

University Online Module Structure Design: Consistency or Individuality?

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Abstract

This article considers the challenge of uniform high quality online module structure design in Learning Management Systems (LMSs) and its impact on expressing individual teaching style. It presents a three-element model that brings consistent structure design to any online module, and which also affords individualisation depending on the lecturer's needs and preferences.

The work is based on the analysis of actual online module structure design in SETU, modern learner needs, and personal work experience. The analysis highlighted the importance of unified online module structure approach that is not just a question of structure, but also depends on the teaching and learning process and the ability to support Universal Design for Learning (UDL) and Gamification approaches, Inclusive teaching, Active online learning, Co-creative and Collaborative work between staff and students.

The three-element approach is LMS- and course design-agnostic, learner-centred, and can be embedded and modified due to individual preferences of every lecturer.

Keywords: Higher Education1; LMS2; Module Structure3; Online Learning4.

1. Introduction

The challenge of developing an effective LMS predates the proliferation of online access systems. For example, (Richardson, 2003) describes the development of an effective LMS built around the physical distribution of a CD-ROM, a dedicated website, and a textbook, for “use by 1400 students, in several countries with varying delivery modes, educational requirements and different technology infrastructures”. However, some of the challenges presented in that work were relevant subsequently, including the “context of modern education, the characteristics of today's learners and how they are using technologies” (Conole, 2013) and are still relevant today (Adedoyin, 2023).

Usability, Accessibility, and the User Experience (UX) are essential to the success of technologies and software and that is clearly the case when students are the users of an LMS, but equally so for lecturers who want an accessible means of producing a module environment that is high-quality, informative and readily updated. An introduction to the field for academics and learners has been presented in (Rajesh, 2022), which emphasizes the importance of "Knowing the Users." In this work, and especially given the many learner types, this has also meant the adoption of UDL design principles to inform the UX and the User Interface (UI), for an overall better experience with the LMS (Al-Azawei, 2017), (Wendrich, 2018). These design principles feed into the eventual module structure design in the next section.

The objective of this research is to present a module structure design that is easily replicable across all LMS's to make university modules of consistently high quality by following UDL design principles and Gamification. The research findings open a gateway to lecturers of various design levels, while also affording the possibility for individuality and personalization and a consistently good and engaging experience to all learner types.

2. Background

Like many HEIs, our University (SETU) uses a LMS to streamline and enhance the teaching and learning experiences. Having an LMS means we can promote blended learning, support diverse learning styles and needs and in some instances integrate with other educational technologies and resources. The LMS has been used to a limited extent to provide data-driven insights to improve teaching and learning practices, for example, to highlight at-risk students based on the period of time since their last interaction. For our academics, this means primarily delivery and communication, assessment and evaluation, academic integrity monitoring and sometimes tracking and analytics. For our students, this can be to access course materials, submit assignments, communicate and interact with each other and the lecturer and to track progress. Overall, this can lead to an enhanced teaching and learning experience, increased efficiency and accessibility, and good course communications.

However, the design of online module pages and module structure on LMS's can be challenging for academics, leading to inconsistent approaches and even questionable quality. Many of our lecturing staff started in the profession prior to the existence of the LMS and others, for a variety of reasons, may not have invested sufficient time to become well-versed.

Across the country, universities do not all use the same LMS and there may even be cases, due to mergers, where temporarily more than one LMS is in use. This issue is exacerbated in Ireland in recent times following the establishing of Technological Universities, formed by the merger of independent Institutes of Technology, usually with different LMSs. With the formation of SETU, we got two LMS's, Moodle and Blackboard, with a consequent lack of consistency in approaches to module structure design.

3. Reflection: ‘Important’ elements in an Online Module Structure Design

Ideally, every university should have a clear guidance and understanding on online module structure design, with some scope for the individual preferences of lecturer or department, school and faculty. The questions under consideration are what should be seen as an ‘*important*’ structural element and how to identify which elements are important enough to be ever-present.

This article presents an individual approach based on instructional design practice and collaborative and co-design work with students, lecturers and subject matter experts, analysis of module structure and page design across our university and the possible levels of experimentation with graphics and content while striving for consistency of layout, as well as analysing its impact on teaching and learning quality. From this, it is possible to speak about *three elements* that can be considered as ‘*important*’ in an online module structure: (1) a **Lecturer Information block**, (2) a **Gamification element**, which in our case has been given the disarming title of Mr. Deadline, and (3) an **LMS Banner**.

One of the key criteria that author used for identifying the level of ‘importance’ is the impact of each element on the teaching and learning process if *not in* the structure. Each element has also a significant role in the development of social, cognitive and teaching presence (Shea, 2022). Another key criterion was for the design to be independent of the LMS, in that each element can be easily reproduced in any LMS.

