# The Evolving Academic Library and its Role inDelivering Flexible Learning

## Professor  Jon Warwick[1]

### Abstract

As the use of digital technology grows in all aspects of higher education there has been much debate about the role that the academic library should play within a university.  In tandem with this, digital technology has also had a significant impact on learning, teaching and assessment within higher education and we are just at the start of a period of rapid change in higher education provision.  This paper presents some ideas as to how the role of the library and its staff may evolve in response to changing modes of learning and teaching, curriculum development and the development of flexible learning. The interplay between research and teaching is highlighted as a key area where the library can forge significant partnerships with teaching academics so that there are contributions to from both in curriculum design and delivery.

**Keywords**:  academic library; curriculum development; research skills; learning and teaching

## 1.  Introduction

Since the turn of the century there has been a great deal written about the evolving nature of the academic library as higher education (HE) institutions struggle to meet a variety of challenges.  Chief among these challenges for institutions in the UK are: uncertainties about revenue streams for the funding of HE as the UK Government lifts restrictions on student numbers and replaces centralised grant income with direct income from student fees; the changing patterns of student demand for particular courses and the evolving needs of employers who require certain sets of graduate skills; greater accountability for the services provided to students through the publication of student satisfaction statistics, drop-out rates and other key performance indicators; and advances in digital technology which are transforming the learning landscape the students need to navigate as they move through HE.

[1] Faculty of Business, London South Bank University, Borough Road, London, SE1 0AA, UK.
E-mail: warwick@lsbu.ac.uk

These challenges are forcing change within the HE sector and these changes are impacting all areas of operation of a typical university.  Unfortunately the nature of these challenges can provoke contradictory responses. On the one hand the somewhat opaque nature of future revenues (and the assumptions that underpin them) instils a rather risk averse response from senior managers as they seek to protect the modest financial surpluses that guarantee institutional survival. On the other hand there is a recognition that change is inevitable and that will frequently require considerable financial investment and hence risk.

Given the growing institutional reliance on student fee incomeone of the primary concerns of most universities is the student experience in all its many forms. Many institutions have used developments in digital technology to refocus learning and teaching practice and offer to students a greater variety of opportunities to learn through online lectures, video capture, wikis and blogs etc.  But the provision of high quality learning and teaching is not solely within the jurisdiction of academic teaching staff.  Support services across the university are fundamental to this provision and of primary importance is the academic library.

The shift from traditional print to digital technologies has had two impacts on the way institutions think about the structure and role of academic libraries.  First there is the library itself – how educational materials are stored and accessed by students and what should replace the traditional physical collections of texts and journals and regimented desks of student work spaces.  Second, is the effect technology has had on the ways that students learn.  This has led to changes in learning, teaching and assessment strategies and these in turn to changes in information provision and usage by both students and academic staff.

Indeed it has been commented that the academic library is no longer the first port of call for students seeking information for their academic work (Wells, 2007). These two issues suggest that, if the advantages of digital technologies are to be realised within realistic cost envelopes, universities must seek to bind learning and teaching processes and information provision more closely than has been the case hitherto.  This is not an area that has been written about extensively to date, but is nevertheless a requirement of a fully integrated learning experience for students.

In this paper, the evolving nature of the academic library is first considered in the light of the digital revolution and some themes that seem to be emerging about the future direction of library evolution are highlighted.  Then issues relating to evolving learning and teaching strategies and curricula are outlined as universities seek to embrace technology enhanced learning (TEL).  Finally the paper describes how the development of research skills is gaining importance as a response to the use of technology by students and how this provides an opportunity for a collaborative partnership to develop between academic teaching staff and the library and its staff.

## 2.  The Evolving Academic Library

The evolution of the academic library has been the subject of debate in the published literature.  Lewis (2007) considers how digital technologies have disrupted the conventional model of academic library services and provides a change strategy for academic libraries that has five core components.

