

Online Learning Standards: Steps to Introduce a Distributed Leadership Approach to Training Teachers for Online Teaching and Learning.

Geraldine Exton Grimes

Fiona Boyle 

Michael Noctor

Munster Technological University, geg.mtu@gmail.com

Abstract.

Since the introduction of online learning platforms in Higher Education Institutions (HEIs), there has long been a difficulty in encouraging a broad and even adoption of those platforms by all teaching staff. The creation of templates, modelled baselines, and standards has helped enormously to make teaching staff feel more comfortable in the online space, particularly in the wake of the pandemic. Standards, however, need to be adapted for the specific context where they are being used. In one innovative Engineering programme in a university in Ireland, staffed largely by subject matter experts from the Engineering industry, where adherence to standards is an established practice, we are trialling the communication of best practice on online learning and teaching through specifically created standards, to mirror their industry experience. To allow this cohort to become comfortable with the standards, they have been introduced through the lens of heutagogy, as asynchronous, access any-time, self-directed resources. Once familiar to the team, we will develop a community of practice around extending knowledge of the standards, thereby leading the teaching staff via a distributed leadership approach where we influence teaching practice, rather than presenting ourselves as the sole authority. This paper gives an account of the initiative as we introduce these standards.

Keywords: Content standards; Industry teachers; Online Engineering Degree; Online teaching and learning; Realizeit.

1. Introduction.

Assisting teaching faculty in the most effective use of institutional learning platforms has posed difficulties since their introduction. For various reasons, many teachers in Higher Education Institutions (HEIs) have had a complicated relationship to the shift towards teaching online, or

have faced legitimate problems in finding the time and the resources to develop their knowledge. Research prior to the pivot brought on by the pandemic in 2020 suggests that the use of templates and modelled baseline usage of Virtual Learning Environments (VLEs) and Learning Management Systems (LMSs) were beginning to become more commonplace in HEIs to address this problem (Fresen, Hill & Geng, 2014; Masterman 2017). Standards, produced to cover broad issues around the education provided online, quality assurance, and policy development (ISO 2017; QQI 2018; ISO 2021; National Forum 2021), offer an extremely useful framework to anchor such proposed templates or resources.

Many of the standards documents in use across the sector remain quite high level; teachers new to higher education need practical help embedded in the principles covered by that literature (Skiba 2017; Martin, Polly, Jokiahho, & May, 2017). When the teaching staff come from an industry background, with a non-pedagogical focus, it is appropriate therefore, to introduce methods which are more familiar from their industry experience. In an innovative Engineering degree programme in a university in Ireland, one such approach is being trialled; mirroring more closely the experience of the Engineering industry and professional engineers, we have created a set of online content standards, influenced by these pre-existing international standards, tailored towards our teaching cohort. In the first instance, encouraging a heutagogical, or self-directed, approach (Rennie & Smyth, 2019), with autonomously accessed asynchronous resources, we are equipping the teaching staff with the information they require to begin their journey towards a fuller grasp of the teaching and learning skills needed in the HEI online environment.

In this Engineering programme, the learning platform being used to host these standards is a VLE called Realizeit, an adaptive learning platform which includes a range of new and sometimes unfamiliar options for teachers. This underscores the dual need for standards that would present content in a consistent way across the programme, and a method to acquaint the teaching staff with the features that they may be unaccustomed to using.

The use of standards to familiarise the teaching team with best practice in online teaching and learning is one element in a planned suite of resources and activities arranged to improve the experiences for students on this programme. The standards formalise the requirements of online teaching; by using them as a basis for creating an informal community of practice (Staring, Brown, Bacsich & Ifenthaler, 2022) to discuss and contextualise teachers' experiences online, we will be utilising a distributed leadership approach (Harvey & Jones, 2020; Taylor,

2020) to ongoing continuing professional development (CPD) for the teaching staff on this programme. In this case, we see this distributed approach as one where the emphasis is not on the learning experience team dictating what teachers should include in their online content, but in the dissemination of information we see a way to allow individual teaching staff to decide how they wish to implement their teaching and learning online, within best practice guidelines.

