I can't see my First Year Students, so how do I expect them to learn?

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Abstract

This presentation draws on a current practice-based participatory action research project whose principal aim is to examine the experience of first year students studying a fully online Information Technology module over a 13-week period supported by an online tutor. The module utilises an off-the-shelf learning system developed by Microsoft, namely the IT Academy Online Learning Program[1]. It is clear from the student's interactions with the learning system that in and of itself it is insufficient to foster the type of supportive, rich, student-centred environment that would encourage all students to succeed. To address this, a scaffolding approach was adopted through the use of a number of supports including a course website. Data on usage of the system were collected which gave a detailed picture of student engagement.The question needs to be asked: 'What learning supports need to be put in place to maximise online student success and how best to implement these?'

Introduction

In the past ten years a great deal has been written about the potential of eLearning to address some of the difficulties that Higher Education Institutions are faced with in relation to reduced academic staffing levels catering to an increasing and diverse student population. The mere mention of eLearning e.g. (Hunt, 2011) may carry with it a hidden assumption that it will address these difficulties. Providing access to these systems without sufficient supports reduces the likelihood that these systems will succeed. This presentation and discussion will focus on the needs for supports that are essential in the delivery of fully online courses.

Context

Dublin Institute of Technology has its origins in technical education extending back over 100 years and currently awards up to doctorate level in a wide variety of disciplines including; Business, Arts, Tourism, Engineering, Built Environment, Science & Health. Productivity software such as MS Word, Excel and PowerPoint are deemed essential tools (Ezziane, 2007; Gnudi & Lorenzi, 2002) for students and are at the core of most Information Technology modules delivered in the first year of undergraduate programmes. The IT Academy was used by a group of 71 students studying Auctioneering, Valuations and Estate Agency in the school of Real Estate across three programmes[2]:

- BSc. Auctioneering, Valuation and Estate Agency (4 years) - DT104
- BSc. Property Economics (Valuation Surveying) (4 years) - DT110
- BSc. Construction Economics and Management (3 years) - DT111

These three programmes are comprised of six modules each and a weekly timetable of 24 hours. The IT module is allocated 2 hours per week and its overall aim is to:

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[1] http://itacademy.microsoftelearning.com/
[2] Details of all three programmes available at:
http://modulecatalogue.hosting.heanet.ie/catalogue/programmes_list/

"...introduce the student to the uses and applications of information technology. More specifically, the module aims to: introduce the basic concepts, uses and limitations of information technology; impart a sufficient understanding of computer networks and how to use them for different purposes; develop student proficiency in using a range of computer applications including Microsoft Excel, Word and PowerPoint; and provide an understanding of how students can better organise, manage and implement their studies using IT and apply the practical skills necessary in the production of coursework, projects and presentations." (McCann & O'Shea, 2010)

Learning outcomes were assessed by end-of-semester examinations and progression to the second year of this programme is based on these assessments. The designers of this online module were cognisant of the incorrect assumption (McLennan & Gibbs, 2008) that traditional first year entrants have good productivity software skills due to IT subjects covered in secondary schooling (Edmiston & McClelland, 2000; Oblinger & Oblinger, 2005) or to their Web 2.0 skills (an assumption in itself (Wood, Barnes, Vivian, Scutter, & Stokes-Thompson, 2010)) hence the emphasis of this module was weighted towards the less IT computer literate learner.

Background

The option to provide this module online came about as a direct result of a reduction in the availability of supplementary teaching staff at DIT due to financial restraints. This has resulted in a lack of experienced IT lecturing staff and it has fallen upon non IT specialists to deliver these modules. For the purpose of this study an IT subject specialist delivered this module in a fully online mode. At the outset, the role of the online tutor was to; deliver an induction presentation, provide a structure to the course, guide students through a range of topics and provide support via e mail.

The IT Academy is a subscription based system which provides learning resources for students in a wide range of Microsoft products. Like many commercially available systems it has some limitations. However, it was selected due to its low annual subscription cost and it offered the usual benefits of most Learning Management Systems - access anywhere, anytime and at any pace. It also provided a reasonable reporting function to track student activity and progress.

Description of the Study

Terminology

Collection 5258: Core Training for Microsoft Office Word 2007

Course 5421: Formatting Documents in Microsoft Office Word 2007

Module: Format Text and Paragraphs by Using Quick Styles

Lesson: Changing the Appearance of Text

Figure 1: Sample structure of an IT Academy Collection

IT Academy *Collections* are made up of *Courses* e.g. an MS Word Collection consists of 8 courses. Each course is sub-divided into *modules* which are finally presented in small *lessons*, taking a single lesson as an example:

Gagne's "Events of Instruction" (Gagné, 2005) are evident in the design of the IT Academy. Modules are "chunked" and presented in a variety of modes appealing to different learning styles e.g. video simulations, interactive videos, self tests and practical "lab" exercises. Access is by way of a username, password and access codes. The design of the overall IT module identified a core set of skills within each collection and these were aligned with the

Figure 2: Sample structure of an IT Academy Collection

specific learning outcomes. Consequently, not all modules and lessons were mandatory although students did have the option to complete all lessons if they so desired.

