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Troubled times: the role of instructional design in a modern dual-mode university?

Clifford Omodele Fyle[a]*, Alexander Moseley[b] and Nichola Hayes[b]

[a]*Department of Instructional and Learning Technologies, Sultan Qaboos University, Oman;* [b]*Course Design and Development Unit, University of Leicester, Leicester, UK*

Reduced higher education funding and other austerity measures imposed by governments and institutions have resulted in cascading cuts in resources for programme design, delivery and revision. The instructional design function is often the first casualty of these cuts in many universities. This paper considers the roles and functions of instructional design, illuminates the differences in instructional design functions in on-site learning and in distance learning, and examines the broadening of skills and responsibilities encompassed in instructional design, especially in dual-mode institutions. Two case studies, illustrating different levels of instructional design in course development for distance learning in a dual-mode institution, lead to reflections on the value of instructional design in the current and future higher education landscape.

Keywords: distance learning; instructional design; higher education funding; dual mode

Introduction

In recent years, public institutions of higher education in many parts of the world, but particularly in Europe and North America, have faced reductions in investment and other resource allocations provided by their governments (Browne, 2010; Marcucci & Usher, 2011). These reductions in income have also coincided with greater demands being made of these institutions in terms of an increase in the number of students deciding to acquire tertiary-level training and skills (Allen & Seaman, 2010). The resultant effects have included dual-mode institutions (those offering distance learning and flexible courses) in a number of countries scrambling to find ways to make up for this loss in income (Browne, 2010; Marcucci & Usher, 2011). In this respect, they have resorted to both demanding greater financial contributions from students to cover the costs of their education, and embarking on cascading cuts to their operational budgets and the support services that they offer as part of their academic provisions (Parry, 2009a, 2009b, 2009c).

The two aforementioned categories of actions when carried out together are, in many respects, self-defeating. In face-to-face provision, when students and their families are asked to contribute more to the cost of their education, the issues of the quality of the students' experiences, in other words quality issues such as 'getting value for money', pedagogic integrity, and quality of learning, are brought to

*Corresponding author. Email: cof1@le.ac.uk

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the forefront (Browne, 2010). This is even truer for distance learning where students are studying at a distance and are dependent on the designed course and its integrated support for all their learning.

Even when cuts in the support services are made on their own without fee increases, it can be argued that there is a need to make better use of surviving services in order to meet the needs of an ever-growing student population, who will almost certainly be engaged in distance or flexible learning, and possibly studying on professional courses that have not been the conventional fare of university study. Indeed, the student experience can be made worse when key support services are cut (Parry, 2009c) and expensive interventions have to be made when a course is in presentation.

In conventional tertiary-level institutions, the process of planning instruction is much less explicit than in primary or secondary education or in single-mode distance learning provision. This is due to several factors:

- a traditional interpretation of academic independence that holds that every aspect of teaching is solely within the lecturer's domain: input, or even observation by another academic or staff member, is regarded as an intrusion;
- the relatively limited training in instructional skills and knowledge required for tertiary-level instructors, compared with the extensive pre-service and in-service education required of instructors for primary and secondary levels;
- having homogeneous groups of students studying on campus; and
- the greater priority and prestige attributed to research over teaching, resulting in less incentive to focus on improving teaching skills.

These factors can also affect instructional design in dual-mode institutions, especially those that use an on-site learning pedagogy as a model for distance learning provision. Lack of understanding of the purpose and intended outcomes of instructional design can lead to a frustrating situation for academics, instructional designers, and those responsible for managing course provision.

Indeed the instructional design function in general is one of those key support services that falls victim due to a widespread misunderstanding of its various facets (Gustafson & Bratton, 1984; Pearson, 2010). In general terms, the field of instructional design:

> encompasses the analysis of learning and performance problems, and the design, development, implementation, evaluation and management of instructional and non-instructional processes and resources intended to improve learning and performance in a variety of settings, particularly educational institutions and the workplace. (Reiser, 2001, p. 53)

Within the context of dual-mode institutions, instructional design for distance learning courses involves systematically preparing and developing a unit or programme of learning and teaching that encapsulates and coherently integrates the presentation of content (skills, knowledge, attitudes) supported by a suite of feedback and assessment activities. It also involves mapping and developing the appropriate administrative, tutoring and technological structures that would support the unit or programme of learning and teaching during its presentation. Unfortunately, in recent years instructional design has sometimes been narrowly conceptualised as something that can be replaced by technological solutions and/or subsumed into the day-to-day workings of university academic departments (University of Nebraska-

Lincoln, 2010). However, the role of the instructional design function in a dual-mode institution, particularly when there is a distance learning provision, incorporates a much wider range of activities.