2. Rationale for the Use of Standards.

It is not a new phenomenon that teaching staff have experienced issues when taking their teaching online. Studies show VLEs being used merely as repositories for content as early as 2007, highlighting “*limited active learner participation*” (Donnelly & O’Rourke 2007, p.35). It has also long been noted that learners will be disadvantaged if teaching staff are not aware of more effective ways to use learning platforms, as:

‘...simply transferring material used in face-to-face classes onto an LMS is not sufficient and may contribute to both intellectual and personal disengagement from activities.’

(O’Shea, Stone, & Delahunty 2015, p. 54).

Other studies comment on teachers’ “*fear of technology*” (Bothma & Cant 2011, p. 383), suggesting a strong need for support and guidance on the technological matters in online teaching and learning. While it is understood that the pedagogy should come before the technology (Rennie & Smyth, 2019), if the technology is terrifying, it will be the one element that takes up a teacher’s mental energy when planning for the teaching ahead. By providing guidelines, in neutral language accessible to people from neither a pedagogical nor a technological background, this fear can be mitigated, thus freeing up teachers’ time to think more deeply about the content they wish to teach, and the ways in which they wish to work with their learners. Teachers do need to focus on developing their technological skills, but a focus that is overly technology-specific runs the “*risk of instant obsolescence*,” (Smyth, MacNeill & Hartley 2016, p. 121) as the technological tools being taught may be replaced

It is clear that there are multiple pressures on teaching staff in HEIs, and finding time to explore professional development in the area of teaching and learning online is not always possible (Donnelly & O’Rourke, 2007; Bothma & Cant, 2011; Leigh, 2014; Locke, Whitchurch, Smith, & Mazenod, 2016; Finnegan & Ginty, 2019). For many subject matter experts (SMEs), new to teaching, their experience in other areas does not match their exposure to sharing their

specialised knowledge, thus an understanding of what information is available to help with issues around teaching, or even an awareness of the actual skills they need to develop, is not always present with this teaching cohort (Pilkington, 2016; Barradell, Blackstock, Mastwyk, Tang, Leo, & McConville, 2018; Richardson, Wardale & Lord, 2019).

We must look for ways of “*providing hints and tips to improve usage*” (Bothma and Cant 2011, p. 382), and offer pathways for those whose technology knowledge is less than they would like (Fresen et al, 2014). Most importantly, this work must be supportive in nature, promoting the use of best practice without being proscriptive, so there is no loss of academic autonomy (Masterman, 2017). This “*involves a combination of commitment, positivity and relationship*” (Outram & Parkin 2020, p. 9) between members of the programme team. In practice, teaching staff will often feel that they do not have the time to devote to this kind of professional development, perhaps believing that their SME knowledge is more vital to their roles. Providing accessible asynchronous resources, which they feel comfortable using, alerts the teaching faculty to the importance of developing this knowledge, and works to point them in the right direction for further information as and when it is needed.

If teachers are unaware of the “*cognitive load*” (Fresen et al 2014, p. 3) on students when there is a lack of consistency in the resources provided, it may well be difficult for them to understand why consistency across a programme is desirable. Explaining the need for “*cognitive continuity*” (Fresen et al 2014, p. 3) foregrounds the introduction of guidelines to achieve this. Guidelines in the form of well-researched and highly useful templates and modelled baseline usage exist across the literature, (e.g. Hill et al, 2012, cited in Fresen et al 2014; UCL Digital Education, 2020; Exton, Phelan, Neachtain & Kinsella 2021), often developed in the wake of the pandemic, when the sudden and unexpected need to pivot to online learning created a rush for online resources. As with the multiple standards produced (ISO 2017; 2021; QQI 2018; National Forum 2021), templates and baselines are particularly helpful to address the need, as outlined above, to provide self-directed resources for teachers, in order for them to contextualise themselves to the world of online learning and teaching. In fact, “*a template is seen to act as a starting-point, not as a constraint*” (Masterman 2017, p. 313). However, as noted by Martin et al (2017), existing standards or frameworks need to be adapted to the particular institution and are difficult to implement in practice, thus creating the need to work within the context of particular teams. Engineering SMEs new to teaching present the perfect opportunity to disseminate standards as a way to promote best practice in online learning and teaching, as they are rooted in industry practice where adherence to standards forms the basis of much of their professional training.