3.1. Lecturer Information Block

Informal observation in our own LMSs indicates that the *Lecturer information block* in many cases is poorly addressed and even confusing. Some information blocks are used (some not), but often neglect to share the right level of information with students, such as contact details or preferred methods of communication or available office hours. Sometimes lecturers add their contact details in welcome messages to students but in such a way that it is difficult to notice them. There are good examples as well, but, overall, the lack of consistency can be very misleading and make learners feel sometimes lost in the learning process. The example in Figure 1 shows how a lecturer shared contact details by simply adding the screenshot from LinkedIn.

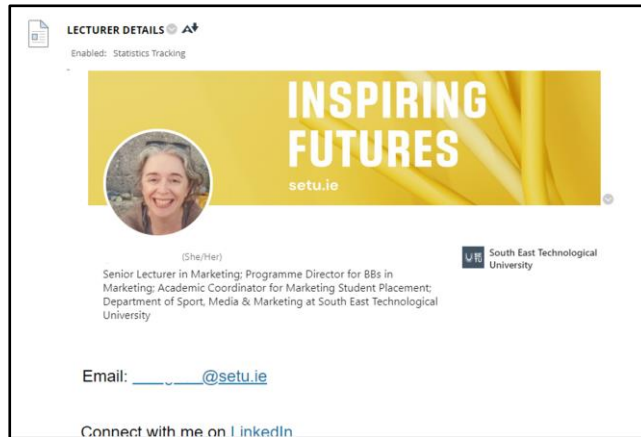


Figure 1. Example of lecturer information block. Source: SETU Blackboard LMS (2023)

Interestingly, the lecturer and the learner may think differently about what is important to include in the lecturer information block, e.g., learners want to see direct lecturer email or webinar links in the block, while the lecturer may think that it is easy to find without it. A well-designed lecturer information block in an online module structure may encourage collaboration and develop a good rapport with the learners. It is also a way to support the development of a social, cognitive and teaching presence and can be considered as part of the UDL and Equity, Diversity and Inclusion (EDI) approach.

3.2. Mr. Deadline or Gamification Element

Another ‘important’ structural element in online module design is a gamification element. There are different ways to add gamification in the module through continuous game-based activities or course design. For example, it can be part of the forum activity, where students are not only sharing their ideas but also playing a game focused on some course related topic. There are ways of organising the presentation of materials in game-based forms and many other options as well. The gamified element that proved to be successful for the author, was an HTML block in the LMS, which was created in response to learners’ needs and constant demand to be able to see the assessed tasks in an easy way. This block was named Mr. Deadline, with an individual signature for announcements and even online channel persona in SLACK channel that was used on the programme instead of LMS forums. Mr. Deadline, eventually, became almost like a real-life person wearing many hats and faces depending on the weekly events and seasons. His work responsibilities grew throughout the course from just announcing new assignments to making weekly announcements and different type of news and reminders.

Mr. Deadline is an example of a gamified element in the online module structure. There are many other ways to add gamification into the teaching and learning process, e.g., embedding a

Level up plugin in LMS to praise students for completing some tasks, or embedding gamification approach into the design of activities. The Figure 4 shows several examples of Mr. Deadline block and Level up! Block used as part of gamification approach.

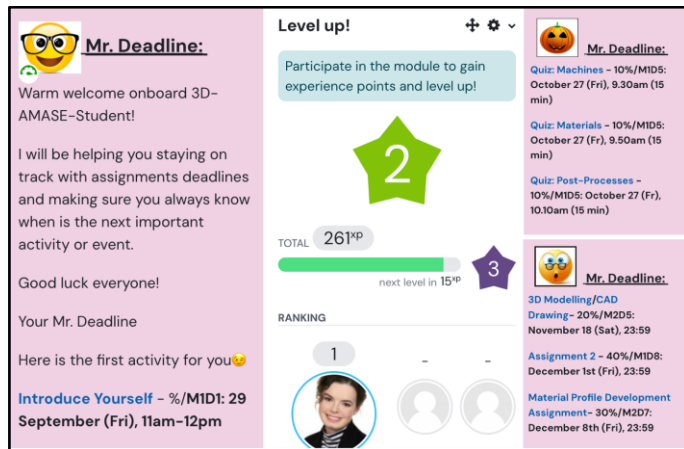


Figure 4. Examples of Mr. Deadline block and Level up! block. Source: SETU Moodle LMS (2023)

Mr. Deadline, as a gamified element in the course design, helped to develop a good rapport between staff, students and subject matter experts. It added an element of humour and supported ongoing jokes and a positive attitude to assessment. It allowed collaboration between staff and co-design between staff and students and made everyone feel involved in the teaching and learning process.

A gamification element can be more than a teaching approach or part of the course design or online module structure. A gamification element can facilitate a more positive attitude to challenges like assessment. It can encourage further development of the social, cognitive and learning presence on the course and influence the development of other resources and activities for learners.

3.3. LMS Banner: Interactive or not?

Another 'important' online module structure element is the *LMS Banner*. Typically, in our university's case, **banners** are **non-interactive** images that can contain an image, the name of the module, short message and used on the front page or any other welcome page as can be seen in Figure 2. The question is how powerful or valuable such non-interactive banners are for the learners and how to make a better use of them?

