad higher-level orientations (teacher-

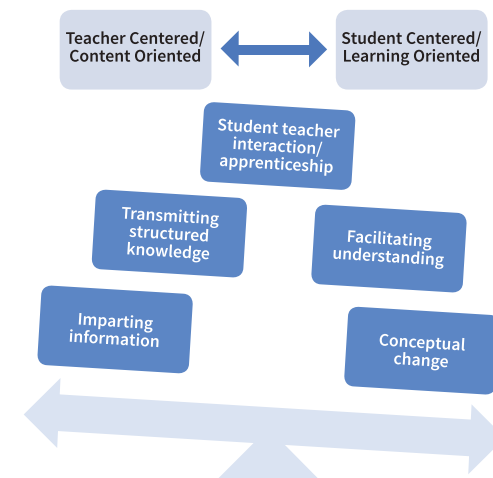


Figure 1: Kember's multi-level categorisation model (1997)

centred/content centred and student-centred/learning-orientated), and five subordinate categories along a continuum, including an intermediate transitional one (student teacher interaction/ apprenticeship). Teachers who hold beliefs that are teacher-oriented and content-oriented tend to adopt teaching strategies that seek to impart information and transmit knowledge. Teachers who are more focused on how to facilitate understanding and augment conceptual change tend to employ more student focused strategies.

Where would you place yourself on this continuum from teacher-centered and content oriented to student centered and learning oriented? There is no correct answer –think about this in terms of what resonates most closely with you (in a general way).

Let's drill down a little further into your beliefs. Think back to your own experiences as a learner and something you felt you mastered or learned well... Stop and think for a few minutes about the following questions in relation to your beliefs and experiences (write a few dot points if you can):

- How do you believe people learn? (or how did you learn well?)
- What role does memory play in learning? (or what role did memory play in your learning?)
- How do you think knowledge is acquired to the extent it can be applied to new contexts? (or how was this learning cemented enough that you were able to apply it to new situations?)

In the DTLS program, we use these three questions to explore and compare four fundamental learning theories. Developing some knowledge of these theories is a good starting point for digital teacher scholarship. Each theory is also underpinned by a set of learning and teaching principles that can help the digital teacher in determining the right approach and technologies to support their

learning and teaching in their context.

Take a look at the four options below. Each option includes a set of learning and teaching principles that underpin one of the four learning theories we unpack in the DTLS. Tick the principles that resonate most with you. Is there a dominant option for you or is it more of a combination?

**‘Theory without practice is empty; practice without theory is blind’** - Kant



## Option 1

- Teachers (or technologies) direct the learning process while learners have a passive role
- Teaching is directly focused on the skills and knowledge to be taught, and supplies the appropriate conditions for the achievement of learning outcomes
- Pre-assessment of learner behaviours can be used to determine where instruction should begin
- Learning outcomes are observable and measurable
- Activities provide opportunities for drills, repetitive practice and testing
- Skills and facts are broken down into small learning units
- Instructional material is the stimulus for the response that it produces in a learner

## Option 2

- Learners play an active role in their learning process
- Teacher-centred: Teachers organise and scaffold learning to facilitate students' knowledge acquisition
- Learning is cumulative in nature and relational to prior knowledge
- Learning outcomes are determined based on analysis of different levels of information processing required (e.g., application, analysis, evaluation)
- Emphasis on metacognitive training (ability to plan, organise, self-manage and self-monitor learning)
- Complex problems and tasks are broken down into parts
- Information, materials and activities are structured, organised and sequenced to help learners make meaningful connections with previous knowledge

## Option 3

- Learners play an active role in constructing their knowledge
- Teacher's role to design and facilitate opportunities for knowledge construction, critical thinking and reflection
- Learning outcomes are not uniform or predictable due to the individual nature of learning
- Prior knowledge provides a bridge to new learning through scaffolding (Zone of Proximal Development- ZPD)
- Authentic learning material, tasks and challenges (e.g. real-world cases, messy real-world problems) to ignite student curiosity and motivation to learn
- Materials and activities are designed to support (or scaffold) learning in the authentic and relevant context
- Social interaction and collaboration with peers, communities, experts is encouraged

## Option 4

- Learning and knowledge rests in diversity of opinions.
- Due to the diminishing currency of knowledge and expertise, the capacity to know/learn more is more critical than what is currently known
- Opportunities for learning and to access knowledge are everywhere (they reside in people and in technologies themselves)
- Nurturing and maintaining connections via networks can facilitate continual learning.
- Ability to see connections and patterns between fields, ideas, and concepts is a core skill.
- Currency (accurate, up-to-date knowledge) is the intent of all learning activities.
- Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality.

It's exciting to discover the theory behind one's practices and to consider what other theories have to offer and why. In terms of the options above, Option 1 represents Behaviourism, Option 2 is Cognitivism, Option 3 is Constructivism and Option 4 is Connectivism. As the headliner quote in this blog suggests 'theory without practice is empty; practice without theory is blind'. The DTLS offers an excellent opportunity to find out more about learning theories to help you, as a teaching scholar, articulate, shape and grow your vision for learning and teaching in a digital age.



## References and Further Reading

The references below offer some extended reading on the topics covered in this blog post.

Bates, A.W. (2015) *Teaching in a Digital Age: Guidelines for designing teaching and learning* (eBook retrieved from <https://opentextbc.ca/teachinginadigitalage/>).

Ertmer P.A, Newby T.J. (2013). Article update: Behaviourism, Cognitivism, and Constructivism "yesterday's" theories to today's contexts. *Performance Improvement Quarterly* 26(2) 65 –71.

Ertmer, P. (2005). Teacher pedagogical beliefs: The final frontier in our quest for technology integration? *Educational Technology Research and Development*, 53(4), 25-39.

