

The Growth of the Public Health Masters at the University of Bedfordshire

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Abstract

On the eve of the tenth anniversary of a Department of Health (England) statement in 2002, stating that the use of distance learning in the delivery of health care education is driven by the students involved, we present the evolution and development of the MSc in Public Health offered by the University of Bedfordshire, which has proved the DoH's statement correct. We present, in the first part of this paper, the current situation with regards the MSc and the project to launch it into a fully online delivery; and then we backtrack to cover the evolution of the Public Health Masters online programme, from its somewhat humble beginnings in 2006, to the current situation in 2011. We chart the project's move into the overseas market, a high percentage of our market (then and now) being from the European Union and from developing African countries; in doing so we highlight some of the specific challenges that this subject has faced in a multilingual market and some of the challenges (technological, geographical, for example) that will continue to be factors of note. We explore the notion of technology cultivating a learning atmosphere of global interconnectedness, through the use of Web 2.0 and the germination of social networking, collaboration and interoperability. With this approach in mind we hope to exhibit good practice in the use of technologies as tools for learning.

Keywords:

Virtual Learning Environment (VLE), Higher Education, Distance learning, Turnitin, Blackboard, E-Learning, technology, public health, global, diversity

Introduction: The Present

By the time this paper is printed the University of Bedfordshire should have completed its move from a Mode 2 delivery for the Public Health Masters, to a Mode 3 delivery of the same. In essence this means a radical shift from a blended approach to a fully sustainable online delivery, using a range of tools and teaching and learning strategies. This project, as might be expected, has taken some time to evolve, and is regarded, even now, as an organic piece of work that can be updated, adapted and edited as the needs arise. At all times full attention is paid to the feedback of our students and our academic peers.

Preparing for the transition to Mode 3 necessitated a fresh look at the existing programme of delivery. Although by this point (2010) the Masters had been running with a blended approach of face-to-face and distance learning modules for several years (see below), it was felt that more was needed for a distance learning package than re-using the same materials. To this end we embarked on a full scale work-through and review. Despite the fact that the content had worked well in recent years for its original purpose, it was soon apparent that it would not stand up to the different (and rigorous) requirements of a distance learning course. Too much depended on what would henceforth be absent: namely a lecturer's physical delivery of the programme. In other words, what had suited one project more than adequately for a number of years required a new approach to take into account the absence of other human beings.

The existing material went through an edit for consistency, layout, presentation, and to ensure that the facts were current. (The last of these considerations of course must always be borne in mind with material about public health issues.) Conscious of recent estimates that readers only absorb 25% of what is presented on screen, we made sure that the text was not too 'wordy' and that key or important statements (where appropriate) were substantiated with relevant illustrations and/or diagrams. In time we intend to include video to implement and enforce the cognitive alignment and complementariness further. We have also embarked on the learning technologies of discussion boards and wikis, and although it is probably too early to judge their inclusion into the programme a success or otherwise, we are confident about their future use as effective tools.

The message has been that distant learners expect quality interaction, both with their peers and with their tutors. For this reason alone the upgrade to the existing programme would have been seen as a good idea; but there were other factors that informed our decision-making processes – other reasons why we are moving into the exciting realm of the unknown(see appendix 1).

Evolution of the Project

The Public Health Masters is one of a rapidly growing number of resources offered by the University of Bedfordshire that has evolved via a recognition that what used to be the 'traditional' learning experience can (and perhaps, must) be enriched and transformed through the use of technology, irrespective of the challenges that a change in approach will usually present.

The roots of the project lie in 2005, at which point the programme was under the umbrella of Health Care Professional Practice; by the end of the following year the Masters had become a programme on its own. However, this independence did not arrive without problems, and there existed some inevitable challenges and questions that had to be dealt with. In developing and launching the MSc in Public Health, for example, we assumed that students would enter with a range of existing research and evaluative skills. But in fact, between 2005 and 2006, Exploring Research Methodologies was a taught (and mandatory) unit for the simple reason that the students had severely limited knowledge in this area – limited to such an extent that it was insufficient to enable an acceptable grade in their dissertation.

For another thing, the final student numbers for the year 2006-2007 were not as high as had been expected; it quickly became clear that there had been a much greater number of *enquires* about the course than had been applications to enrol. In order to learn why this might have been so, a brief audit was undertaken by means of a short and friendly questionnaire. Of the 120 students who had enquired, it came to light that 22 had been accepted at other Universities. This left 88 potential students who had gone on to do something other than study with the University of Bedfordshire; and these 88 became the target market for our audit and were sent the questionnaire.