1. Migrate traditional print collections to equivalent electronic collections and complete this process as quickly as can be managed;
2. Critically explore the core collection as part of this process and take the opportunity to retire legacy collections;
3. Rethink the use of freed-up library space to support the new ways of working that students are demanding;
4. Define how resources and expertise within the library can best be positioned to add value to those who request library services;
5. Rethink the use of scarce resources so that the emphasis is not on purchasing materials but on curating content.

Many academic libraries are already adopting some or all of these suggestions and certainly the vision identified here is one that acknowledges the pressure on resources and the changing modes of working of students as they adopt the new technologies on offer.  The vision also reflects the debate between 'place as library' or 'library as place' (Davenport, 2006) which tries to distinguish between the library viewed as a location, a repository of information to be visited (physically or digitally), or the library viewed as an integrated part of learning that can be seamlessly accessed through technology from wherever the student happens to be.

Law (2009) adds to the above list by also suggesting a library's role should include providing means of information assurance and also training in information literacy.  Jain (2013) further considers the inexorable growth in the use of social media as another driver of change and reflects on how the role of the librarian may also need to change describing the notion of the 'blended librarian'.

Warwick (2011) identifies three themes that seem to emerge from the literature of the evolving academic library and which he views as important in defining the new structure, purpose and operation of the library.  These relate to the provision of information and in particular how such resources are managed and organised internally (Alimohamnedi, 2010), the integration of the library as part of the student learning experience, and setting the strategic direction for the academic library within its wider university environment.  The first and last of these have been the subject of much discussion by authors such as those mentioned above, but it is the second which has yet to gain much attention.  It seems that there is still a disconnect between those academic teaching staff that are involved in developing learning, teaching and assessment strategies and those staff working within the library domain.  While there may well be library staff detailed to support particular academic departments and subject areas there is little evidence that library staff are integrated into the design processes of curricula and of approaches to learning and teaching.

In relation to developing learning and teaching Watson (2010) contends that academic libraries need to switch from being a passive provider of resources to " … being about people and making a real contribution to the learning landscape" (p. 51).  With this in mind Warwick (2011) outlines four areas where this contribution can be made real and explicit:

1. Teaching scholarship.  Over the last decade there has been substantial growth in pedagogic research and scholarship.  The UK Government has set in place a number of indicators through which the student experience at different universities can be compared.  Some relate the spending on resources and equipment available for students to use or the staff student ratio while others relate directly to the student experience such as the annual National Student Survey.  With the advent of technological change also influencing teaching philosophy and classroom practice the enormous amount of pedagogic research now conducted across virtually all universities has transformed the classroom experience of many students.

It is, however, unclear whether there has been much engagement with this pedagogic literature by library staff within academic librariesand whether the library as an entity has been able to make much of a contribution to this scholarship.

2. Better connectivity.  Even if there are no direct research connections between the academic library and the academic teaching staff, we need to foster a better interaction between student, library practitioner and academic lecturer to understand more clearly the expectations of students and the expectations of staff. This involves processes that can facilitate dialogue between these parties but also between staff and students so that their expectations might be better understood and, where these are thought to be unreasonable, challenged;

3. Linking research and teaching.  There are many ways in which research can be used to underpin the curriculum (Healey, 2005) but this linkage has not yet been fully exploited.  Conventionally, the academic library has been required to respond to new course developments by providing the appropriate books, journals and other appropriate learning resources. Library practitioners should, however, also contribute to the design of curricula, particularly in areas related to the skills of life-long learning and the use of information as a strategic resource for students;

4. Personal development planning.  The library has a role to play in student personal development planning that runs thematically through undergraduate curricula and helps to develop the life skills and employability skills that students require as they move from education into the workplace.  Here, library practitioners can contribute to the delivery of research and information acquisition/management skills that will be part of the personal development of all students.

These suggestions may seem relatively uncontroversial but it is often the case that no such interactions happen during the process of curriculum development and delivery as there is often no formal process through which it can happen.  We now explore where such contributions can be made by the library and its staff.

## 3.  Curriculum Development and Student Learning

Much has been written in the literature about the design and development of effective curricula together with appropriate learning, teaching and assessment methods.

There have been a large number of models suggested to aid in this and this paper is not intended as a review of all these – even surveying the most popular would be an extensive task.  Instead this paper gives an overview of some of the broad categories of models.

