The Role Of Learning Technology Practitioners And Researchers In Understanding Networked Learning

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ABSTRACT
This paper critiques the emergence of learning technology as a discipline and considers the inherent characteristics of the area, its role alongside other research disciplines and the issues and challenges it faces. It reviews the types of activities learning technologists are engaged with in terms of research, staff development and institutional strategy. It charts how the area has developed and matured to the point that there is now a bipolar divide between learning technologists who have a practical, practitioner support focus and those with more of a research orientation and considers whether this bipolar divide is beneficial or problematic for the future of the area.

Keywords
Learning technologists, theory, practice, practitioners, career development

INTRODUCTION
Learning technology is now an established field, addressing a diversity of research questions around the pedagogical, technical and organisational issues associated with the use of ICT to support learning and teaching. This paper will focus on learning technology as a relatively new discipline. It will consider what defines and shapes the area before moving on to considering the nature of learning technology and what the associated issues are for the profession. This paper is based on a talk given at the 'Shock of the Old' conference at Oxford University (Conole, 2003).

In the last decade we have seen a shift in ICT-usage from a focus on information to an emphasis on communication and a realisation that the development of content alone does not lead to more effective learning, but we are still at the beginning of harnessing their potential. The fundamental question that learning technologists are engaged with is how can technologies be used to enhance learning? Underpinning this question are a broad spectrum of topics grouped around three main research themes; pedagogical, technical and organisational, these are discussed in more detail elsewhere (Conole, 2003). Broadly speaking learning technologists divide into two main camps – those who are interesting in researching these issues and those who are interested in translating the research findings into practice. This paper will consider the characteristics of these two groups, what motivates and interests them and the interaction between them.

What is the importance of learning technology as a profession and what is its relevance within educational institutions? Firstly technology now has a significant impact on institutions, impinging on both organisational structures and individual functions (administration, teaching and learning, and research). However, little is understood about this or how organisations are being transformed. Secondly, the variety and complexity of new technologies and the potential ways in which they can be used is changing rapidly. Thirdly, partly because of the first two factors, more academics and support staff are now using technology routinely for teaching, administration and research.

CHARACTERISTICS OF THE AREA
Every discipline has its own epistemological beliefs and associated culture. This section considers the inherent characteristics of learning technology (Conole, 2003) which will provide a basis for considering the nature of the profession. Firstly, the area is inherently interdisciplinary; this is a strength in terms of the range of expertise but is also a weakness in terms of a lack of common shared understanding. Secondly, the area is inherently political, which in part relates to the over hyping which occurs leading to an over expectation of what is

possible, but is also a consequence of different agendas and infighting and partly arises from a recognition of the major changes and impact that technologies can have. Thirdly, the area is rapidly developing and in a constant stage of change. The pace of change in terms of new technologies will continue; in particular mobile, smart and wireless technologies are likely to have dramatic effects.

Research areas emerge through five main stages, which range from pre-subject area (where there is no evidence of the area or perceived need) through to being an established area (ie the area becomes recognised in its own right with a defined community, experts, associated journals and conferences, perceived of as 'respected' research with associated professional status, courses and career routes) (Conole, Cook and Ingraham, 2003). In terms of this, learning technology is currently between stages 3 and 4 of this process. It is eclectic in nature, covering a broad church of research issues and is as yet not a rigorously defined area. In the next ten years we are likely to see the area diversify, although certain core foci of interest will probably emerge. Academics working in this area need to demonstrate that the research is methodological rigorous, building appropriately on existing knowledge and theories from feeder disciplines and feeding into policy and practice.

THE RISE OF A NEW PROFESSION

The emergence of learning technologists as a distinct group began about ten years ago and consisted of learning technology pioneers who moved into and helped define the area. This related to a paradigm shift (Kuhn 1970) in terms of use of technologies in education around that time. This was in part due to the substantive impact of the Internet on learning but was fuelled by a number of national initiatives and policy drivers. These are discussed in more detail elsewhere (Conole, 2002). This provided opportunities to experiment using developmental funding and lead to an increased interest in the role of technology across education, better senior management engagement and consequential change in strategy. In addition, there was an influx of researchers from different cognitive domains (such as computer science, education, psychology general social science, business studies, mathematical modelling and linguistics) as well as academic practitioners from particular subject domains.

