20. Designing and teaching an online module

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INTRODUCTION

The development and delivery of online learning has become part of the university teacher's role, even if that teacher is primarily engaged in face-to-face teaching. The need to capture the market of students who want to study in a less traditional way has become a requirement of many universities. In this chapter we are going to look at the development and implementation of online materials. The development approach that we are going to follow relates to the ADDIE model of instructional design – a process of Analysis, Design, Development, Implementation and Evaluation.

> ADDIE is also an iterative process, where each phase can suggest improvements in earlier phases. This attribute encourages designers to monitor instructional development and evaluate whether results fulfil learning goals. The model's iterative nature also lends itself to rapid prototyping. A learning model can be deployed, feedback gained from learners, adjustments made at the appropriate ADDIE stage, and the module updated to better match instructional goals. (Mayfield, 2011)

ANALYSIS

This comprises designing an effective online module – an analysis and understanding of what is needed – who are the learners, programme objectives and the delivery environment.

The programme philosophy will dictate what needs to be developed and delivered. This needs to be communicated by the programme director: if the vision is not there, press and participate in dialogue until it is! You will need an understanding of the following:

- Details of expectations at the programme level – the choice of curriculum design approach has a huge impact on resource and

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     support implications – ideally there should be a design rubric for the programme.

- Are there accreditation factors to consider? For example, a requirement for certain types of exam, or certain amounts of synchronous engagement – again the programme director should be guiding here.
- Is there a template that will constrain your pedagogical or technological choices?
- What sort of development timescale is in place? (This can be particularly important where you engage with an 'external' development team – do their requirements for your time fit in with your availability according to other teaching/research demands?)
- What sort of support is available to you (pedagogical, technical, operational)?
- What approval processes will the module have to go through locally; what are your responsibilities?
- Who is your audience? Global audience; part-time? How will this influence their expectations?
- How will success be measured? Student retention rates, satisfaction, pass rates?

What is an Online Module and What Learner Expectations Might we Consider?

Definitions have blurred considerably over the last few years as different blends have appeared. Our own experience of online learning has focused on an environment in which teaching and learning is delivered and facilitated primarily via the Internet. This typically means delivery of learning content and instructions via a virtual learning environment, with learning dialogue primarily occurring asynchronously via discussion boards, wikis etc., and real-time engagement using a virtual classroom. The programme expectations regarding the type of content and engagement need to be understood before development begins if the student is to have even the most basic element of consistency between modules.

    Today, online learning within business schools is associated with expectations of flexibility and interaction. The learning design needs to consider who the learners are and to accommodate their needs. While the motivation might be there in your students, empathising with what it is to be an online learner on your programme needs to be explored with them through induction at both the programme and individual module levels, and through setting and understanding expectations of both learner and teacher. Fundamentally, you are creating a learning environment – not just delivering content – and this requires engaging in instructional design

to scaffold learning and bring different elements of content and dialogue together.

This will be a Learning Experience for You: New Skills will Need to be Developed

Before you get started, think about your own skill set. An understanding of the programme delivery philosophy, the development process and support available to you should allow you to identify any gaps in your own knowledge. It is likely that the experience will be as much a learning process for you as it is for your students (Debattista, 2018). While you may be an expert in your subject area, you are going to have to consider new aspects in the way you teach and a whole range of available technologies and the principles of instructional design. There is a massive temptation to let the technology take the lead – 'I will use it because it is there' – which is potentially dangerous to the student learning experience, risking overloading students with different 'tools'. We are also in an era where students may prefer and use different digital capabilities in their learning which are different to those you yourself use. They may choose to use their own virtual spaces (such as WhatsApp for example) in which to engage in group work, for example, and indeed decisions may need to be made about the degree to which you follow them into these new spaces, or keep the formal learning space within the virtual learning environment (VLE).

Teaching Tip
Talk to students about the way that they use technology in their everyday lives, and consider whether this can be incorporated into the learning materials you develop.

Consider the Extent to which You are Being Directed and Supported in the Development and Delivery Process

It is highly likely that support will be available to you, whether it be from within your faculty at a university, or an external commercial company focused on learning design and development. Any specialised partner will bring advantages to the programme and module design process, typically including instructional design, an understanding of current technology and pedagogy and experience of adapting face-to-face modules to online delivery. Critically, when working on individual modules, they should have that understanding of the broader programme expectations and learner needs and the developmental and operational programme issues as the

development processes takes place. This overview is essential in supporting a level of consistency to a programme.