There are the traditional instructional design activities that emanate from the process and theory models (Kenny, Zhang, Schwier, & Campbell 2005); those implicit in the competencies decided on by the International Board of Standards for Training, Performance and Instruction (IBSTPI); an expanded set illuminated by studies undertaken with instructional design professionals working in higher education institutions in Australia, Canada, and the United States; and those activities derived from the context of change agency.

This article returns to the core literature of instructional design to explore these four different approaches to instructional design to demonstrate the depth and range of functions and skills required by instructional designers in dual-mode universities. Two case studies of course development for a distance learning course in a dual-mode institution are then considered, with varying degrees of instructional design input, to reflect on the usefulness of instructional design in the current and future UK higher education environment.

Activities derived from traditional instructional design models

Traditional instructional design models can be characterised as either process based or theory based (Kenny et al., 2005). Process-based models (e.g., Dick, Carey, & Carey, 2001; Morrison, Ross, & Kemp, 2004; Seels & Glasgow, 1998; Smith & Ragan, 2005) are all based on the ADDIE model, which is comprised of the following component phases: analysis, design, development, implementation and evaluation (Dick et al., 2001). Dick et al. (2001) further specify these phases as assessing needs to identify goals, conducting an instructional analysis, analysing learners and the contexts in which they would learn and use the knowledge and skills, specifying and writing the performance objectives, developing assessment instruments, instructional strategies, and materials, designing and conducting formative and summative evaluations, and revising the instruction.

Theory-based models (e.g., Gagné, Briggs, & Wager, 1992; Merril, 1983; Reigeluth & Stein, 1983) emphasise behavioural and cognitive theories of learning at the core of the processes and procedures they specify. For instance, Gagné et al. (1992) have at the heart of their model a sequence of external actions based on the internal mental processes of the learner that instructional designers should incorporate when designing any form of instruction. These actions, referred to as the events of instruction, include gaining the learner's attention, informing the learner of the objectives, stimulating the recall of prior learning, presenting the material to be learned, providing learning guidance, eliciting performance, providing feedback about performance correctness, assessing the performance, and enhancing retention and transfer. Both process and theory models have historically been characterised as linear, prescriptive, and systematic in orientation (Andrews & Goodson, 1991; Braden, 1996; Reigeluth & Stein, 1983; Wedman & Tessmer, 1993). However, later iterations of these two types of models can be considered to be more like conceptual frameworks that inform and guide the practice of instructional designers in their work (Kenny et al., 2005). The tasks they embody have been widely used to define the role and activities carried out by instructional design professionals.

Activities derived from the IBSTPI instructional design competencies

The IBSTPI,[1] a predominantly US-based standards organisation with some international representation, developed a set of 23 competencies specific to the instructional design profession. These competencies are divided into four areas of skill sets, namely: professional foundations, planning and analysis, design and development, and implementation and management. The professional foundations competencies require instructional designers to be able to communicate effectively in writing, speaking and through visual means. They also require instructional designers to be able to apply research theory, knowledge, and skills to the practice of instructional design, and to be able to determine and act upon the ethical and legal implications pertaining to their work.

The planning and analysis competencies require instructional designers to be able to reflectively carry out needs assessments, design curriculums, and use their expertise to determine the appropriate content for the required instruction. Also required are the abilities to determine the characteristics of the target learners, the environments they will both learn and exhibit the knowledge and skills learned, and to analyse the appropriateness of technologies and their use during the learning process.

The design and development competencies require the instructional designer to be able to select and use the appropriate instructional design models for a given project; define, structure, and sequence instructional content and strategies; and ensure that the instruction reflects the needs of diverse learners. Also required is the ability to evaluate the instruction in terms of its effectiveness and impact.

For the implementation and management competencies, instructional designers are required to be able to manage projects, encourage collaboration, partnerships and relationship-building among the stakeholders in the project, and ensure effective implementation of the outputs of the project. In addition, they are also required to have the ability to bring a business orientation to the management of the instructional design process.

In summation, the instructional design competencies incorporate the range of traditional activities emanating from the process and theory models. However, where they differ is that they explicitly embed a whole new set of required softer skill sets in the foundational and implementation and management competency areas.