Ferguson, R., Coughlan, T., Egelandstal, K., Gaved, M., Herodotou, C., Hillaire, G., Jones, D., Jowers, I., Kukulska-Hulme, A., McAndrew, P., Misiejuk, K., Ness, I. J., Rienties, B., Scanlon, E., Sharples, M., Wasson, B., Weller, M. and Whitelock, D. (2019). *Innovating Pedagogy 2019: Open University Innovation Report 7*. Milton Keynes: The Open University.

Gunn, C & Steel, C. H. (2012) *Repositioning Theory in Learning Technology Research*, *Research in Learning Technology* 20(2).

Harasim, L. (2011). *Learning Theory and Online Technologies*, Routledge

Hattie, J. (2012). *Visible Learning for Teachers: Maximizing Impact on Learning*. London: Routledge, 2012

Kane, R., Sandretto, S., & Heath, C. (2002a). Telling half the story: A critical review of research on teaching beliefs and practices. *Review of Educational Research*, 72(2), 177-288.

Kember, D. (1997). A reconceptualisation of the research into university academics' conceptions of teaching. *Learning and Instruction*, 7(3), 255-275.

Ramsden, P. (1992). *Learning to teach in higher education*. London: Routledge.

Schunk, D. H. (2015). *Learning Theories: An educational perspective*, Seventh Edition Pearsons.

Siemens, G. (2013). Overview of Connectivism [video interview at the University of the Sunshine Coast, Australia] <https://youtu.be/yx5VHpaW8sQ>.

Steel, C. H. (2009). Reconciling university teacher beliefs to create learning designs for LMS environments. *Australasian Journal of Educational Technology*, 25(3), 399-420.

Steel, C. H. (2010). Teaching online: Issues for on-campus and distance instruction. In R. Cantwell & J. Scevak (Eds.), *An Academic Life: A Handbook for New Academics*: ACER Press.

## Fausto Puppo • Senior Educational Consultant



Fausto Puppo is a Senior Educational Consultant based in LAC. He has over twenty years of experience in training and consulting, specializing in teacher training; instructional design; program accreditation; and implementation of F2F, blended, and fully online teaching/learning solutions.

Before working for Blackboard, Fausto worked as Master Trainer at Peace Corps Peru. He was also Director of Online Education and Director of the English Language Program at Universidad Privada del Norte in Peru. He has also taught at a number of educational institutions and conducted research in emotional design, user experience in online learning environments and students' use of learning strategies. Fausto has published articles and delivered workshops in several countries, including Peru, Chile, Brazil, Mexico, the United States, and Canada.

### DIGITAL CAPABILITIES & MANAGEMENT

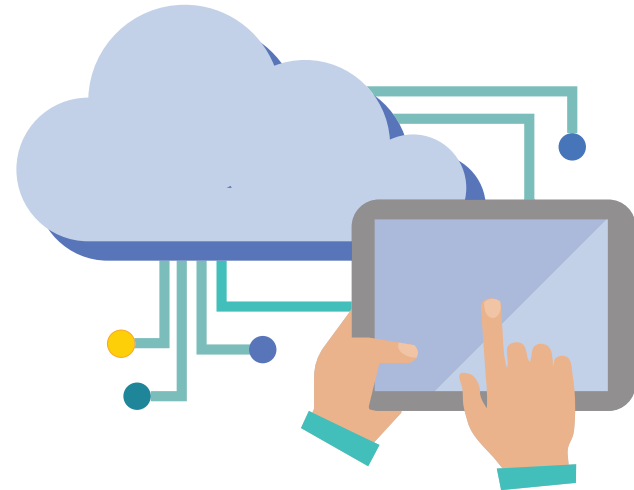
## Support and Success of the Online Learner

Several questions come to mind when one is faced with the task of assessing an online course. Is the content aligned with the learning objectives? Is it organized in such a way that it offers the learner a logical path to follow? Is the look and feel attractive and compelling? Even though the answer to all these questions needs to be “Yes” if we are to make sure that we are providing the learner with a pedagogically sound learning experience, there are other aspects that are also critical to student success, though they may sometimes be overlooked: providing orientation, managing expectations, and catering to students' needs.

## Providing orientation to the Course and the LMS

We may feel tempted to start teaching our subject right away. However, there may be other things that need to be taught before the online learner is fully prepared to start the course. Thus, two

more questions arise: Is the learner thoroughly familiar with the LMS and the tools that he/she will need to use throughout the course? Does the learner know how to navigate the course and where to find the different resources that he/she will need? If the answer to either –or both– of these questions is “No,” we will need to provide an orientation module or some other means to make sure that learners are properly equipped to begin –and successfully complete– the course. This orientation module ought to be the very first thing the learner sees and should allow him/her to practice using all the tools and resources in a safe environment before taking on the actual course content. This will probably save time –and support tickets!





## Managing Expectations and Dealing with Questions

Another aspect that is critical to student success is managing expectations in order to prevent –or at least, reduce– uncertainty –and even anxiety. We need to make sure that the learner knows what to expect from the course and the instructor as well as what is expected of him/her as a student. In order to establish his/her expectations, we should answer the following questions for the learner before the course begins: What is the role of the instructor within the course? How long will it take the teacher to provide feedback on activities and forum posts or to answer questions? How will my work be graded? Will I have a second attempt at exams? What happens if I miss a deadline? Who should I contact if I have a problem or a question? One practical way to deal with these and other questions that learners may have is to provide a Q&A section that they can check as needed. Also, if the course includes synchronous sessions through videoconferencing, the instructor can spend a few minutes going over students’ doubts. Additionally, it may be a good idea to create a discussion forum in which students can ask such questions.