Curriculum design models can be classified in many ways.  One of the broadest categorisations is between the technical/scientific approaches and the non-technical/non-scientific approaches.

In the technical/scientific category are models that require first the identification of the purpose of the curriculum and then proceed in a logical and structured way to develop a curriculum that fulfils that purpose.  Examples here might be Tyler's (1949) model or the backward design model of Wiggins and McTighe (2011).  Having established the purpose of the curriculum (commonly now expressed as learning outcomes) Tyler's approach requires the subsequent definition of the educational experiences desired, the organisation of these experiences and finally the methods of evaluation.  Wiggins and McTighe on the other hand proceed from the purpose of the learning to consideration of the evidence needed to demonstrate achievement of the purpose and then, finally, to the construction of the curriculum to generate the evidence.

In the non-technical/non-scientific category we can consider the deliberative model (Ornstein &Hunkins, 2013).  This approach outlines a deliberative process in which teachers and students plan the progress of the learning experience together and constantly evaluate progress and future directions during delivery.  It is broadly an approach that mediates between the extremes of complete student choice as to what is learned and complete educator prescription as to what is learned.

The Deliberation Model is based upon the notion that teachers and students can develop a mutually agreed understanding of what needs to be taught and how the teaching should be undertaken so that each has a voice in the discussion. The stages that make up the deliberation model reflect this collaborative process expressing opinions and sharing views and so highlighting areas of agreement and disagreement, explaining positions, highlighting changes in position, negotiating points of agreement, andfinally adopting a decision.

Other broad groupings of curriculum design models include subject-centred designs (where the curriculum is designed to centre on the conceptual knowledge of the discipline or clusters of themes) and learner-centred designs such as the use of individualised learning contracts, development of skills (critical thinking, reflection, research) and problem-based learning.

Many of these curriculum design models have their roots in design concepts that have been around for many years and they do not generally address the evolutionary pressures that drive curriculum change over time. Yet the world of higher education is changing very rapidly and perhaps the strongest driver for change in the way curricula are designed and delivered has been the rapid advancement of technology. There are very few examples now of university modules that do not make use of digital technology in some form or other even if it is just the use of a virtual learning environment as a repository for course notes, presentations etc. The use of digital technology to provide students with opportunities for blended learning experiences serves to emphasise the potential power of such technology. Information is now available to students on many platforms and in a bewildering array of forms so that the role of the lecturer is now far less as a source of information, but rather as a guide helping the students to sift the useful from the irrelevant, to ascertain the academic provenance of the material uncovered and structure what are often fractured snippets of information into larger bodies of thematic knowledge.

Thus in curriculum design terms there has been a change of emphasis away from organising the set-piece regularly timetabled teaching events to enabling flexible learning opportunities outside the classroom for students through a variety of media. In this sense traditional curriculum design models may not be adequate and there is a logic perhaps to disconnecting learning and teaching.

While there will still be formal teaching sessions in almost all curricula the opportunities for student learning now extend far beyond the lecture theatre, and what once was loosely titled 'self-managed learning' is now frequently being highly structured and organised by academics almost as formal learning but without the associated formal teaching.

A recent report on flexible pedagogies (Gordon, 2014) states that medium term implications of the growth of digital technology is that learners will be "taking more responsibility for their own learning, choosing and taking advantage of technologies that can improve their own learning, with advice from their teachers" (p. 21) and that teachers should be "identifying opportunities for flexibility in delivery, with a growing emphasis on managing the learning process rather than being the primary provider of learning materials" (p. 21).

This paper argues that academic libraries have a role, as yet unfulfilled, to play in contributing to the design and in some cases the delivery of course curricula. This changes the nature of the academic library from support for learning through information resource provision to being a partner in the design and delivery of learning opportunities. This already happens to a certain extent as academic libraries provide advice and guidance to academic teaching staff and students on information seeking (electronic reading lists, access to journal databases etc.), the presentation of information (report writing, correct referencing etc.) and flexible learning spaces for students to work in. But there is much more that can be done.