Activities derived from research studies

A number of studies conducted in Canada, Australia and the United States indicate an even wider scope in terms of the skill sets required and the tasks and activities carried out by instructional designers (Allen, 1996; Cox & Osguthorpe, 2003; MacPherson & Smith, 1998; Roberts, Jackson, Osborne, & Somers Vine, 1994). Cox and Osguthorpe (2003), carried out a survey of 142 instructional designers working in both higher education and corporate organisations and who were alumni of major instructional design degree programmes. The instructional designers who responded indicated that they spent around 53% of their working time on management activities and 47% on instructional design activities. The instructional design activities were specified as those that are incorporated into the various stages of the ADDIE model (analysis, design, development, implementation, and evaluation) while the management activities included project management, the supervision of

personnel, marketing and sales, professional meetings, academic research, and professional development. Roberts et al. (1994) and MacPherson and Smith (1998) respectively conducted two surveys on the perceptions of academic faculty in university settings in Australia on the role of instructional designers. Both surveys generally indicated that academic faculty appreciated instructional designers' help with editorial activities such as advice on writing style, readability and meaning of text more than help with traditional instructional design activities.

Allen (1996) conducted yet another study in Australia on the roles and activities of instructional designers where there was an indication that other activities were deemed to be an important part of the instructional design function. The respondents were either full-time instructional designers or had instructional design as part of their employment remit. They indicated designing the appearance of materials, editing, and project management as part of the top five most frequent activities they carried out during their work.

Activities derived from the context of change agency

In light of the aforementioned studies on the expanded and expected role of instructional designers in the workplace, Campbell, Schwier, and Kenny (2009) conducted a three-year study in Canadian universities. The goal was to develop an interpretive framework for understanding the role that instructional designers play in transforming learning in higher education. As a result of their findings, Campbell et al. (2009) proposed what they referred to as an 'agentic model of instructional design' that encompasses both intentional and operational dimensions. In other words, these researchers characterised the role of the instructional designer in higher education as a change agent.

The types of instructional design agency that emerged from an analysis of the data collected fall into four categories: interpersonal, professional, institutional and societal. The instructional designer in his or her role as an interpersonal agent of change was characterised by a commitment to collegial engagement, learner advocacy, faculty development, and community-building; all these activities being driven by a sense of moral responsibility to the various stakeholders. In the role as an agent in a professional sense, the instructional designer is driven by a responsibility to his or her profession. This sense of responsibility manifests in the efforts he or she makes to adhere to what is deemed to be best practices in the instructional design profession. The instructional designer as an institutional change agent encompasses the responsibility he or she feels to align the role with tacit or explicit values of the institution. This could entail promoting or engaging in activities that tie in with the institution's overall vision, mission, values, and culture. And finally, instructional designers as agents for societal change entails visioning their role and impact beyond the narrow confines of the work they do on a day-to-day basis.

Thus, in summary, instructional designers in dual-mode universities have functions in three broad areas:

- pedagogy;
- planning, project management, administration and logistics; and
- appropriate uses of media and technology (based on pedagogy and planning considerations).

They also have competencies in coordination, integration and leadership.

In dual-mode institutions – where values, vision and particular strategies are constantly under review in response to market needs and an internal split-personality – the instructional design function can provide an informed buffer and agent for change to smooth out inevitable confusion and friction within the institution. This is perhaps best illustrated by case studies from such an environment.

With or without formal instructional design: two case studies

The following case studies examine two course design processes in a UK-based dual-mode university variously utilising internal, external, and no instructional design expertise. The two contrasting narratives help us compare the impact of the absence and presence of an instructional design function and consider how these different approaches illuminate the role of instructional design in dual mode provision of distance learning.

Both these courses are from a pre-1992 UK university, established prior to the rapid expansion of UK tertiary education institutions in the decade after 1992, which is usually ranked in the top 20 UK higher education institutions. Distance learning courses comprise about one-third of all student registrations; the vast majority at taught postgraduate master's level. The university's partly-devolved colleges and departments manage course design, delivery and student support. However, central service departments provide overarching though limited administrative, information technology and student/staff support. The information technology department provides limited multimedia support, but until very recently (with the set-up of a course design unit for distance learning) there has been no instructional design service available. As a result, departments new to distance learning face the daunting prospect of having to (re-)invent much of the initial structure and organisation of a distance learning provider, and find time not only to plan and write materials but to produce and package them too.

Case study 1: Department X, a dis-jointed course design process

Department X designed and developed a taught postgraduate master's-level course that was to be delivered at a distance. Course design and development was carried out by a departmental degree programme development team and a group of 'useful people' from across the institution.

This approach resulted in a strong and successful pedagogical model. However, at the same time, it is attracting a disproportionate amount of work time from senior staff of the institution and its central services such as the information technology service, instructional design unit, college and other departmental administrative staff. These staff are pulling together to determine what the future of the course might be and how it can be reshaped, as it tries to respond to its student growth rate.