3. Context.

The Engineering degree programme described in this article is innovative because of its close ties with industry, its use of state-of-the-art and developing technologies across its delivery methods, and the inclusion of teaching staff who are steeped in the industry itself. In addition to academic teaching staff, themselves from Engineering backgrounds, there are three Engineers In Residence (EIRs), all with significant industry experience, whose roles see them bridge the gap between industry and the HEI. Their knowledge of systems, processes and practices across the Engineering industry allows for a rich and diverse set of experiences for the learners. In spite of their considerable and varied industry involvement, this is the first time some of the teaching cohort have worked in teaching at HEI level, thus creating some situations where further guidance may be required.

As a group, these professionals are extremely familiar with working in an Engineering context, cognisant of, and adhering to, International Organization for Standardization (ISO) standards. ISO standards do exist for online learning and teaching (ISO 2017; 2021), along with Ireland-specific standards for quality assurance, and policy development (QQI 2018; National Forum 2021). These pre-existing standards form an excellent basis for the development of cohort-specific documentation which is targeted at the particular needs identified across the team as requiring further development. While there is a generic need across all educational communities to teach learners how to learn (Laurillard, 2012), adapting documents specifically for this cohort allows for the programme team to respond to the precise demands of the programme, informed by the personalities and the backgrounds of the people on the team. By hosting the documents on the Realizeit platform, we are also offering the team the opportunity to become familiar with the platform, at their own pace.

This approach to the professional development of the team members whose expertise is in areas other than education is grounded in the concept of distributed leadership on online teaching issues (Harvey & Jones, 2020; Taylor, 2020). This is a style of leadership which is “*founded upon trust, co-creation, shared purpose, and collaboration*” (Harvey & Jones 2020, p. 101). This trust will create change agents (Outram & Parkin, 2020), “*staff working at grass roots level*” who will “*own*” the changes themselves (Harvey & Jones 2020, p. 101). By involving all staff in the development of their own efficacy in teaching and learning, we are implementing leadership that is one of “*influence, rather than authority*” (Outram & Parkin 2020, p. 9). Zimmerman, Altman, Simunich, Shattuck, & Burch (2020) note:

“Having and disseminating online course quality standards does not ensure implementation of those standards and quality assurance processes” (p. 147).

We need, therefore, to create a situation where all members of the team will feel that they have something to contribute, perhaps to a community of practice (CoP) around digital learning (Lave & Wenger, 1991; Staring et al, 2022), which could then be extended throughout the wider educational community. It has been seen that a CoP *“as a form of staff development may assist tutors in (the) transition (to online teaching)”* (Peacock & DePlacido 2018, p. 67), and that *“collaborative approaches (to professional learning and teaching in the online space) are more successful than personal ones”* (O’Toole 2019, p. 57). According to Liu, Geertshuis & Grainger (2020), *“facilitating the adoption of learning technologies **requires** staff participation and collaboration”* (p. 20) (my emphasis).

Giving our teaching staff access to asynchronous resources they can choose to engage with at their own pace and in their own time, we are providing tools for them to bring their considerable experience to their learners, in a personal, stress-free manner. Following this up with informal opportunities to critique and discuss their teaching experiences will support them *“...to network and learn, establish on-going relationships, ... share knowledge, experience, resources and exchange good practice”* (O’Toole 2019, p. 50). We hope this will help them *“to build confidence and (provide) informal, collegial support...”* (Peacock & DePlacido 2018, p. 72).