## 4. The Teaching/Research Nexus

As a consequence of the increase in information availability already alluded to there has been a recognised need to work with students in developing their research skills and skills of critical evaluation. This of course is important in developing general skills relating to employability, lifelong learning and of the student's personal development but it is also becoming crucial for students to have the ability to:

a) Sift and sort information so that only that which is relevant to the work at hand is retained;
b) Connect ideas and arguments together to provide a consistent argument. One of the consequences of the digital age is that students often access information in disconnected snippets from a variety of sources rather than reading longer texts;
c) Relate facts and ideas from various sources to one or moretheoretical positions;
d) Make judgements on the authenticity of published work and the support for arguments made;
e) Present information accurately, concisely and with support from references using a recognised formal style.

Thus the development of what would generally be termed research skills among students has taken on greater importance over the last few years and even though these skills may not necessarily be presented as specific research methods modules they are infused into the modules across the levels of nearly all taught curricula.  There is a real impact that academic libraries and their staff can make on the integration of research and research skills within the curriculum and in shaping those learning opportunities so we need to consider the nature of this interaction a little more closely.

In essence the interaction is recognised has having several forms which have been broadly categorised as follows (Healey, 2005).

- Research-led teaching:  this refers to the use of the outputs of research within a curriculum so that students are exposed to the latest ideas and theories within their particular subject domain.  This becomes more relevant with the more advanced levels of study;
- Research-oriented teaching:  this refers to the teaching of students to actually undertaking research.  Commonly labelled as research methods or research skills the majority of curricula will employ at least one module that delivers these skills especially where there is an element of original project or dissertation work to be completed;
- Research-based teaching:  this is also sometimes referred to as inquiry-based teaching and students will address some or all of the content of the curriculum through their own research activities.  This could be through student-led seminars and discussion or through tutor set projects and activities and the student becomes the researcher;
- Research-informed teaching:  here the teaching process itself is informed by research in teaching.  This might be through reading of the research of others and adopting best-practice, by reflection on student learning (student outcomes and feedback) and by reflection on the teacher's own experiences of teaching.
  Mixing primary and secondary data many teachers will be actively engaging in such scholarship simply through the process of reflecting on their teaching and planning for the next delivery of the material;

Naturally these four categories of teaching/research interaction are not mutually exclusive and a course curriculum that fully engages students would ideally have aspects of all four approaches.  Indeed a single module may address more than one of these interactions.

## 5.  Synthesising Expertise

If the academic library and its staff are to become partners in curriculum design and delivery with academic staff then we need to consider how this might be enabled.  In Section 3 there was a brief overview of some of the models adopted in curriculum design.  Although each model has a distinct flavour, emphasis or process order, the basic elements are essentially the same and have been described diagrammatically by Jackson and Shaw (2002) as shown in Figure 1.

**Figure 1: Curriculum Design Framework (Jackson & Shaw, 2002) as in Brown, Harte &Warnes (2007)**
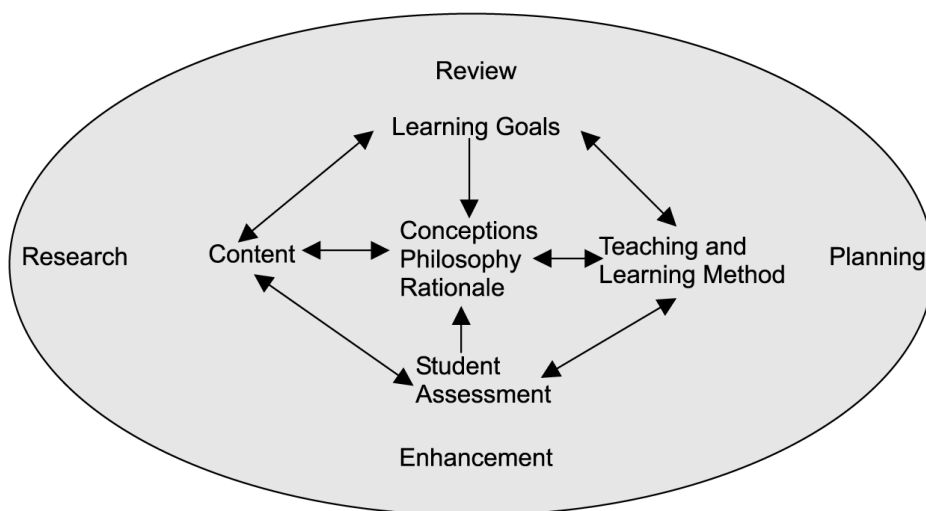
The framework emphasises the key activities that need to be undertaken in curriculum development and although not explicitly stated these activities would be predominantly the role of the academic responsible for delivering the taught material.