## Tailoring the Learning Experience to the Student’s Needs

Part of the beauty of online education is that it allows us to personalize learning in ways that would be simply impossible in a face-to-face setting. Most classes are, to say the least, far from being homogeneous groups. Different students are at different levels. Some may lack some of the prerequisites for the course while others may already know some –or most– of the course content. Online delivery

of a course through an LMS allows us to plan for conditional release of content based on student performance. This makes it possible to make specific materials and activities available to specific students in order to cater to their needs.

For instance, Paul, a student in an online math course, is struggling with the regular content of the course because he lacks some of the math skills he should have developed in high school. He can take a diagnostic test on the platform that will identify the specific areas that he needs to work on in order to be on a par with his classmates. He will then have to take –and pass– one or more remedial modules covering those areas. A new test will serve to verify that he now has all the prerequisites needed and can therefore have access to the regular content of the course, which he is now prepared for.

On the other hand, Betty, another student in the same online math course, comes from a high school with a very strong math program. She finds that the regular materials and activities in the course are not challenging enough to her, which has a negative impact on her level of motivation. The same diagnostic test can detect this and automatically grant her access to additional, more demanding, resources that she may find more engaging.

There is virtually no limit to how flexible an online course can be. Indeed, personalization options go well beyond the cognitive domain. We can address all sorts of accessibility issues and provide materials and activities that appeal to different learning styles and/or dominant intelligences. We need to remember, though, that in order for students to benefit from this flexibility, they need to be fully familiar with the course in terms of use of technology, resources, roles, and procedures.







## Dr. Cynthia Crenshaw • Senior Educational Consultant

Dr. Cynthia Crenshaw joined the Blackboard team in 2009, bringing with her over 20 years of experience in K12- education, higher education, curriculum design, corporate training, and strategic consulting. She completed her Ph.D. in Adult Education and Online Learning from the University of Kansas, and has spent a significant amount of her career instructing education professionals on how to become more effective course designers and instructors. Institutions where she has taught include George Mason University, Colgate-Palmolive Global Leadership University, The Masie Center Global E-learning Consortium, Walden Institute/Capella University, University of Kansas, and Blackboard, Inc.

### DIGITAL LEARNER EXPERIENCE

## Designing Online Group Activities

As online educators, we know that keeping students engaged and connected to each other in an asynchronous course can be challenging. In fact, it is often cited as the primary reason students drop out of a course, or even leave an institution. Student retention is a common problem because students need to feel connected to each other, the instructor, and the content in the course. Instructors can combat the problem of student retention by ensuring they have designed their asynchronous course with groups and collaboration. This article provides some research and recommendations on how to design effective online group activities so that your students have a positive, interactive, and connected learning experience.

## Keys to Creating a Collaborative Environment

Instructors within the University System of Georgia conducted a study of best practice teaching techniques that enhanced the development of team-building and community in asynchronous courses. Their research revealed several methods that are key to creating a collaborative environment online (Roby, 2002, as cited in Student Collaboration in the Online Classroom, n.d.).

First, it was noted that facilitators must be responsible for instructing learners on how to collaborate with peers online. “Provide students with information and tips on how to interact with classmates, problem solve, constructively criticize, divide and assume responsibilities, organize their work, manage their time, and provide an end product that is seamlessly representative of the collaborative efforts of the group” (Roby, p. 23). Just as teachers need to gain experience instructing in an asynchronous environment, learners must be afforded the same opportunity.

Another valuable method is to establish groups early in the course and allow team members time to build relationships and determine their own norms and working processes. The research found it better to keep the same groupings throughout the course to maintain camaraderie and cohesiveness. A group size of three to five members is optimal, as it avoids allowing one individual to control the group and thus prevent non-participating learners from benefiting from the team effort.

Finally, in order to maintain a collaborative effort effectively throughout the course, teachers should base grading standards on peer interaction, and remind learners that part of their course grade will be based on participation. This might include making substantive and engaging posts in the discussion forum, participating in a group project, or contributing



to a class blog or wiki.

You can use different strategies to create groups taking into account:

Group Type

According to Barkley et al. (2014), groups can be classified as informal,

## Strategies for Creating Groups

formal, or base:

- **Informal groups** are formed quickly and randomly and are primarily used in face-to-face classes as a breakout to a longer class activity.
- **Formal learning groups** are created to achieve a more complex goal. In this case, it is usually better to be more thoughtful and intentional regarding group membership. The purpose of formal groups is to accomplish shared goals, and to take advantage of different talents and knowledge of the members to enhance the learning of everyone in the group.
- **Base groups** are long-term groups that work on a variety of tasks. Their purpose is to offer members support and encouragement; they stay together for the entire term or the academic year.

The type of group you choose to form therefore depends on the purpose of the group, the type of assignment, and the time it will take to complete the assignment.

Group Membership: Homogeneous versus Heterogeneous Groups

Broadly speaking, research supports heterogeneous grouping; however, both kinds of grouping can present advantages and disadvantages. The following table summarizes them.

	Heterogeneous Groups	Homogeneous Groups
Advantages	Diversity exposes learners to different ideas, backgrounds, and experiences. Evidence exists that they are more productive and better suited for multidimensional tasks. Students with different achievement levels can benefit from each other.	Better for some learning activities (e.g., exploring highly sensitive or personal issues, highly structured skill-building tasks, language learning).
Disadvantages	Students can be uncomfortable with diversity of opinion. Distributing minority or female learners among groups can isolate them into the position of being the only representative in the group. If academic achievement is used for grouping, low achievers might not have the opportunity to show leadership.	Students don't experience the rich interactions and exchange that can occur in heterogeneous groups. Grouped by abilities, some learners can be stereotyped and not being encouraged to move to other levels.