There is the potential for huge variations in the nature of this support, so we strongly recommend that you take time to understand what is available to you and develop a working relationship that works for you in your local context. Understand what is being asked of you and engage in pilot work to test the relationship, and don't be afraid to push back if the output is not what you wanted. In the delivery phase, support is likely to shift towards existing programme teams. Again, be sure of who is doing what and when, and specifically what your responsibilities are – the critical importance of 'little details' such as setting up groups, discussion spaces or scheduling webinars will become very apparent.

Teaching Tip
Identify what technology you are going to be using, and be clear whether there are any specific features that you must include in your materials for consistency reasons.

DESIGN

We have found that the design process is vital for effective understanding of what is to be developed and to understand the time allocation needed to develop the various elements that need to be in place to teach online. At the end of the initial design phase you should have identified the learning objectives; the pedagogy; the technology to be used in delivering your module; and the route that the student will be taking through these. There are numerous instructional, eLearning and curriculum design models available. We have found that both the ADDIE and ABC models are useful tools for selecting the appropriate (or perhaps available) pedagogical approaches to meet the required learning outcomes. We advocate an approach where the module developer considers the learning outcomes and maps these to activities and resources, and then considers appropriate technologies to facilitate and engage.

> In the online learning environment, just as in the traditional courses, consideration of alignment of instructional content and assessment measures with learning outcomes is critical to successful learning outcomes and satisfaction. (Kauffman, 2015)

Identifying the Type of Content You will Need to Create or Source from Elsewhere

You will need to create content that transfers information. This is a combination of instruction and guidance on the learning journey, what to do, why, how and when, and probably lecture-type content where you introduce specific subject matter. Some of the teaching content might be sourced from elsewhere, but beware of reliability issues of other web resources (for example, YouTube content comes and goes and is barred in some regions) and geographical limitations of resources such as Box of Broadcasts. Be realistic in the sort of recorded media that can be created in-house, particularly the design and maintenance issues related with even the most basic multimedia content.

Teaching Tip
If you are developing materials for an international audience remember that some sources are not accessible in all countries.

Identifying the Type of Communications, Engagements or Individual and Group Activities that are Needed

This element will be greatly conditioned by both the type and expectations of the student cohort. If they have signed up for a specific model, you need to know and adhere to this – again this links back to the stage one analysis of what is expected/required for the programme.

Business school students, especially those with experience, are likely to expect to be able to network and share experiences. Undergraduate students may need a more traditional approach of delivery, followed by engagement. A key element here again is that students understand that there is a reason for engaging:

> Where possible, appropriate and well-designed communication tasks that align with the learning objectives of the course may be a way forward to enhance academic retention. (Rienties and Toetenel, 2016)

You might also want to consider the role of tutor-to-student communications during the module.

Teaching Tip
Additional emails or announcements that remind students of what is coming up next, preparation or group work before an event can be very successful in motivating and keeping students engaged in online modules.

Activity design will consider what engagements occur between the student(s) and resources or tools and other people (students, tutor) over a determined period of time with the aim of meeting defined learning outcomes. Will you evaluate this learning and if so how? Can this learning be collated and be reflected on by the learner(s) in online journals or ePortfolios?

Group work requires particular design consideration and there is perhaps a tendency to rely on group work online in the same way that we do in face-to-face teaching. However, for online learners there might be a considerable organisational challenge in effectively engaging in group work, which can considerably reduce the flexibility of their studies.

Some key considerations include the following: do you want groups to work unsupervised, or do you need to be able to observe and guide? Will group tasks run over days or weeks or will they take place in webinars? Group size, if too large, will enable members to potentially 'hide' and not engage. However we need to consider perhaps that part-time students may need a bit of flexibility and realistically will not find it easy to engage in everything. Design again will be driven by an understanding of learner needs (plus a dose of reality regarding what and how you can afford to facilitate and support).

Structuring the Resources in the VLE

In initial development you might be given considerable individual freedom in how learning is presented in the VLE. However, as you progress you will gain greater awareness of what structures appear to work well and there is often an increasing drive from some programmes to have a level of consistency between modules to enhance the learners' experience. A key question to be answered and understood in your own context is how will you structure your content in the VLE, for example, by week, by theme, by resource type?