Gratifyingly, every one of the 88 questionnaires arrived back, 13 from the UK, 10 from the EU and 65 from elsewhere (the majority of this third category being from developing countries). The results were interesting and somewhat unexpected. The demographics of postgraduate students had either changed or was in the process of changing. Among the group a large number were mature students, with slightly more females, who might need to juggle family responsibilities with a return to study. (The ratio of women to men being slightly higher in the women's favour was of interest, especially in the light of Leonard's (1994) suggestion that one third of women find a lack of support when they return to education. This was – and surely remains – a serious issue to consider when designing *any* sort of HE programme.) Neither qualification, type of work, nor the course fee itself a primary reason for not pursuing the application. The obstacle cited was the University-stipulated 80% attendance requirement: students were not willing to sign up when it was unlikely or impossible that they would be able to attend for the minimum hours.

A distance learning course grew out of the subsequent discussions; and the question that we bore in mind was as follows: Is human interaction essential or will technology and the virtual environment suffice? We were aware that Kevern and Webb (2004) had identified that some mature students lack coping strategies and support systems for effectively managing both the workload of a taught course and their domestic role, which added further support for the need to develop and offer a flexible and family-friendly system of studying. One way of doing this was by using blended learning within a Virtual Learning Environment (VLE) – this approach augmented by the added bonus of introducing diversity into delivery. A VLE offers a student access to his/her learning resources at a convenient time – but only if the technological infrastructures are in place, a matter that must never be taken for granted, especially when considering educational delivery in developing countries.

Right from the very beginning, then, we were aware that there were Big Questions to address. Not least was the thorny issue of how to avoid what we knew had to be avoided, i.e. a learning resource consisting of simple reading exercises, with nothing to enrich the experience. And then there was to take on board the fundamental recognition that health education is fraught with ethical, sometimes controversial, frequently complex issues that might benefit from intellectual interaction and face-to-face debate. On the other hand, we had the affirmations of (*inter alia*) Gibbs (2000), who suggests that subjects have been brought alive by distance learners in the way they use the new technology. Gibbs also posits the thought that even the process of communication between lecturer and student can be improved by distance learning: the teacher takes a more considered time before responding, rather than make a comment that in other contexts might be regarded as cursory. In other words, the lecturer feels that the student should be self-empowered to take charge of his/her own learning at Masters level. Both Boud (2000) and Yorke (2003) have argued that one of the key purposes of Higher Education is to facilitate the autonomy of learners.

Whether this was an achievable goal remained to be seen.

Challenges, 1: Prefatory Matters

'Traditional' modes of learning (Palloff and Pratt (2001) argue) might not be suitable to prepare students for the autonomy and interdependence needed to engage with a virtual learning environment to their best advantage. Although the world of technology-enhanced learning has developed considerably in the decade since this judgement was made (one of the reasons for this paper in the first place), it is worth reflecting on such comments, and of course on what we might learn from them. After all, when discussing the growth of a distance learning programme, we must elaborate on more than the requisite technology as a changing agent: the learners themselves are changing agents, making a move into (possibly) unknown territory. How would we ensure that the learners would be engaged without yearning for human contact? Or could we assume that given the

geographical isolation in which many of our learners enrolled, they would be accustomed to the challenges peculiar to distance learning, or at least ready to adjust to them?

Our guess that many distance learners would require, in lieu of immediate peer support, considerable support on the part of the lecturer proved correct. (This prediction of 'neediness' was one of the reasons why we charged the same fee as if they had been face-to-face learners.) As it has transpired, those learners who seem to have thought the ramifications of distance learning through thoroughly have been fine, but a tiny minority who have never studied this way have found, and continue to find, certain aspects of the delivery and the expectations made of them difficult; and these are the learners who require a great deal of support.

To begin with, learners were told that they would need an internet connection and that we worked with Word 7 as a first-choice package. It was not deemed sensible to insist on any more ambitious technological requirements: although in recent years the technological infrastructure worldwide has been augmented *in general* to support distance learning, it is certainly not the case *everywhere*. Furthermore, in some parts of the world, the cost of bandwidth is still prohibitive, and cost alone (irrespective of technical possibilities) is a limiting factor, reducing the chances for video streaming, for example. With these thoughts in mind, we have had to consider a course that can be delivered on multiple platforms. Regardless of our dream of a course with synchronous components and an all-singing-all-dancing interface (for example), the realities of our global working environment have imposed certain inevitable compromises. Asynchronous material is developed to meet learners' demands, whatever the time zones are their origins, and whatever access to telecommunications is the case. The important factor is an effective communication infrastructure. After all, the geographical remoteness of a learner might or might not be relevant to the student's progress (it depends on the learner); but when we add in matters such as local economic conditions, or an environment in which the cost of supporting an infrastructure is overwhelming, then it might be that the development of technology is all-but impossible without additional sources of funds. Such matters might be beyond the control (or even prediction) of any programme developer.