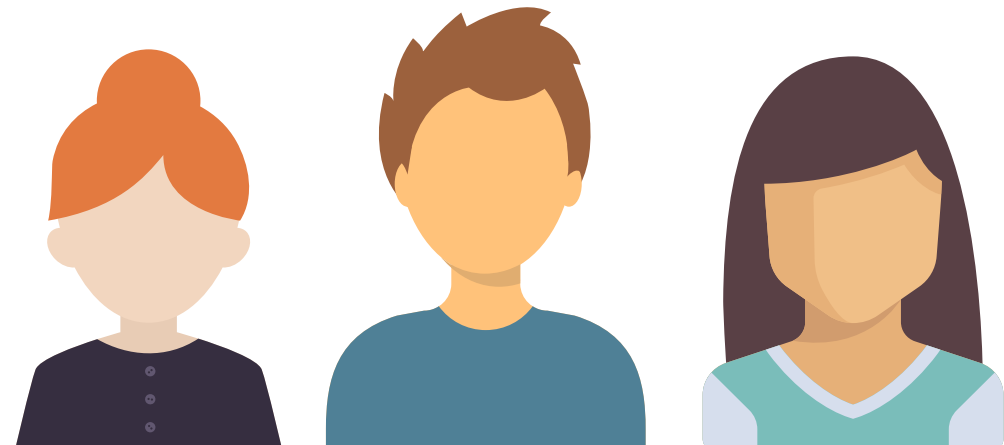
## Group Size

While size may be dictated by any number of factors and preferences, Barkley et al. (2014) summarize research that indicates that five members is the most effective group size. Groups of four tend to divide into pairs, and groups of three split into a pair and an outsider. Groups of six work almost as well, but as groups get larger they dilute the experience and increase the logistical challenges. However, setting a fixed number of members might feel too rigid; in general terms, the experience suggests that the group should be small enough so that learners can participate fully and build confidence in one another, yet large enough to have sufficient diversity and the necessary resources to accomplish the learning task. “Groups of two may not fully allow the students [to] learn the skills of group consensus gathering and problem solving” (Roby, p. 24).

## Selecting Group Members

Some strategies an eTeacher can use to create groups are:

- **Self-selection:** While convenient for the eTeacher, this may cause certain issues. For example, learners might choose only to work with their friends or with learners they have met in other classes, thus reducing the social interaction and diversity benefits of group work. In addition, having to reach out to someone they do not know may create some discomfort for shy learners.
- **Random selection:** This can be done using a factor such as alphabetical order, birth month, student number, or any other chance-based criterion. The downside is that groups created in this way lack any structure in terms of abilities, background, personality, etc. and tend to have a harder time establishing a collaborative environment (Roberts & McInnerney, 2007).
- **Teacher selection:** Gives the eTeacher the opportunity to develop groups based on age, gender, cultural background, work experience, etc., thereby building diversity into the team. “This can improve a range of generic skills, including the ability to communicate effectively, to understand others’ points of view, and to be understanding of other cultures and backgrounds” (Roberts & McInnerney, p. 260).



# Fostering Collaboration

Once the groups are established and the project is assigned for each team, the teacher is not done, online learners will still need support and guidance from the eTeacher, to help them form a bond and collaborative working relationship with their team members.

Debbie Morrison (2014) suggests several techniques that can be implemented to help groups succeed and to promote satisfaction among team members.

- Dialogue among learners is a fundamental component of the group activity. Assignments should be designed to encourage discussion and brainstorming (asynchronous and synchronous) rather than a division of labor.
- Understanding of the purpose of the activity is achieved by communicating to learners why group work is necessary, e.g., sharing how the project aligns to the learning goals and how learners will benefit.
- Access to digital platform(s) and tools that support online collaboration for discussion and product creation is essential.
- Support may be necessary for learners unfamiliar with collaboration platform and tools.
- Guidelines should be provided which outline learner expectations, netiquette, procedure to deal with absences, assessment methods, examples of collaborative exchanges between learners, team roles, etc.
- Instructor and institution should contribute to development and support of learner skill set for cooperation, collaboration and teamwork.
- Instructor involvement may be necessary to address non-contributing group members, group challenges, etc.
- Assessment should occur at both group and individual levels.





# Best Practices for Designing Groups

As you plan, design, and incorporate collaborative activities into your online classes, keep in mind some of these best practices.

- Assign learners to groups rather than allowing them to self-select. A group needs to work as a cohesive whole, creating their own culture independently from alliances that its members may already have.
- Take the time to teach learners how to work in groups.
- Do not try to squeeze group work into a few weeks. Groups need time to develop. If you do not have time in your course to support groups, then skip using them.
- Rather than allowing learners to privately criticize the group, encourage collaboration by making feedback opportunities public within the group.
- Share the final products of the group work with the entire class and instruct learners in how to provide meaningful critique. Production for consumption is a key component of student-centered learning.
- Do not just grade the final product. Make effective group interaction and cooperation a criterion in grading. Consider grading learners on their constructive critiques of other groups' presentations as well.
- Work with learners to create a meaningful group evaluation form, or adapt one that you find online or in a group process textbook. Including them in the development of the assessment increases buy-in and helps clarify expectations.
- Start with positive feedback. Learners may be hesitant to criticize one another, so in the first round of feedback, ask them to tell each other (and you) at least one positive contribution that each member has made to the group.

Deciding how to incorporate groups into your asynchronous course is based on your professional judgement as an eTeacher; the most important thing is to keep in mind that collaboration and social interaction are key elements to assisting your students with learning and being successful. Student engagement is directly related to student retention in your course and at your institution!