For a face-to-face or blended learning programme, it will be very tempting to build your content around a weekly or fortnightly model, especially if there are weekly face-to-face elements, and regular if less frequent seminars. For online you can be more creative and perhaps build your content around themes or topics, which may span several weeks. Design becomes an important issue in the eLearning environment as both the tools available and the layout choices in the VLE can represent a very blank canvas into which a horrendously complex menu can be inserted! Hopefully, templating, guidance and support has been considered at the programme level. If you're working on your own, go back to the student journey and consider what information and tools they need to engage with at particular times. This will often help you to produce a logical and simple structure.

BOX 20.1   PRACTITIONER INSIGHTS 1: DESIGNING THE
MODULE

STRUCTURING CONTENT ON THE VLE

My experience of running online modules has transformed my use of the university's Virtual Learning Environment (VLE). I had previously regarded the VLE as merely a repository for learning materials and paid little attention to how learning materials should be organised and labelled.

But with my first exposure to online delivery, it soon became apparent that having a clear structure for the content, and using labels which made the navigation as intuitive as possible, are critical to a positive online student experience.

Online students will soon become frustrated and discouraged if it is not obvious to them how they find what they need, or if it takes several clicks through a seemingly never-ending hierarchy of content folders to get there. But as well as being less frustrating for students, a clear and easy-to-navigate structure and more descriptive labels for content can also help students with their learning too, as it helps them to understand the overall structure of the module and make connections between the different areas of content.

My advice is to first organise content around topics rather than by type. So, for example, whereas I might previously have created different sections for each of the following: learning content, exercises and formative tests, I now organise this content so that it is embedded within the content sections for each topic.

Second, use labels which describe content in a way which helps the student. So, for example, whereas I might previously have described content sections using vague labels such as 'Week 1' or 'Unit 1', I now use more informative labels such as 'Unit 1: Introduction to Financial Accounting'.

Having a clear structure for content on the VLE is helpful for all students of course, so I now apply these same principles to the design of face-to-face modules too.

DEVELOPMENT

The design for a module should ideally be shared and evaluated before development takes place: is it feasible, does it fit with the programme director's vision and programme specification? It is really essential to engage in some form of prototyping that involves all the key resource types and engagement activities for one topic to evaluate the design in the chosen environment. Here, again, the relationship with the developer or wider team is critical. If you have any particular needs such as the ability of students to share their own content in virtual classroom sessions, this is the point to meet with the technical experts to be sure that it is feasible in your available learning environment. If it is, the wider team will be able to consider additional induction requirements. If it isn't, you've still got time to look at alternative approaches.

Allen (2006) argues that the scope of development has gone beyond the individual, and now involves a team; this is again particularly pertinent to online learning, which involves increasingly specialised elements rarely found in one individual. Any team approach will require timescale considerations: allow a six-month period if you are working on a single module; allow for lead-in times for software or hardware to be ordered; if working with a developer you may need to compromise according to mutual availability; there will be a review phase and potentially edits to be made, and so on.

Creating Content – Identifying the Tools

If there is a need to create recorded content ensure it is reusable as it can be a considerable investment in time. Experience has shown us the benefits of using tools which are locally supported by a team who are able to assure that output meets accessibility requirements.

Teaching Tip
Avoid dates, mention of module numbers, and the sort of things that change regularly and might require you to re-record regularly!
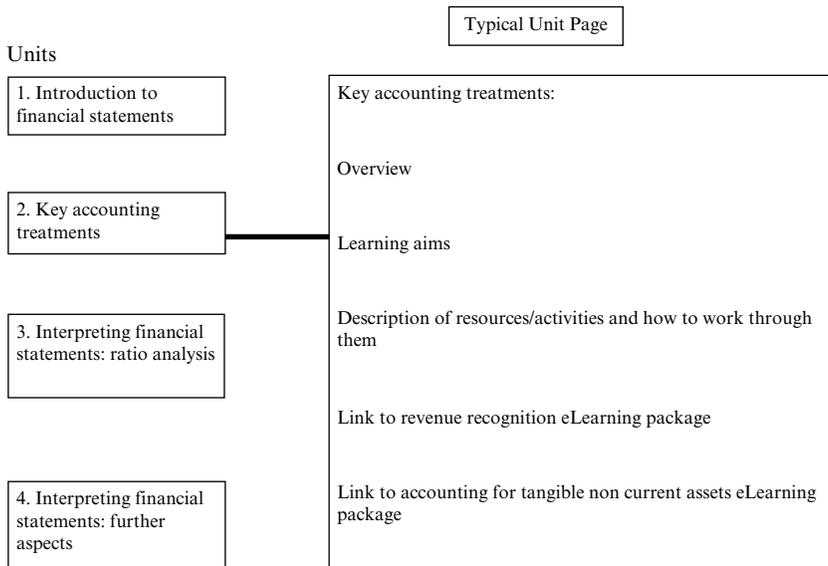
Presenting the Learning Materials to Students

Clearly state the aims and learning outcomes of each section. Provide an introduction to each section, including the sort of engagements and type of resources they will be working with – and if it's not already obvious, over what time frame.