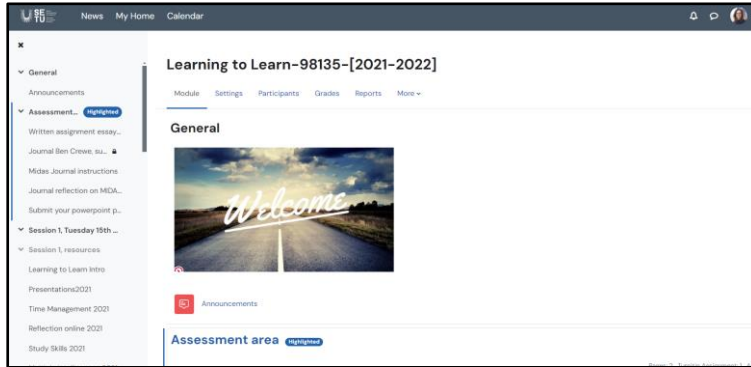


Figure 2. Example of non-interactive LMS banner. Source: SETU Moodle LMS (2023)

The banner is sometimes one of the first things our learners see before the start of the module and before the lecturer makes the module content available for them. It is an opportunity to make a first impression and encourage curiosity. One of the ways to add value to the banner is to make it interactive. In the background to this work, interactive banners were created for nine modules in Moodle via Genial.ly for different programme modules, although any other platform would work equally well. The image in Figure 3 is an example of interactivity that can be hidden in a banner.



Figure 3. Example of interactive LMS banner. Source: SETU Moodle LMS (2023)

An **interactive banner** is an LMS banner (designed via Genial.ly and embedded into the LMS) with added interactive elements that allow learners to get more information. It can be used at the start of the module page or any other welcome page. It should present some interesting facts about the course (e.g., subject matter experts, campus location, link for the first webinar, or let students hear and watch the lecturer before the first class).

As can be seen in *Figure 3*, the banner is not just a source of information but also a powerful interaction between the lecturing team and the learners, e.g., by adding a Christmas theme or important instructions before a group trip.

A banner with added interactivity is more than just an element in the online module structure. It is an important element of the UDL approach that can encourage and provide better communication between staff and students, a different and engaging way of information presentation, support the development of social presence. It can also play a significant role in graphic design or even be part of the activity that a lecturer would organize in the learning process. It is also important to say that there should be a balance in the amount of interactivity to avoid the risk of cognitive overload for students (Warrick, 2021).

4. Conclusion

The online module structure with all three elements may look differently in different LMSs, e.g., in Blackboard all three elements can be visible on different pages, in Moodle - on the same front page as shown in *Figure 5*.

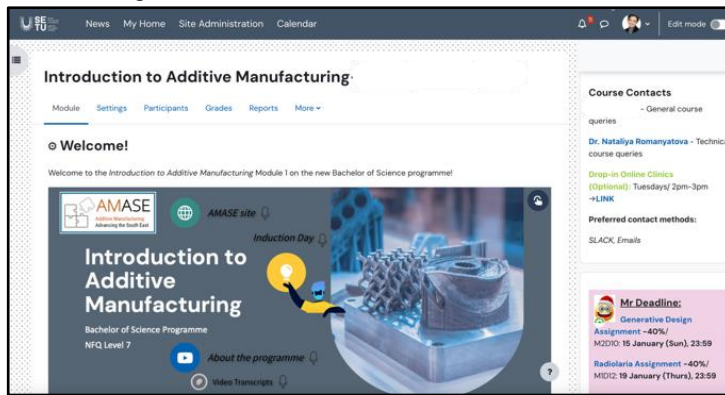


Figure 5. Example of three elements on the same page. Source: SETU Moodle LMS (2022)

It is important to say that this work does not suggest including specifically Mr. Deadline or only the interactive banner in every online module structure. There is also no intention to give a specific list of information that the lecturer information block should necessarily contain.

The aim of this article is to present a model, based on personal experience, consisting of three elements that could be part of any online module design and the ways of possible individual approaches to the development of these elements and their overall value for the online module structure and the teaching and learning process. As was mentioned above, there can be variants or similar and modified approaches for the same elements in online module design.

To conclude, it is possible to identify the elements in online module structure design that could be adopted by a university for consistency and high quality, with the possibility for different

level of individualization and modification. The three-element approach described here demonstrates that the ‘importance’ of online module structural element is not just a question of structure as such. The importance of each element largely depends on their value in the teaching and learning process and their ability to support and encourage UDL and Gamification approaches, Active online learning (Salmon, 2013), collaboration between staff and students, experimentation and creativity in teaching and learning design. In the cases implemented so far, feedback from the learners and lecturers has been very positive. Students found the Lecturer block, Mr. Deadline and interactive Banner helpful and easy to use. The Mr. Deadline idea offered to students turned into a collaborative co-design project that worked well, the same as Lecturer block and interactive Banner, for several iterations of students and for staff, including staff from other schools. The three-element approach offered in this article is LMS independent and course design agnostic, learner-centered, and can be embedded and modified according to the individual preferences of every lecturer.

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