We can, however, use this to explore the role that the academic library and its staff can play in forging a partnership with academic staff in delivering learning to students.

To illustrate this, the teaching/research nexus can be represented more completely in the framework so that all four aspects are shown.  This allows the real impact of research and of the development of research skills to be better understood as contributing to the curriculum design process and hence highlights those areas where the collaboration between academic teaching staff and library staff can be fostered.   The revised framework is shown in Figure 2.

**Figure 2:Curriculum Design Framework Emphasising the Research/Teaching Nexus**
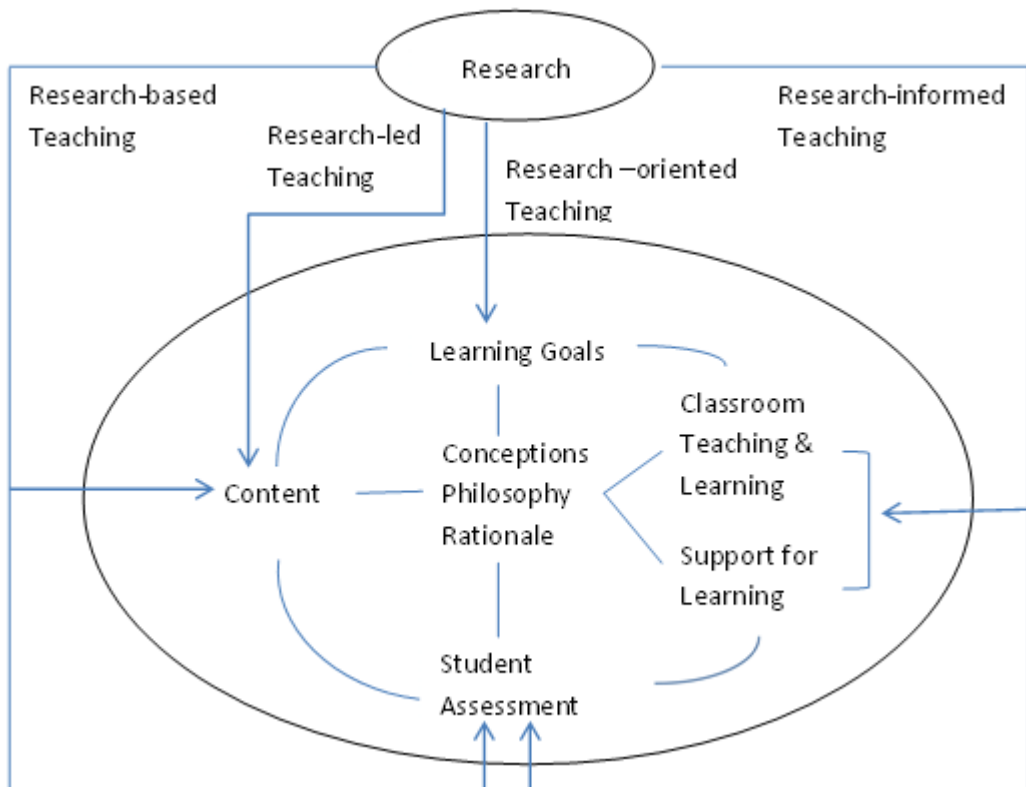


By splitting the research component into its different facets we can begin to explore the ways in which the role of the academic library extends to curriculum design and delivery.