Something similar might be said of staffing issues. By now it should come as no revelation that face-to-face teaching and distance teaching are different disciplines, needing different approaches and different skills sets; that while there are key shared outcomes between the two, it by no means follows that a member of staff proficient at one will automatically be proficient at the other. Nor is the efficient *training* of staff who are proficient in one discipline into exponents of the second discipline a dead certainty. Far from it; in fact, the transference between the two skills sets might not be possible at all; and it is more than likely (unless you are lucky!) that any staff available will (at first) lack adequate professional training in the development and deployment of distance learning.

And yet, is there a choice? You have a distance learning programme to develop (possibly against some sort of operational or strategic deadline). Not only the learners, but also the lecturers (and for that matter, the team administrators) would benefit from dependable access to quality educational resources in order to provide basic learning experiences, as well as to continuing professional development for the improvement of the education systems that they put in place.

Language skills were also noted, and remain noted throughout the programme with every iteration that it goes through. With a programme that can be delivered anywhere in the world, it will come as no surprise that some learners enrol with limited English (although only once since 2005 has a learner discontinued Public Health for reasons of poor English alone).

These were among some of the prefatory matters that went into the planning of the delivery; but then there are some challenges that with all the will in the world one cannot predict. The Public Health Masters has had its fair share of these too.

Challenges, 2: The Unpredictable

Of course the most unpredictable component of any dynamic is the human being. A piece of technology might well let us down, but in general it will work or it will not work. A human being on a distance learning course is infinitely more unpredictable. The very term 'distance learner' could be seen as a gross oversimplification, based on ideals...but perhaps this is a topic for a separate paper. In short, we might say that human beings will not be predicted; and understanding the culture of students – how they have been educated to date, what constitutes their learning preferences – will only get us so far, and no further.

The learners demand a good deal of attention. They are prepared to wait their turn (in general), but it is not true to assume that a distance learner will necessarily work methodically through the material with which he/she has been presented. We have found so far that learners from India, Pakistan and Africa in particular are driven to be A-grade students; and there even persists an incorrect notion that if an overall percentage does not exceed 50% then the qualification cannot be considered a Masters. This latter idea would find sympathy with many academics (here and abroad), but the fact of the matter remains that what might be regarded in some circles as an admirable trait – a drive to succeed – is not in and of itself a universally positive thing. A student who passed with 46% has taken the matter to the Board of Governors and an Ombudsman, irrespective of the fact that she averaged Cs and Ds throughout the course: one example of the relentless cultural pressures under which some of our learners toil.

Given the prevalence of HIV and Aids in some of the countries where we have students on the Public Health Masters, we might have imagined these conditions to be important considerations. Not so: a total of eight learners admitted upfront that they were HIV Positive, but did not ask for any concessions or changes or anything: the information was a courtesy only. Far harder to 'confess', on the other hand (or so it would seem), has been the issue of dyslexia. A failure to divulge such an issue (or in fact any issue that might directly impede the learning process) can raise problems. To compare two case studies with similar origins: Student A (a European female) had dyslexia, which she revealed in advance of the course starting. She was offered the appropriate support. Student B (a European female) had dyslexia, which she did *not* reveal in advance of the course starting. It was some distance into the course before the troubles began, and the very best that might come out of such a scenario is the imposition of a £400 test for dyslexia, which the student has to pay for. The lesson to be learned is to be aware of the possibility of learning impediments; to know as much background as possible.

Bipolar disorder, if untreated, would fall into this category. A female student with bipolar disorder proved problematic in the sense that she refused to have the condition treated. The symptomatology was such that this student suffered an all-but total erosion to her inhibitions. Her emails were sexually frank and unambiguous; she made inappropriate comments to staff and to her peers, sometimes sending in excess of twenty emails in one day. The behaviour led to two students being driven away from the course with depression, and several group activities had to be abandoned and reconvened at a later date... It surely qualifies as irony, the fact that in her country this very same student practiced as a GP!