Some might say that the course is a victim of its own success. It is delivered 100% online and offers flexible learning pathways through a large pool of optional modules; the learning that occurs takes the form of a shared partnership between tutors and the experience that the students bring to the course via the strong social constructivist model that has been applied. As a result, student numbers rose by 16% in six months.

The problems that Department X is facing are not, directly, pedagogically related. The student learning experience is highly praised. Rather, the problematic issues surrounding the course are more administrative, which, in turn, are impacting on the student experience and bringing to the forefront a whole host of pedagogical and curriculum framework issues.

To understand how Department X came to find itself in this position, one needs to analyse the course design process. As previously mentioned, at the time of the degree programme's conception there were no central services (with the operative word being 'service' or 'service provider', rather than research or academic practice unit) dealing exclusively with teaching and learning, distance learning and, most importantly, instructional design considerations.

Those involved in the course design had to share facilitation of the degree programme development and fill the instructional design void. As a result, there was no cohesion, collaboration and, most importantly, no design process that could tie all of the necessary elements, people, resources, and services together.

The team did an admirable job in the circumstances – alongside their other full-time academic and administrative roles – but the closest they came to employing instructional design in the development of the course was with the use of a series of pedagogic elements. These were certainly of great value to aspects of the course design. Nonetheless, it was notable when the team considered the question 'who are the most important people in the course design and development process?' that the course administrator was not seen as a key element; it would appear that the administrative aspects of the course became uncoupled during the design process.

By extracting the administrator and the accompanying administrative processes, the course design did not consider whether the administrator would be able to cope with the volume of summative assessments per module, each of which needs to be processed within a very short space of time.

The assessment model was pedagogically strong. There were four summative activities that were suitably scaffolded and used assessed discussion board activity; each of these activities carried a small percentage of the overall module mark to ensure that students would be motivated to interact with each other through this medium. However, consideration of the sustainability of this approach if numbers increased was not made. In addition, with increased staffing resources and the promised student database not materialising, the assessment model had to be changed after the second intake of students. This is just one small example of the changes that the course has had to retrospectively consider due to the absence of a cohesive course design process facilitated by instructional designers.

Case study 2: Department Y, identifying and filling the gap

The second case study, from the same institution, focuses on the development of two distance learning courses by a department with an international reputation in a professional subject area. The department attracts a high-quality international student body to its taught postgraduate master's courses.

In 2006, the department was running both campus-based and distance learning versions of its flagship master's programme. Following visits to other higher education institutions, it decided it wanted to improve the student experience over and above simple use of the institution's virtual learning environment (VLE) to deliver

teaching and learning materials. Looking forward to a new course dealing with digital content, it also wanted to demonstrate exemplary practice through the delivery medium. At the time, there was little learning technology and no instructional design support. The department therefore obtained a local grant to investigate the use of external expertise to produce a number of *learning objects*. This allowed them to 'evaluate the experience of working with an external partner, whilst also showing the role that an instructional designer could have (and what value they could bring, if any)' (Parry & Maculan, 2006, p. 14).

Four *learning objects* were produced by the external partner, in consultation with the department. Budget constraints and the difficulty the external instructional designer faced in understanding the local context (subject and institution) in the short timescale meant that although of a high technical quality, the resources were lacking in local relevance. One student tester noted: 'the resource provided no context. Without context, it is very difficult to know where to start' (Parry & Maculan, 2006, p. 22). The learning objects were not modifiable, reducing usefulness in other courses and indeed in the same course over time. Reflecting on the project, the department recognised the usefulness of the instructional designer's input, and the value of high-quality production, but recommended that local instructional design support be provided within the institution so that designers would have an understanding of the local subject and teaching and learning context.

A few years on, when the department began to plan its new master's programme focused around digital content, teaching and learning support in the institution had not changed. The department therefore hired a research assistant who was equipped with instructional design and project management skills to assist in the development of the course from the ground up. A year into this process, central instructional design support became available in the institution, and an instructional designer with relevant subject knowledge provided additional support to the course team. In partnership, the academic members and instructional/project support worked together as a team to produce a robust course framework, realistic timescales for production and delivery, and – in particular – worked on developing an innovative progressive assessment scheme that ensured students would be completing work that gradually gave them relevant skills in their professional area, whilst also ensuring academic integrity. The focus of, and market for, the course meant that very careful design and various forms of delivery (including social media) were needed. Workshops with the course team and external suppliers produced an innovative approach, with the instructional designer:

> helping us [importantly] to explore the ways that our three channels [personal, programme, public] could be supported within the [VLE] environment – maintaining the balance between the branded, supported, authenticated, trusted walled-garden of [the VLE] against the fluid, active, always-on, live environment of the Web. (R. Parry, personal communication, March 8, 2011)

This was a complex course that required both departmental and instructional design expertise to combine in new and innovative ways.