Research-led teaching:  here we can use the latest research from library and information science to enrich the modules that are developing skills of research, information processing and presentation etc. This augmentation of content complements the subject specific research outcomes that would normally only feature here.  Searching for, retrieving, storing and organising published research outputs supports research-led modules.

Research-based teaching:  the content of these modules is to a certain extent derived by the research outputs from the students' work.  Research-based teaching cannot thrive without the prior (or at least parallel) development of research skills and here the academic library has a role to play in supporting and developing these skills. The assessment of earning outcomes also should involve academic library staff who are well placed to assess research skills across a variety of subject disciplines.

Research-oriented teaching:  academic library staff can be, and currently often are, involved in influencing the learning outcomes of modules that are specifically about the process of doing research. This is probably an area where a significant impact is already being made by library staff but it is often in support of curriculum delivery rather than in its design and delivery.

Research-informed teaching:  this is perhaps the area where the most impact can be made in the medium to long term.  Developments in teaching scholarship and research can grow collaboratively between academic teaching staff and library staff so that curriculum development and innovation does not remain a local enterprise with impact only within a subject group or department but can become institution wide with the library as the knowledge hub of such enterprise.

## 6.  Conclusion

This paper has described some thoughts as to how the academic library and its staff may evolve as an integrated part of the curriculum design and delivery process. The core of the argument is that the curriculum of the future will be largely transformed by the introduction of digital technologies and that there are opportunities for the academic library and its staff to be partners with academics in that evolution.  At the current time the watchword for curriculum design is flexibility.

But flexibility does not come without costs and there are currently inherent tensions to be resolved as we move forward with flexible curriculum design. Let us review some of these.

Gordon (2014) describes two of these tensions: the first being the conflicting desire to allow flexible learning and assessment at a pace that suits the individual student with the usually rigid university calendar which sets certain events and activities within a fixed timeframe (induction, enrolment, exam boards, graduation etc.). Of course some certainty is required for financial and other planning but this militates against truly flexible education. The second is around the view of technology as easing the burden of work on academics when actually individualised learning patterns require a greater resource in terms of time and effort invested in each individual student. Traditional HE teaching methods have evolved over more than a hundred years to produce acceptable learning outcomes and student experience in a resource efficient way but with technology enhanced learning and the changing role of the academic we are just at the beginning of a new evolutionary process and at the moment many institutions are not even sure if they want to merely support existing learning with technology or replace classroom learning with technology based learning - the two are quite distinct.

Further tensions are centred around the institution's desire to control spending and generate surpluses and the large capital expenditures required for developing the digital infrastructure, how flexible learning will negatively impact on key university performance metrics such as student progression rates which influence league table positions (while hopefully improving others such as student satisfaction), and how learning and teaching institutional culture which for many academics is still oriented around traditional teaching approaches can be moved to accept technology as fundamental to learning and teaching rather than a supplement to existing methods.

These tensions cannot be resolved by institutions without first generating a clear vision of what they would like their students' educational experience to be like. Agreeing what defines the learning experience at an institution requires broad discussion among many stakeholders. It further requires that there is a high level of collaborative working within the institution so that delivering learning is not just the remit of the academic teaching staff.

Indeed the distinction between academic and non-academic staff will be blurred with the advent of flexible technologies as the focus switches to student learning as opposed to staff teaching. In recent times the idea of the 'blended librarian' has been discussed as a person with the skills of librarianship blended with skills in research, digital technology and a grasp of learning and teaching issues (Jain, 2013). By partnering blended librarians with the more traditional academic teaching staff and diffusing delivery and support for learning across the institution students can benefit from a more uniform experience and the institution from a more efficient use of what are becoming quite scarce learning resources.

Academic libraries must evolve to meet the challenges of technology and of flexible curricula. They need to look inward and explore new ways of support learning by making information available to students both physically and digitally and also look outwards to engage with student learningmore directly. By increasing their focus on research in all its forms HE institutions can draw on the strengths of the library and its staff so that the library is not viewed by students as simply a work space or just another place to find information when the internet proves fruitless. The library should be viewed by students as a key ingredient to learning, research and skills development and by the institution as a vehicle for increasing the variety and flexibility of learning opportunities for students.

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