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## DIGITAL DESIGN & DEVELOPMENT

# Designing For the Mobile Learner

How many of your learners interact with the learning content that you provide them with using a mobile device? 5%, 50%, 100%? The chances are you have hunch but not necessarily any authoritative data. But, whatever your institutional affiliation and geography you will probably concede that the number of learners interacting with your content using a mobile device is likely to be, at least, significant. In the UK, according to the 2018 study, Digital experience insights survey 2018: findings from students in UK further and higher education (JISC, 2018) 62% of Higher Education students regularly access their Learning Management System using a mobile device.

Designing for mobile learners requires a “Mobile First” design perspective. Consider all your content and how that’s used on a mobile device. How you user interacts tends to depend on two things – are they using Browser or App?

First, let’s consider designing for the mobile web browser. Put simply you must adhere to the concept of Responsive Design. This means having browser based content that responds to the device of the learner and presents the content so it can be accessed regardless of the type of device (phone, tablet, desktop etc.). As for the use

of Apps this largely depends on your platform for sharing content, collaborating and communicating. These are native and specialist applications that support IOS and Android platforms. For the majority of learning professionals the Mobile First approach can best be served by understanding how your content behaves in mobile web browser before checking content views in an App. To check what happens on a web browser on mobile try this....



## Top Tip!

You will need Google Chrome as your web browser. Go to the three little circles at the top right of your browser screen. Select more tools and developer tools. Once here you will be able to display your web page in a variety of different devices ranging from an iPad Pro to older Samsung smartphones.

Now that we know how the learner is going to interact we will explore a number of content types and how they can be delivered for mobile:

- Files
- Video
- Interactive HTML5 content
- Web pages
- Images



For each there will be suggestions for good practices on how to design, develop and deploy.

### Files

Files can be shared for mobile consumption in a variety of ways, but the most straightforward is from a content storage system or the Learning Management System. Content storage systems have exploded on the market in recent years. Many Higher Education institutions will possess enterprise licenses (for example OneDrive, Google Drive, Dropbox, Box). Such systems allow for the quick, easy and efficient distribution of files to learners. Once the decision has been made to upload a file, consider two aspects of your file : it's size and it's type:

#### File Size

Content system integrations have made this less important but one thing is true – the bigger the file the longer the download time. Longer download times will frustrate learners at best. And, at worst, learners are prevented from engaging in learning activities (for example in geographies that have poor or erratic Internet connections). There is no strict guideline as to a maximum size, but 30mb is a figure that many will recognise. This tends to be the maximum email attachment size of most University and corporate enterprise email systems. To reduce file sizes here are a few top tips:



- With PowerPoint presentations compress the image size. This is an option in the file command menu in PowerPoint.
- With images, set to 160 pixels per inch (PPI).
- With videos, produce HD 720 as a maximum and keep the video length to under 4 minutes.

## File Types

Content storage systems and LMSs will take any type of file (although many institutions block .exe files). However, if we want learners to read file content then .pdf files are any easy choice. They will be viewable in mobile web browsers and apps without the need for any application software. They often tend to be smaller in size than their application software parents. Plus, there's the added advantage that they maintain a degree of intellectual property integrity as can't be easily edited. The simple golden rule? If they must read it, PDF it! That said, the technology landscape is moving fast. In some LMS mobile apps, Microsoft files will view in the LMS apps without a "forced download" to the device.

## Video

Treat videos like any other file. Consider type and size. There are a bewildering array video of file types. For mobile learners, MP4 works best. As for size, the smaller the better, especially if your students need to download to a mobile device before they view it.

### Video Solution 1: upload to an LMS or Content System

Most LMSs and content systems will have the ability to display and play videos that are uploaded to them. However, certain web browsers might have compatibility issues, especially if you don't use MP4. Also, any page displayed in a LMS containing a video must be downloaded before the video can be played. Remember, a LMS or content will not stream video.

**Verdict:** Easy to achieve, offline capable, but the reliability and efficiency of playback cannot be relied upon.

### Video Solution 2: Streaming Services, YouTube, Vimeo and others

Hosting video on a streaming service will give mobile learners with an Internet connection the best user experience. Because the video doesn't have to fully download before it can be played, even large (file size) videos can be viewed within a few seconds. Streaming services can be costly so many educators use YouTube and Vimeo. These have the advantage of being mobile compliant and free! The main issue counting against this option relates to the privacy of video content.

**Verdict:** YouTube and Vimeo are an obvious no cost solution for many, but not viable for sensitive content or content that requires maintenance of the integrity of Intellectual Property. If this matters, consider a "private" streaming service.







## Interactive HTML 5 content

This is where more advanced and experienced practitioners struggle. Being able to drag and drop, click on images to reveal other content and text, mount videos onto diagrams... most LMSs don't contain these tools. Application Software such as Adobe Captivate or Articulate Storyline are popular choices to create high quality interactive HTML5 content. These are then often mounted in LMS courses (often as SCORM packages). Such software requires considerable investment in licence costs (in the region of \$1000 per year for a single licence) and also the time required to develop the skills necessary to be able to publish content. But there are some cheaper (free!) alternatives:

### Xerte Toolkits

Xerte Online Toolkits offers a quick way for anyone with limited technical skills to create engaging, accessible and media-rich resources. With the new developments in Xerte Online Toolkits v 2.0 (released April 2013) you can now create one set of content and instantly create two versions - one in HTML5 which will run on a wide range of devices (including mobile devices); and one in the traditional Flash format.

### Hot Potatoes

The Hot Potatoes suite includes six applications, enabling you to create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises for the World Wide Web. Hot Potatoes is freeware, and you may use it for any purpose or project you like.