The research assistant, looking back on the process, notes:

> although the School has a wealth of experience in distance learning, delivering the practical and technical aspects of the course in particular was challenging. We also

> wanted to demonstrate some new ways of communicating with our students, and some more effective and flexible ways of managing the expertise and 'intellectual property' contained in the course. Working with a specialist instructional designer introduced us to new approaches and helped us to test and put form and words to some of the concepts that we were trying to develop. To be able to discuss these ideas with an experienced 'critical friend' was very useful. I think this in turn enabled us to demonstrate robust examples of useful innovations, and this helped the School to make an accurate assessment of them for deployment in other courses. (A. Sawyer, personal communication, March 8, 2011)

The course was delivered on time, and due to the design process within the local context, it fitted neatly into the existing departmental structures and administrative set-up. The course has run smoothly through its first full iteration with students, and is awaiting the results of student feedback to determine whether any modifications need to be made to the design – which, due to the central provision of instructional design support, will have the benefit of assistance from the same designer involved in the initial design.

Case-study reflection

The two case studies demonstrate the need for experienced and *centralised* instructional designers to ensure the creation of effective, maintainable, and scalable course designs.

With their experience and understanding of the three key components of a course, instructional designers are able to:

- use their knowledge of pedagogical elements to help and support the academics to design a strong learning experience tailored to the learner characteristics, including requirements, motivation, expectations, professional experience and cultures;
- use their knowledge of administrative models and processes to ensure the course addresses rules, regulations, codes of practice, costing and other resource issues, and complies with governance, policy and quality assurance benchmarks; and
- use their knowledge of and access to advice about learning technologies to help identify the most appropriate technologies to deliver the course effectively to learners.

Case study 1 documented a departmental development team who received *ad hoc* support from a variety of sources, which were pulled together and project managed by the programme director. However, gaps in the team's background on administrative and logistical issues resulted in a course with limited capacity to respond to higher enrolments. As a result of this, the degree programme is currently being significantly modified on both a pedagogical and administrative level so that it can respond to the large increase in student numbers.

Case study 2 illustrated a model of working in partnership with an instructional designer throughout the entire course design process: conception, design, implementation, delivery, evaluation and monitoring. Notably, in the second case study, the instructional designer was not directing the process or claiming 'this is the way to do it and the only way to do it'; but worked collaboratively with the course team,

using a variety of skills and knowledge to guide the process, offer ideas and solutions, and act as a sounding board or critical friend.

Instructional designers can be the glue, holding everything together as project manager, as well as providing support and assistance throughout the process – brokering the services of others as needed. Most importantly, they release the faculty members of the course team from these responsibilities, so that everyone can play to their strengths and areas of expertise.

The detrimental effect of ignoring one aspect of the course is clearly demonstrated in Case study 1. The administrator did not have an opportunity to comment on administrative capacity to respond to student enquiries, or on the technical glitches resulting from overlooking the staff training requirement. If the design does not consider every component of the course and staff roles, the course will be less effective, despite the pedagogical strength of its course design model.

Conclusion: no better time for instructional design

The transparent nature of distance education means that quality problems can quickly become public knowledge (BBC, 2010), potentially resulting in reduced referrals, enrolments and employer sponsorship. Reducing or eliminating behind-the-scenes support for distance learning provision makes no more sense than eliminating the backstage theatre staff who make the show go on.

In the context of increased cuts to higher education funding with concurrent increases in student numbers, it is inevitable that institutions will look to remove or reduce services that are seen to be outside of the essential faculty and administrative areas. This may mean a removal of central instructional design staff or services (as described in the Introduction), or lead to assumptions that instructional design expertise can be covered by faculty staff (already overburdened with research, teaching and administrative quotas spiralling upwards with rising student numbers and reduced budgets).

Instructional design can provide skills that support responsiveness and flexibility in the course catalogue that help to improve methods for delivering existing courses more efficiently and effectively. These skills emerge from instructional designers' 'change agent' role and their unique overview of both faculty and central strengths and services. To be equipped to respond to changing demands, universities need careful course design, flexible structures that recognise learner experience and make best use of administrative structures, and timely provision. Instructional designers help to make these goals attainable.

Note

1. See http://www.ibstpi.org.

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