Induction

On the first day of this module students received an induction onto the module consisting of a detailed presentation and demonstration in the use of the IT Academy. They were asked to log in and navigate through a sample course. It was explained that this is a fully online system and that it would require some degree of self-directed learning, a concept that may appear new to traditional first year entrants or one that may require development. (Nikolova & Collis, 1998) report that "a higher demand on the learner's self-initiative, self-motivation, and self-control" is required to succeed in these type of learning environments. To address this, weekly e-mails were used as an extrinsic motivating factor to engage the students (Biggs & Tang, 2007).

A Typical week

Following the induction week, a typical week for a student could be characterised as follows:
- notification of weekly tasks via e mail i.e. specific modules and lessons
- logging on and completing the required lessons including the hands-on practical exercises
- sending queries in relation to system usage or lesson content via e-mail.
- receiving responses from the tutor usually within 24 hours.
- attending group "drop-in" sessions for those who required face to face assistance
- attending one-to-one tuition sessions if required

Module Website

The website was constructed as a central source of information including; modules and required lessons, access codes, links and references. It also incorporated supports to the lessons such as a glossary of terms, an FAQ, and a collection of additional instructions. The FAQ section grew as a result of recurring questions from students. The following is a typical e-mail from a student who had difficulty using the system:

> Hi Niall,
> I can get access to the site and have completed the 1st course. However when I logged on with the second access code I don't seem to be in on the courses.   I am just being navigated around the site as I am not given any exercises to do.

As a result of a number of similar questions I created the following Q&A:

> **I'm logged in but I don't really understand the menus and what is being asked of me?**
>
> WELL DONE! You have successfully logged in. You need to read all the screens especially the first one. Make sure you click on the "Navigation Overview" link when you get into a course - it is a video of how to use the system and runs for about 2 minutes it is well worth viewing this the first time you log in.

Data Collection

A pre-course questionnaire was developed, the focus of which was to evaluate the student's general IT awareness (n=71). A summary of the results are as follows:

- Male/Female = 78% / 22%
- School leavers/other = 54% / 46%
- Access to a computer = 100%
- Hours spent on computer per week = 50% of students spent 5+ hours
- Studied any IT previously = 89%
- Only **16%** of respondents ranked as **most important**, the use computers for the creation of documents and spreadsheets, whereas **36%** ranked this as their **least important** use of computers.

This cohort is made up of varying backgrounds ranging from the typical school leaver to an out-of-work bricklayer to an ex-IT Manager of a training company. Those who studied IT prior to college ranged from a single MS Word course to a full range of MS Office products and more. As the module progressed, e-mails provided a qualitative representation of the experience of students. Most of the e-mails were in relation to the use of the system e.g. forgetting password, unsure of what was being asked, not working in a certain browser, not having the correct software version at home so unable to practice from home and navigating the system.

An unstructured focus group was held prior to the final exam of which the results were: system difficult to use but became used to it after time, too many steps, would like more face-to-face tutorials, enjoys using Excel as a result of module, required MS Paint for other subjects on programme but not part of IT module.

Lessons learned, so far...

This research is on-going however there are a few recommendations to be made. The first major finding is that the students simply would not have succeeded if it were not for the learning supports that were put in place. A number of other things that would have been done differently include; provision of a short pre-programme face-to-face bridging module (Calder, 2000) for those new entrants who require it, more structured and regular face-to-face tutorials to supplement the online learning system for weaker students (Reeves, Baxter, & Jordan, 2002), more regular tests with specific deadlines to promote better engagement, a more considered relationship with other modules on the programme, some element of localisation of the learning system itself to address ambiguity of interpretation of instruction.

Discussion

Undoubtedly, elearning *has* the potential to alleviate some of the pressures that faculty are faced with today. The use of commercially available learning systems will have minimal impact in isolation if they are not packaged with well designed appropriate supports.

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Proposed session plan and key questions:
I will use Prezi to present my research to date (15 minutes). The audience will then be formed into small groups and spend 5-7 minutes discussing the following questions:
1. If we are paying for these systems, why don't they include all the supports that are necessary?
2. Is it too much to ask of First Year students that they engage with fully online learning systems?
Following this group activity I will open the discussion to the floor for the remainder of the allocated time.