4. Practice.

The online learning standards are presented across a number of different documents easily accessible to the programme team. An introductory text is presented on Realizeit, including images and links to further information. Each document is available to be downloaded from Realizeit in addition to accessing it on the platform. The first two documents are added as PDFs, and the third, as it is designed to be interactive, is a Word document with the ability to cross check-boxes in the document. The three documents are named:

- Online Standards
- Realizeit Style Guide
- Checklist for online learning standards

These are: an informative text describing the rationale from across the literature; a style guide to aid in consistency; and a practical checklist to act as a reminder of the elements suggested

in the literature while still giving full autonomy over the final product to the teaching staff.

“*Online Standards*” covers best practice in a number of core areas, anchored in the literature, with a strong emphasis on accessibility issues. Table 1 shows the full list of items in the Standards document.

Table 1: table showing the full list of items in the Standards document.

Standard	Description
Accessibility	Definition with links to further information
Alt text	Definition with rationale for inclusion
Assessment types	Definition of Assessments as/of/for learning plus links to further information
Community building	Ideas for building netiquette awareness with links to further information
Community of inquiry	Introduction to cognitive/teaching/social presence and links to further information
Copyright	Reminder of legal obligations with institution-specific links
Chunking	Definition of term plus practical hints
Discussion forums	Ideas for how to use discussion forums
Expectations	Introduction to the importance of stating expectations clearly plus tips on how to do this
Fonts	Reminder of why some fonts and colours can be inaccessible and tips for best fonts to use
Learner contracts	Tips for why contracts are useful, how to implement them, and links to sample contracts
Learning outcomes	Reminder of why they are important, links to further information
Open Educational Resources (OERs)	Information on different kinds of OERs, best kind of licence to use, and links to further information
Presentation of content	Reminders for keeping content clear and consistent
Questions to check understanding	Different kinds of questioning techniques and why to use them
References	Further reading on all of the above

In this document, accessibility is introduced as an overarching concept, before specific items are given in more detail, covering: use of alternative text, choice of assessment types, chunking content, stating expectations clearly, awareness of fonts and colour usage, and general principles around presenting content in a beneficial way. The guiding principles for the accessibility entries arise from the Universal Design for Learning guidelines (CAST, 2018), informed for the Irish context by the work of the AHEAD organisation and the National Forum for the Enhancement of Teaching and Learning in Higher Education (AHEAD, 2017; National Forum, n.d.[b]). Further subject-specific resources were consulted for individual entries, e.g.:

learning outcomes and constructive alignment (Biggs, 2003); assessment types (National Forum, n.d.[a]; Race, 2019). Also included are key regulations and directives around copyright, and the benefits of using and developing Open Educational Resources (OERs) (National Forum, 2019). A rationale for constructing thoughtful and well-designed learning outcomes is presented (Berlin communiqué, 2003; UNSW Teaching, 2023), alongside strategies that can be used to develop learning communities among groups of online learners (Garrison, Anderson, & Archer, 1999; Salmon, 2013). The standards are designed to alert teaching staff to the existence of the body of research around online teaching and learning, and the main underpinning principles, as well as giving links to further information (Fresen et al, 2014).

Conscious, as outlined above, that time pressure is an issue for this teaching cohort, the standards are condensed further, into a practical style guide to assist in the adding of information directly into the Realizeit system. The style guide gives step by step instructions accompanied by screen shots, to remind the teaching staff of the key elements on the Realizeit platform, and how to author their content independently. Reiterating recommendations such as the optimum length for videos, and interspersing text, images and questions to check understanding, the style guide is a visual reminder for the teaching staff of how to implement the various standards set out in the longer standards document described above. Consistency is addressed via reminders regarding the use of styles such as “*Heading 1/Heading 2*” and so forth, methods to introduce academic terms in a streamlined way, and naming conventions for section headings within Realizeit lessons. Similarly, accessibility issues are specified through pointers on the types of fonts to use, reminders to be aware of colour contrast and to chunk content, wording to use for the naming of links so as not to confuse screen readers, and clear instructions on adding alternative text to images. Advice garnered from various studies across the literature is presented as reminders to: provide formative assessment through multiple question types; use OERs and attribute all content correctly; foreground videos and other content in a conversational way; and build additional content into the system to allow for the use of Realizeit’s adaptive capabilities.