A sample structure for presenting content is illustrated in Figure 20.1.

IMPLEMENTATION

The implementation of an online module requires careful consideration, especially in relation to student numbers and the implications for tutor support (how many students can a tutor effectively support?), setting up groups, discussion boards, scheduling virtual classroom sessions, setting up assessment hand-in tools etc. Depending on local circumstances this might be you or other support staff setting these up, but as your name is on the module it is worth being sure! When modules grow beyond pilot phases, there may be training or induction needs as new tutors are drawn in to support facilitation.
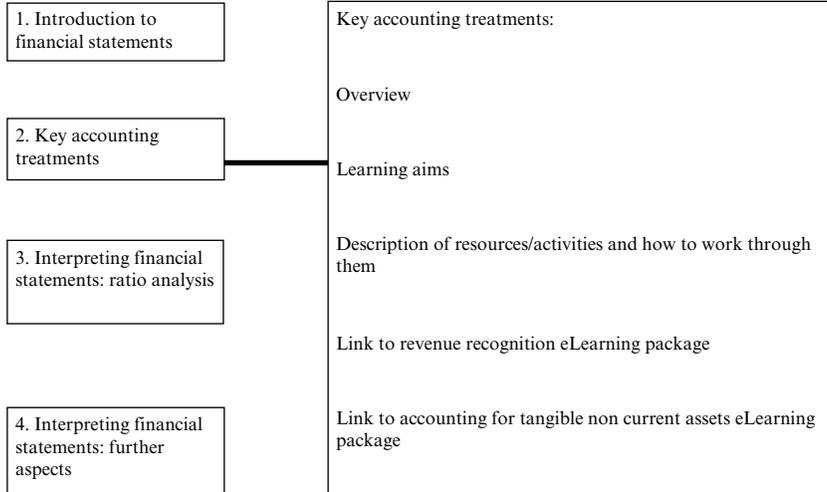
Units

| Typical Unit Page |

| 1. Introduction to financial statements |

| 2. Key accounting treatments |

| 3. Interpreting financial statements: ratio analysis |

| 4. Interpreting financial statements: further aspects |

Key accounting treatments:

Overview

Learning aims

Description of resources/activities and how to work through them

Link to revenue recognition eLearning package

Link to accounting for tangible non current assets eLearning package

Figure 20.1   Presentation of content

Teaching Tip
Student induction is of critical importance because it can help:

● *Set and explore expectations*
● *Provide an opportunity to try out communication tools*
● *Iron out technical issues before formal teaching starts.*

EVALUATION

An easily neglected element of the above process is acting on any evaluation that is made both during and after the module has run. Mayfield (2011) suggests in the context of the ADDIE model that we consider:

> 1. How well were learning goals met? 2. How efficient were the training methods? 3. Were there any technical problems? 4. Are there any new training opportunities? (Mayfield, 2011)

All of these can be recorded and reviewed if a mechanism is put in place (for example via a programme-wide review) and a timely approach is taken to refine subsequent module runs. Student input on their experiences is key to ensuring that expectations are met and addressed and to update

BOX 20.2   PRACTITIONER INSIGHTS 2: DEVELOPING THE MODULE

CONTENT CREATION

When preparing for my first online module, I remember my main concern was the creation of a series of eLearning packages which were an attempt to provide students with relevant subject matter content. Initially, these packages mirrored the content of the equivalent face-to-face modules and therefore these packages would cover several different areas of content and might take students 45 minutes or more to complete.

I soon realised, however, that smaller, 'bite-sized' content packages focusing on a single topic would not only be more effective for students but would also be more flexible, as these 'chunks' of content could be reused more easily in other modules which might involve a different combination of topics.

Several years and several online modules later, my approach has evolved further. I now focus much less on creating additional subject matter content – not least because there are so many sources of good quality content available already – but instead on designing content and activities which promote and support student engagement and learning.

So nowadays, 'content creation' for me involves the following:

1. Creating an overall learning pathway for the module which is derived from the desired learning outcomes and involves creating a variety of activities and formative assessments to achieve the following:
   a. to help students to engage with and build confidence with the content;
   b. to accommodate a range of different learning styles; and
   c. to provide a means through which I am able to monitor the students' engagement and performance in the module and intervene as appropriate.