But let us conclude with something a little more positive.

A Student's Final Word...

Perhaps it is not conventional to finish a paper with a note of good wishes from a previous learner; but in the spirit of anniversary and celebration with which we began, we felt it might be nice to show how a learner in one of the more difficult-to-reach regions has been affected by the Public Health Masters. The student writes (all but verbatim):

Hello good people. I just thought of you in the new season. I saw on Sky and BBC News that it was a snowy Xmas and new year. I gather things are almost back to normal now. I hope you are doing well in the New Year. I am fine here, still on leave but getting back to work next week. Bu the way, did I tell you I moved from the nursing school to the Ministry of Health? I joined the ministry in August last year, ARV Programme. It's interesting because we deal with the National ARV program's policy development, we ensure its roll out and monitor its progress and all [of this] we do based on evidence. There are lots of research issues and [I] am even engaged in some research project, still at proposal level though. I am enjoying the job so far.

Wishing a prosperous year all the way!

Summary

By allocating significant resources in order to design strong, engaging distance learning services to meet both the collective and individual needs of our students in different parts of the world, the University of Bedfordshire has grasped the nettle of providing quality education in health care, with the barrier of geographical distance on its way to being overridden once and for all.

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Appendix 1

Choosing an E-Learning Authoring Tool

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When it became clear that the Master's degree in Public Health was definitely going to go online for the first time, one interesting challenge was to find a suitably robust e-learning authoring tool and a vibrant means of presenting our material.

The first software we tried was described as working like *'like magic'*, and Microsoft Word documents could be converted easily into interactive online courses and web pages. These could then be uploaded to Blackboard (our Virtual Learning Environment), which would serve as a way of *'creating engaging learning content for students'*. Despite our best efforts, however, we faced continual problems as the authoring tool had many 'idiosyncrasies' – so-called idiosyncrasies that could only be understood by a competent computer programmer, not by a member of the teaching staff. We underestimated the time it would take to convert the notes or make corrections. The material during conversion was line numbered, and when it would not convert it did not indicate the error line. Diagram 1 shows the commands, which mainly coloured the specific text; these would then be converted appropriately. However, there were still hiccups with hyphens, spaces, italics and speech marks when these were used.

Diagram 1

The Concept of Autonomy

Autonomy and the right to intervene

The ethical principle of autonomy is central to western society and is bound up with the notions of the *'sovereign individual'*, who has the ability to reason, understand and therefore make rational choices within their environment. In other societies and among some minority ethnic groups in the UK the sovereign individual has not been seen as such of such central importance and the family, the group or the community are more highly valued.

Only when it failed to convert were you aware that there was a problem, then it was a good guessing game where the errors were, although the text was numbered. See, for example, diagram 2: the fault line was never indicated so often it was trial and error finding the problem line.

Diagram 2

250 *Green Issues and Public Health*

251 More people are becoming aware of the impact

252 they have on the environment and this is

253 especially true within the arena of Public Health.

254 As global warming is making a major impact on

256 the world,

257

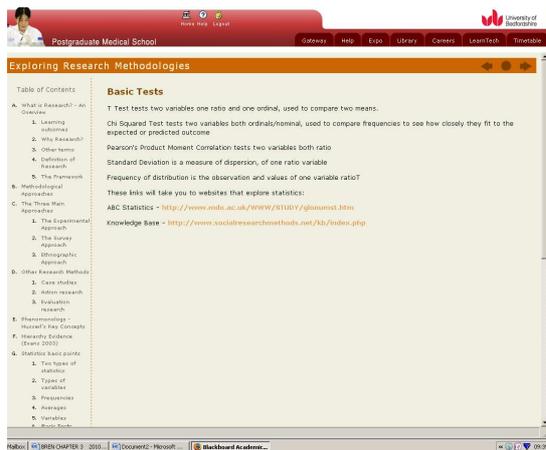
258 Environmental issues are at the forefront of both Public Health and business

259 agendas. Organisations are increasing assessing their environmental

260 obligations and continually looking at ways in which they can deal or reduce

Among the other small irritations were the inability to manipulate graphs without moving text when we did not want it to be moved. We found it difficult to change the colour, and it was impossible for us to voice over aspects. After the students had made comments that the material was good but the presentation was boring (Diagram 3) we started to look for another authoring tool.