## Web Pages

Creating web pages is easy. No coding is required. You can do this on any platform from WordPress to Moodle, from Office 365 to Google Drive and there is no need to go anywhere near any code. Also, you

will find that WYSIWYG1 editors are ubiquitous. The biggest issue to bear in mind with regard to web pages is responsive design. A web page may display perfectly on a 1920 x 1200 monitor, but how will it render on a mobile phone at 420 x 540? One doesn't need to be a content developer to test such things. Before we look at how to test your content for mobile compatibility the top three issues you will experience are related to:

- Images
- Embedded videos
- Tables

First things first. Avoid, if at all possible, using tables. These can cause problems displaying on mobile devices. However, keep in mind that images and embedded videos may be OK depending on the nature of the WYSIWYG editor.

### Images

Images are often incorporated into web pages and are a key component of any learning experience. Images are files and should be treated in the same way as all files in respect to file size. Images need to be optimised for consumption. The smaller the better. A great determinant of file size is PPI (pixels per inch). For mobile consumption 150 PPI is a reasonable guideline. In respect to file format, then .jpg, .png and .gif are the most acceptable formats. JPG files are the best of the bunch in terms of the balance they provide between image quality and file size.

### Bibliography

JISC, 2018. Digital experience insights survey 2018: findings from students in UK further and higher education, s.l.: JISC.





## Andy Ramsden • Strategic Educational Consultant

Andy has been working at Blackboard since 2014 as a Strategic Educational Consultant. Within this capacity, he has collaborated with many institutions to design their Faculty Development Strategy & Operational Plans. At the heart of which is accredited courses for faculty members. He was also part of the original team to design the themes and modules within the DTLS program.

Before joining Blackboard, he worked for over 16 years in UK Higher Education. His role included developing and delivering Post Graduate training on mandatory courses for new academics on Educational Theory and Technology Enhanced Learning. A particular focus on technology enhanced assessment and feedback. These modules aligned to the requirements of the UK's Higher Education Academy's Professional Development Framework.

### DIGITAL ASSESSMENT

# Principles of Effective Assessment & Feedback in Online Teaching

The starting point for this discussion is to note, nothing we do to, or for our students is more important than our assessment of their work and the feedback we give them on it. The results of our assessment influence students for the rest of their lives (Race, P. Brown, S. and Smith, B., 2005).

This discussion aims to answer several questions which you'll hopefully consider when designing your assessment and feedback models.

- What challenges arise from delivering online?
- What is the different terminology associated with assessment?
- What is the role of feedback?
- What should we consider when designing our feedback process?
- How might we improve the outcomes of our assessment and feedback model?

Before addressing these questions it is worth revisiting the broad assessment and feedback principles which we need to ensure are embedded within our online and blended learning designs (see Table 1).

Assessment <sup>1</sup>	Feedback <sup>2</sup>
Valid	Helps to clarify what good performance is (goals, criteria, expected standards)
Reliable	Facilitates the development of self-assessment (reflection) in learning
Equitable	Delivers high-quality information to students about their learning
Explicit and transparent	Encourages teacher and peer dialogue around learning
Support the student learning process	Encourages teacher and peer dialogue around learning
Efficient	Provides opportunities to close the gap between current and desired performance
Monitored, and this monitoring is used to support the enhancement of assessment policy and practice	Provides information to teachers that can be used to help shape the teaching

# What challenges arise from delivering online?

There are some challenges to consider for developing inclusive online modules. Within the context of this discussion these are;

1. Assessing online learners presents a particular challenge to academic integrity. In that tests/quizzes/exams are often conducted in less controlled environments than for face-to-face courses. During online assessments, learners often have access to their materials and wider student networks.
2. A regular concern from faculty members (academics) is the online learner does not always engage with the feedback provided.
3. The online learner may feel isolated without the immediate contact provided in face-to-face courses.

These concerns can be effectively addressed through good assessment and feedback design. For instance, feedback, both to and from learners, encourages engagement, promotes an enhanced level of education, and provides opportunities for course improvement.



# What is the different terminology associated with assessment?

Within this section, we'll explore three key terms.

Formative assessments are designed to measure learner performance while the actual learning experience is being conducted. An intention is to administer them early and often throughout a course and use them to inform both the learner and teacher of immediate status. Although you need to ensure the student is not being over-assessed and provide effective feedback to encourage engagement. Formative assessment is not included with the grade bearing assessment activities.

The tools associated with formative assessments include short quizzes, often with the option to repeat as many times as needed to ensure mastery. Question pools can be used to provide a different set of questions each time the learner attempts a quiz. Often a formative quiz would include written open-ended questions or reflections. A flipped classroom is often associated with a formative assessment model.

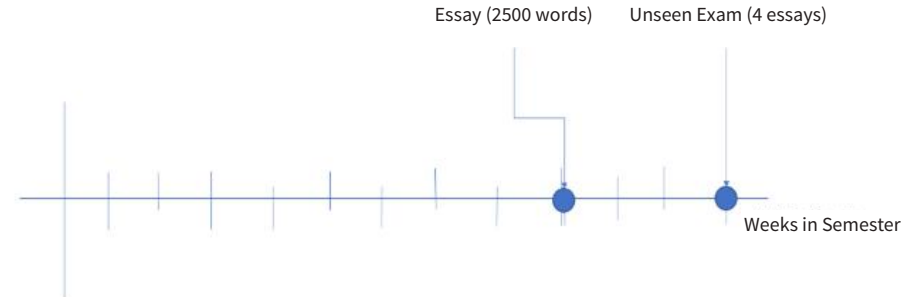
Summative (high-stakes) assessments are administered a limited number of times during the course and provide a more definitive evaluation of student learning. These are called "high stakes" because learner success in the course may be based on only a few of these graded assignments.