Examples of these activities include:

   a. Weekly discussion board activities requiring students to research and then share how that week's accounting concept is applied within an organisation of their choice, which I then review and provide feedback;
   b. Group wiki pages which encourage students to work collaboratively to solve accounting challenges;
   c. Weekly formative multiple-choice tests which provide an opportunity for students to practice the application of concepts learned and receive automatic feedback on their progress.

2. Creating short text or video content which provide:
   a. context, to help students understand why a topic is important and in what situations a tool or concept can be applied;

    b.   topic summaries, to help students appreciate both the key content and learning objectives for a topic, to help students make connections between content areas in the module and, if appropriate, with the module assessment, and, finally, to help students gain an overview of the work required.

BOX 20.3   PRACTITIONER INSIGHTS 3: DELIVERING THE MODULE

It might be tempting to think that there is little or no work required of a tutor in the 'delivery' of an online module. On the contrary, I would suggest the delivery of an online module can be just as, if not more, time-consuming than a face-to-face module. For me, the key to the successful delivery of an online module is frequent, clear, consistent and encouraging communications with students.

I adopt the following routine:

–   On Monday morning I post an announcement which is emailed to students welcoming them to that week's topic, briefly explaining its importance, providing an overview of what they will be doing that week and reminding them of any upcoming events (such as virtual classroom sessions) or deadlines, and that explains what if any preparation is required, what resources they should bring with them, and provides direct links to the relevant areas of the VLE where these are located;

–   On the day of a virtual classroom event I post a further announcement which serves as a reminder of the time of the upcoming event and of the preparation and resources required;

–   On Friday afternoon I post another announcement which reminds students of what they should have been working on and reminds them of that week's discussion board activity, recommending they post their response by a specified deadline.

Online students can become confused by even small differences in the wording used so it is best to use consistent language in your communications. Do not expect students to necessarily recognise that when you refer to 'Worksheet 1' and 'Task sheet 1' you are describing the same document!

I save these announcements in a Word document which makes it easier for me to reuse in the future.

I also think it is important to adopt a friendly and encouraging tone in communications with students, particularly when responding to individual discussion board posts. Try to find some merit even if a post has very little, and even if a student's post seems negative try to respond positively. For modules with large cohorts rather than responding to each individual post it can be more appropriate to provide an overall summary, in which case again accentuate the positives and try to adopt a sympathetic and encouraging tone when addressing misconceptions, and in which case rather than 'naming and shaming' ensure your response maintains the anonymity of the original authors.

ourselves on how online learners study. Much of this information can be gathered from conversations in the virtual classroom, before or after the formal teaching time.

Teaching Tip
Module leader gatherings, to share how other modules are being taught and sharing experiences of how effective different approaches or technologies have been used, are of great value in enhancing the quality of modules over time.

CONCLUSION

The development and delivery of online modules requires time and planning and a different skill set compared to on-campus teaching. More development takes place beforehand, instructional design skills are needed and have to be developed, often involving partnerships with a wider group of stakeholders, and a greater attention to detail and clarity of instruction is essential. Facilitation is different, but can be incredibly rewarding as access is opened up to diverse learners who are increasingly savvy about what it means to be an online learner, and actively begin to take 'ownership' of their own learning. We have also seen that the increased time taken in development is offset over time as reusability factors become apparent and content and learning design is shared between programmes.

SUGGESTED FURTHER READING

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Thought 12

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In a modelling and simulation lecture, students represent physical models in a virtual form, experiment in different conditions using a suitable technology, and finally propose a solution. Students are often intimidated by the technicalities of building and testing the virtual form of a model in the computer, and their desire 'to be the best' implies aversion to risk and failure, which limits their learning experience.

To overcome the 'fear of failure' and 'getting it right straight away', models and simulations are linked to more familiar contexts during class activities. For example, the students work in groups to describe their experience in a coffee shop by answering probing questions: where people enter and exit, the tasks involved such as ordering and payment, how long these take, people behaviour and what might make these things vary. Groups create sketches to represent these details and then share these with a neighbouring group to comment.

Next, the groups address the comments by discussing and refining their sketches. There are several benefits from this process of requiring students to create and debate representations: it encourages discussion between the students in an interactive learning session; it shows the significance of iterative learning; it helps to move away from the perception to get it right straight away and avert failure; it helps to develop an appreciation of the importance of experimenting; and finally, it aids in linking theory with practice to support decision making.