Finally, the information is summarised into a one-page checklist, adapted from the University College London (UCL) Connected Learning Baseline (UCL Digital Education, 2020), as seen in Figure 1 overleaf.

Figure 1: Screenshot of the checklist.

Online learning standards checklist

Accessibility checklist

Fonts: size is minimum 11pt and is sans serif	<input type="checkbox"/>
Colour: of fonts is clear, contrast works (avoid red, green, pink text)	<input type="checkbox"/>
Links: are descriptive (avoid "click here")	<input type="checkbox"/>
Alt text: is provided for all images	<input type="checkbox"/>
Closed captions: are provided for all videos	<input type="checkbox"/>

Image/video checklist

Alt text: is provided for all images	<input type="checkbox"/>
Copyright: images are credited and permissions are correct	<input type="checkbox"/>
Relevance: image supports learning, not just for decoration	<input type="checkbox"/>
Video: is no longer than 15 minutes maximum	<input type="checkbox"/>
Video: has introductory text and questions to check for understanding	<input type="checkbox"/>
Closed captions: are provided for all videos	<input type="checkbox"/>

Question checklist

Check for understanding: you have invited your learners to interact with the content at regular intervals	<input type="checkbox"/>
Question types: you have presented a variety of different question types (10 different types available in Realizeit)	<input type="checkbox"/>
Plausibility: you have written believable wrong answers for MCQs	<input type="checkbox"/>

Presentation of content checklist

Headings: are clear and descriptive	<input type="checkbox"/>
Chunking: you have presented text in small, digestible chunks, using bullet points where applicable	<input type="checkbox"/>
Chunking: you have built in time for learners to pause/take breaks	<input type="checkbox"/>
Copyright: you have credited any reusable text and permissions are correct	<input type="checkbox"/>

Understanding of content/Community building checklist

Check for understanding: you have invited learners to interact with the content at regular intervals	<input type="checkbox"/>
Discussion forums: you have set questions for your learners to interact with the content and each other	<input type="checkbox"/>

Adapted from University College London's [Connected Learning Baseline](#)

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The best practice discussed in the two other documents is distilled in this checklist into its very simplest form; with no extraneous explanation, users of the checklist are presented with a category, an item and a checkbox, which they can either click, or leave blank. The five categories are: Accessibility; Image/video use; Questions/checking for understanding; Presentation of

content; Understanding of content/community building. There is some deliberate repetition in these categories to underscore the importance of the specific recommendations.

5. Further Research.

Feedback from the first iteration of the programme's initial modules, garnered from the analytics within the system itself, along with informal discussions with staff and students on the programme, suggests that there is further work to be done. This paper aims to give an account of a new approach to training teaching staff to work effectively online, and further work could delve into these analytics in more detail. The standards themselves may require further development, particularly in their presentation. They are currently in alphabetical order, which does not allow for the emphasis of particularly salient directives. There is also a definite need to improve the communication centring around why adhering to such standards is beneficial. An exploration focusing on ways to drive behaviour change, partnering with experts in the area of behavioural science, would also be of great interest, and has the potential to offer very useful insights to the broader teaching community. To assist teaching staff to include more engaging, interactive lessons in the Realizeit platform, and therefore increase student motivation to access those lessons, it is proposed to further develop the currently ad-hoc, informal processes of disseminating the information in the standards, into a more structured CoP (Lave & Wenger, 1991; Peacock & DePlacido, 2018; Staring et al, 2022).

Returning to the heutagogical approach (Rennie & Smyth, 2019) described in relation to the standards documents, further information, tailored to the teaching staff on this programme, has been organised into self-directed learning units also available within the Realizeit system, accessible to faculty as and when it is required. In conjunction with CoPs, further dissemination of the online standards, and these self-directed units, we are aiming to familiarise the teaching cohort with the fundamental elements of successful online teaching and learning, and thus benefit our learners in the longer term.

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