Summative assessments may include periodic and/or final exams, an individual or group presentation, a paper that requires significant effort, or the compilation of a portfolio of assignments.

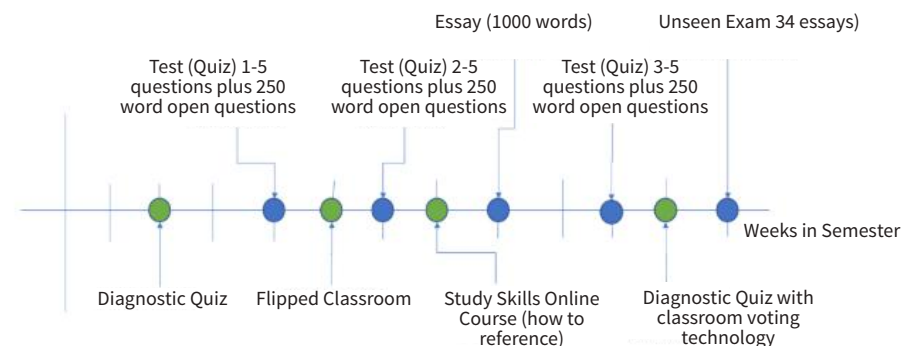
Low-stake summative assessments refer to assignments that do not heavily impact on students final grades or other educational outcomes, with feedback given to enable students to benefit from multiple opportunities for improvement. The use of low stake assessment is associated with spreading out the assessment load within a module and across the program. This will reduce student anxiety as it reduces the importance of an individual assessment within the final module grade. This is illustrated in Figure 1, where the traditional assignment of a piece of coursework (2500 word essay) and final examination (4 essays) has been redesigned as three pieces of coursework (3 quizzes, and 1 smaller essay) and a shorter final examination (3 essays). Figure 1 also illustrates the aligned formative assessment activities.

Figure 1: Redesigning the assessment model for "low stake"

## Part A: High stake assessment



## Part B: Low stake assessment



# What is the role of feedback?

Feedback is usually provided in response to an assessment, feedback is data or comments addressing the difference between the expected and actual level of performance in achieving an objective. Feedback is most meaningful when it is given as quickly as possible after the activity, provides learners tangible information about this difference, and offers realistic strategies for achieving the goal. The feedback offered should result in an eager, engaged, and self-motivated learner, who wants to make every effort to better their performance. Effective feedback includes:

1. Provides the opportunity to improve performance.
2. Reinforces the course goals and objectives.
3. Fosters communication between the teacher and the learner.
4. Encourages the use of self-assessment.
5. Supports positive self-esteem.



# What should we consider within the Feedback Process?

Before a teacher can provide effective feedback on either a formative or a summative assessment, he/she must ensure the activities in their assessment align with the course objectives. After this connection is validated, the teacher should identify key opportunities in the course when feedback should be given and received. This process is often associated with constructive alignment.

Constructive Alignment is a teaching principle that combines constructivism, the idea that learners construct or create meaning out of learning activities and what they learn, and alignment, a curriculum design concept that emphasizes the principle used for devising teaching and learning activities, and assessment tasks, that directly address the intended learning outcomes (ILOs) in a way not typically achieved in traditional lectures, tutorial classes and examinations.

Another consideration is to ensure there is time within the assessment process for the faculty members to provide effective feedback (providing it promptly, in detail, responding to the individuals performance and which is used to improve performance).

From an online course design perspective, the use of goals and rubrics will help enable the delivery of effective feedback.

A frequent concern from teachers is that their learners do not pay attention to the provided feedback. Therefore, a lot of time is used to write specific feedback, however, the learner is interested only in knowing the grade and don't even read the feedback.



In this case, providing feedback is not a guarantee of an improvement in performance. A more effective strategy is to include learners within the assessment design as active constructors of feedback and engage them in a conversation about their work. Nicol (2010) suggests some strategies to foster this interaction by establishing a context for feedback dialogue and getting learners involved.

### Pre-submission

- Ask learners to discuss the task and rephrase it in their own words.
- Ask learners to identify assessment criteria by comparing good and bad assignments .
- Ask learners to submit objective (multiple choice) questions of which you'll use a sample within the summative assessment.

### As part of the submission

- When working on group tasks, ask learners to summarise their work and submit them with the assignment.
- Ask learners to request topics they'd like feedback on by attaching questions with their submission (for instance specifying areas in which they would like to receive specific advice).

### Alternative approaches

- Use peer-assessment methods within your assignment to increase the opportunity for feedback dialogue.

### Notes and references

<sup>1</sup>The assessment principles are derived from the Teaching & Learning Handbook at Durham University (<https://www.dur.ac.uk/learningandteaching.handbook/6/principles/>).

<sup>2</sup>Nicol, D. & Macfarlane-Dick, D. (2004) «Rethinking Formative Assessment in HE: a theoretical model and seven principles of good feedback practice»[http://www.heacademy.ac.uk/assessment/ASS051D\\_SENLEF\\_model.doc](http://www.heacademy.ac.uk/assessment/ASS051D_SENLEF_model.doc)

Race, P., Brown, S., & Smith, B. (2005) (2005 tips on assessment. London; New York: RoutledgeFalmer.

## Fausto Puppo • Senior Educational Consultant



Fausto Puppo is a Senior Educational Consultant based in LAC. He has over twenty years of experience in training and consulting, specializing in teacher training; instructional design; program accreditation; and implementation of F2F, blended, and fully online teaching/learning solutions.