Diagram 3



The decision was made to use an authoring tool provider whose work proved, ultimately, to be inadequate. This was a shame, because at first the students enjoyed the colour schemes and functionality that this particular provider used – in particular the voiceover application. The programme (Diagram 4) was enriched and we considered that this was the way forward; it was easy to upload into Blackboard using a SCORM file.

Diagram 4



Unfortunately, the problems started when the tutors needed to edit existing material, which by now had been made into a package embedded into the University's Virtual Learning Environment. At this point it became clear that it was next to impossible to make any alterations to our material once it had been published! There were also serious compatibility issues between the e-learning tool and any laptop that had been built and sold at any time on or after 2010, as well as many errors which came frequently, as by then we were using Microsoft 2007. If we were to narrow the matter down, the provider was neither a well-established nor competent organisation, and its technical service let down many staff and learners. The poor service that they exhibited came as something of a surprise, as during our initial development phase they were both patient and helpful. While we might have expected problems with technology *per se*, we had not anticipated problems with certain *brands* of technology. In other words, it is reasonable – actually, essential – not to be too sure of oneself when it comes to technology as a whole; but we could not have predicted the difficulties that we endured with this particular provider!

Clearly this situation could not be allowed to continue. We wasted a good deal of time in the mistaken belief that the engineers for this provider (based overseas from us in the UK) would fix the problem. The engineers were not the equal of the task; we estimated that we spent at least fifty hours either on the telephone or on email while the engineers failed to do their jobs. The matter was veering towards legal proceedings when the provider made excuse after excuse not to offer a refund. Perhaps it might have been better to sue, but this turned out not to be necessary. Very late in the proceedings, the provider finally capitulated, and the University was offered a partial refund, which was insufficient as a compromise (in the authors' eyes) but was deemed appropriate in the circumstances. So, having had such a disappointment, we needed to proceed with extreme caution.

Happily, we are proud to mention the company that we use for the job now! At the University of Bedfordshire, as of 2011, the Virtual Learning Environment used is still Blackboard and the tool used for the detection of content matching (and therefore possible plagiarism) is Turnitin. With reference

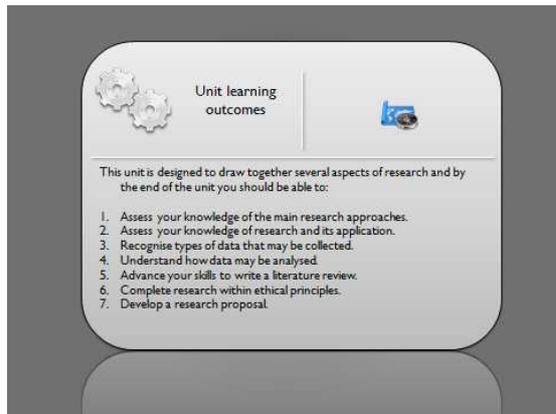
to the former, at the time of writing this paper, the likelihood is of a move to Blackboard 9, but at present we are using Blackboard 8. Across the university there are two clear camps: those who prefer to load their learning materials directly onto the VLE; and those who prefer to load their learning materials into an e-authoring tool and then embed the published package in a Blackboard shell. All of these considerations had to be borne in mind when we were selecting a new provider for our e-learning authoring tool.

For the Master's degree in Public Health we chose again to employ the model of embedding a learning package inside our VLE. It had worked for our learners before; but the question that we had to answer, especially after the disaster with our previous provider, was: *which provider do we go to?*

It is fair to say that we felt we'd had our fingers burned by the bad experience, so how would we be able to tell that the next experience would be more positive? While we searched for a new provider, and made sure that we asked for demonstrations and for full explanations of what the organisations offered by way of technical support, we made fine tunings to the Public Health programme. These edits and amendments were what we had originally intended to do, some months earlier. Eventually, after much research into current providers of authoring tools, we settled on Articulate. Not only was their customer service good (or at that stage, *prospective* customer service), it was of a price that was within our range. We'd been astonished, while scouting for this provider, at the high number of companies that had exhibited bad customer service – in some cases, not even replying to a request for a price! Articulate's sales force showed a healthy customer courtesy; on this matter alone, they were streets ahead of many of their competitors.