Before working for Blackboard, Fausto worked as Master Trainer at Peace Corps Peru. He was also Director of Online Education and Director of the English Language Program at Universidad Privada del Norte in Peru. He has also taught at a number of educational institutions and conducted research in emotional design, user experience in online learning environments and students' use of learning strategies. Fausto has published articles and delivered workshops in several countries, including Peru, Chile, Brazil, Mexico, the United States, and Canada.

## DIGITAL TEACHING AND LEARNING QUALITY ASSURANCE

### How to evaluate the effectiveness of an eLearning course?

Evaluating the effectiveness on an eLearning course is no easy task. It is unavoidable, though, if we aim at providing a robust, high quality online learning solution. In this article I will focus on three key aspects to consider when evaluating an online course: design, delivery and effectiveness.

### Course Design (content, organization, look and feel)

In an ideal world, a subject-matter expert and an instructional designer would work in tandem to design a course, not just an online course, but any course. This, unfortunately, is not always the case, which often results in online courses that may look good and yet lack coherence and cohesion. One thing we can do is to make sure that our online course flows smoothly and follows a logical, consistent progression, with one element seamlessly leading to the next, taking the learner along a clearly defined learning path.

In order to accomplish this, however, it is necessary to begin evaluating our course from the beginning, long before it is an actual course, when it is nothing but a mere outline. It is at this stage that a checklist with our main criteria for considering and including content would come in handy. It would also be a good idea to use some sort of chart or graphic organizer to justify and articulate the topics and subtopics that will be covered in our course. Some questions to ask at this stage are: “What is the connection between this element and the next? How does it align with the expected learning outcomes?” This is a critical step, for it can potentially save us the time and trouble of having to fix or even replace parts of our course once it is finished.

Once we have determined and validated the structure and contents of our course, it is time to focus on the look and feel. Content is king, but the way in which we present it may have a powerful impact on initial learner engagement and later performance. Aspects to evaluate at this point include the use of institutional colors; consistency in the type of graphics to be used (photographs, clipart); font type, size and color; compliance with accessibility standards, etc.



## Delivery (learner and facilitator roles)

Will the course be blended or fully online? Will there be a facilitator, or will it rely on independent study? If the latter is the case, will it be self-paced?

Depending on how we answer the questions above, we may want to predefine specific roles for the facilitator and the learners. These roles should be specific enough to ensure that different learners taking the same course facilitated by different teachers have a similar experience and, more importantly, obtain similar results. It may be necessary to design rubrics describing elements like expected participation in discussion forums; quantity, frequency and content of feedback; roles and tasks during cooperative learning activities, etc.

Once we have determined the roles and designed the rubrics, we need to make sure that what is written on paper actually takes place in the real world. For this to happen, it is necessary to ensure that all stakeholders are doing their part. Are students going over the course content and doing the different tasks and activities on time? Are teachers moderating debates, curating content, grading work, providing timely feedback? Are supervisors checking facilitator compliance?

## Effectiveness (meeting expected learning outcomes)

The proof of the pudding is in the eating! We may have carefully designed, developed and delivered our eLearning course and done everything in our power to try to make it as effective as possible, yet the ultimate proof is whether the learners consistently achieved the

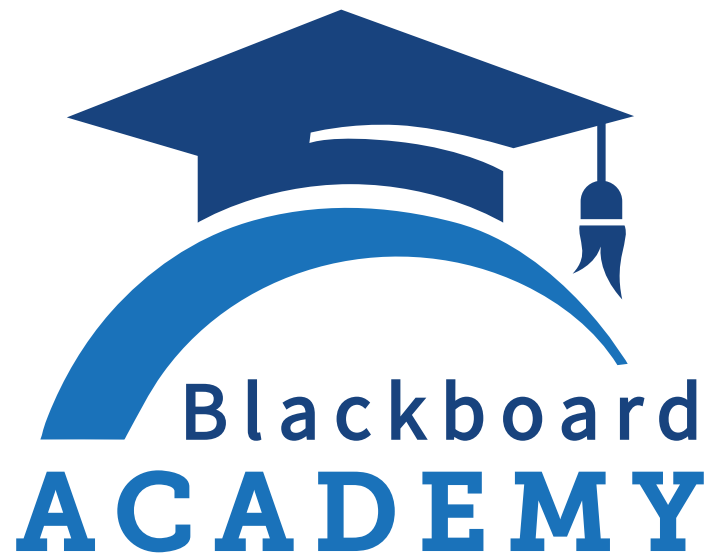




expected learning outcomes. One tool we can use for this purpose is the framework created by Donald L. Kirkpatrick, who proposed four levels of evaluation:

- 1. Reaction:** This level is rather easy to measure as it focuses on how the learner feels while taking the course. Most institutions use surveys that include questions about different aspects of the course like content, delivery, perceived relevance, etc. The data obtained through these surveys can -and should- be used to make adjustments to the course.
- 2. Learning:** This type of evaluation seeks to determine whether the learner has achieved the expected learning outcomes, though in reality it often takes the form of summative assessments that focus primarily on declarative knowledge.
- 3. Behavior:** This level takes assessment beyond the realm of declarative knowledge and includes elements like skills and attitudes and whether the student is now able to transfer and apply that knowledge as a result of having taken the course. Here it becomes essential to gather evidence and build rubrics, which, in turn, makes the evaluation process more complex.
- 4. Results:** This level of evaluation is both the most useful and the most complex as its scope spans beyond the academic program and requires measuring real world performance, which for a university may imply systematically visiting -and evaluating- former students at the workplace.

As we have seen, many factors contribute to the effectiveness -or ineffectiveness- of an eLearning course. Course evaluation should begin early, at the designing stage, cover all aspects of the course, and ideally go on after course delivery is over if we are to ensure that we are giving our students the best possible service.



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