But of course we need more than simple customer care, however welcome it is; and Articulate ticked the right boxes. As a package it is straightforward to use; it looks good; it can be modified for colour and (to a lesser extent sizes and scale); and it has the level of flexibility that we need for the Public Health Master's. Although it uses Powerpoint as a starting point (which is widely regarded as old-fashioned and clunky), by the time the content has passed through Articulate's publishing tool, it no longer resembles Powerpoint – it looks like something fresh and original – and the quiz-creation tool has many applications. So, the content is composed in Powerpoint, and when an assessment is required we simply add a quiz by clicking on Quizmaker and choosing the one we want. We then write the quiz in the same way that one would fill in a form. When the content is ready we click on 'Publish' and the whole file is put together electronically and filed wherever we want it to be filed. It is then a matter of uploading it into the VLE by uploading and importing in the usual fashion.

Diagram 5



We like it for its variety of quizzes (Diagrams 6 & 7) and for the fact that for every quiz (multiple choice, fill the blank, etc, a full bank of resources) we can adjust the points that the learner earns and weight the assessment accordingly.

Diagram 6

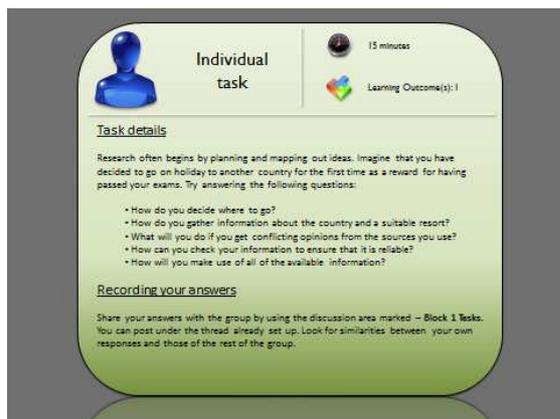
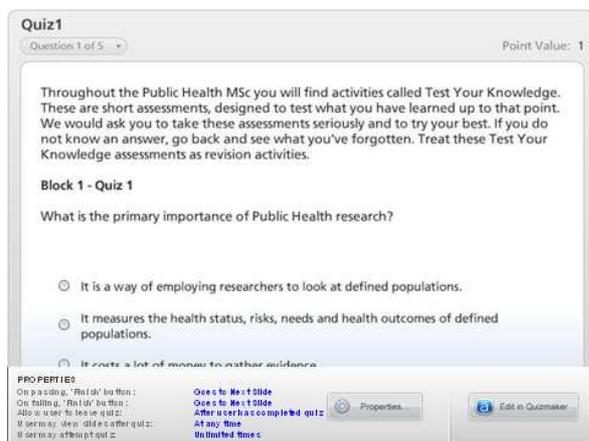


Diagram 7



What is important to us is to have the ability to make changes without it being a lengthy process, the easy way in which colour can be used to enhance the quality of the appearance. Also important is the facility to add voiceovers to enable the student understand exactly what is being requested from them; and to be able to embed it into a user friendly display (Diagram 8), which allows a heading to be clicked on and the information to come up immediately. In this way it facilitates easy learning, revision or use for assignments.

Diagram 8

The screenshot shows a web application interface for the University of Bedfordshire Postgraduate Medical School. The interface is titled "Where would you like to go?" and displays a grid of three main blocks, each containing a list of sub-topics with hyperlinks.

Block	Sub-topics
Block 1: Research Approaches	<ul style="list-style-type: none"> Research Approaches: Positivism, Naturalism, Functionalism, Empiricism Methodological Approaches Experimental Methodological Approach Survey Method Ethnographic Method Systematic Review Systematic Review - York Report 4
Block 2: Literature Review	<ul style="list-style-type: none"> Getting Started Use a systematic process Activity Blog Key Words? Critical Appraisal Activity Wiki
Block 3: Survey and Sampling	<ul style="list-style-type: none"> Seven Flaws of Memory Group Administered Questionnaires Drop-off Surveys Oral Surveys Confidence Limits and Sample Size Correction Factors for Rare and Common Percentage of Variables Calculating a Sample Size Designing a Survey

So far we have been happy with our decision with regards to the technology provider. We regard it as a healthy sign that we feel that we are only just touching the surface of what we feel this tool can perform. Furthermore, we feel confident that if we need to engage the services of their Helpdesk, they will offer prompt assistance, and that our relationship will endure for years to come. We would like to think that our business will be on going.

To conclude, we think it is vital when choosing an authoring tool that you insist on a free demo period before you commit. It is easy to make a mistake choosing when all providers insist that they are the best. You must test the tool enthusiastically; in fact, in a sense, you must try to push it to its limits and try to 'break' it. Only by encountering mistakes in these early stages will you know that the company will be able to help you with unforeseen problems. But if the package looks good and it has been shown that it can do what you need it to do, this would seem to be an excellent starting point.