This first generation of learning technologists tended to adopt multi-faceted roles often combining learning technology research with support for practitioners in terms of the use of learning technologies and input at institutional level in terms of strategy and policy. These pioneers were located in a variety of different places across the sector. Some were located in centre units or departments – such as educational development units or part of learning support or computer services, others were located within specific departments or at faculty level (where a particular specialism of learning technology had developed or where there were particular learning technology strategic initiatives – for example many Medical schools had learning technology units as part of their Management Learning Environment initiatives) and others were located in traditional education departments. The level of "prestige" and gravitas of the roles also ranged dramatically from very high level professorial equivalent or senior lecturer level appointment to low level support grades. There was also a growth of new 'centres' or new types of units. The very earliest examples included the Institute of Computer Based Learning at Heriot Watt (created as a direct consequence of national policy directives at the time – and in particular the seminar McFarlane report (McFarlane, 1992) and the Interactive Learning Centre (catalysed in part by the TLTP national funding initiative).

Beetham et al carried out a detailed survey of learning technologists (Beetham et al, 2001) which investigated "the roles and functions of UK HE staff involved in the development of learning and teaching through the use communication and information technologies". What was particularly interesting was that they found that this first generation of learning technologists shared a set of common characteristics. One of these was the fact that learning technologies were acting as brokers across institutional silos. This type of activity has increasingly being recognised as key in terms of understanding the impact of ICT across institutions and was a central finding arising out of a set of projects which looked at the issues associated with the development of institutional Managed Learning Environments (JISC Infonet, 2003). Another characteristic of this first generation was the fact that they tended to act as change agents, adopting multi-faceted roles. Some of the other key findings of this study are outlined in Table 1.

Table 1:Key findings on the nature of first generation learning technologists
• Staff working with learning technologies have a wide range of educational and professional backgrounds and a very wide range of personal and professional skills, however two models predominate. 'Older professionals' (usually on permanent contracts with secure postitions) and

'new specialists' (generall younger and on fixed-term or rolling contracts).

- Learning technology specialists typically place a high value on working in the academic community and are generally well qualified. They are, however, well aware that their skills could command much higher salaries in other sectors and some experience this as a source of conflict. They are concerned however with the status of their roles and the academic legitimacy (or otherwise!) of learning technology specialism.
- The main advantages of working with learning technologies were: the excitement of working in an emergent field; intellectual rewards; the rewards of helping students to learn more effectively; the rewards of working with academic staff; personal enjoyment.
- The main disadvantages were: lack of time and overwork; lack of personal security; lack of status and financial reward; the perceived 'ignorance' of academic staff; lack of obvious career progression; the difficulty of keeping up with rapid developments.
- Learning technologists engage in a range of activities which can be described using ten discrete categories. Although these roles can be functionally separated, most individual staff are performing multiple roles and require a very wide range of skills and aptitudes
- Learning technology specialists are usually involved in the entire process of development, support and use, rather than in a specific part of this process and often occupy a pivotal institutional role in terms of negotiation, liaison and the facilitation of change.
- There is a general preponderance of support over development roles.
- The location most commonly associated with learning technology specialist staff was not in fact a learning technology specialist unit but the library/learning resources unit, followed by the learning and teaching development unit and computing/IS services. However, the overriding feature of the universities audited was the wide distribution of learning technology specialist staff across the institutional structure, such that being mobile or peripatetic can be seen as one of the defining features of staff working in this area.
- The presence of a central learning technology support service or unit does not lessen the number of other units/services in which learning technology specialists are located: if anything a central specialist unit may lead to a proliferation of learning technology roles in other areas of the institution.
- Career development for LT and learning development staff is largely outside the current post; managers said that whilst LT/LD staff do receive recognition, advancement is often by leaving

One of the signs of maturity of any area is evidence of the emergence of different schools of thought and diversification of interests and roles. This has clearly occurred with learning technology and in particular there is now a bipolar divide between learning technologists which have a practical, practitioner support focus and those with more of a research orientation. In a sense we are now moving to a second phase in terms of the development of the area.

As the area matured learning technologist began to specialise in particular areas and in particular two distinct groupings emerged, namely learning technologists who had more of a support focus and those who had more of an interest in the research aspects. Which of these was adopted also tended to dictate location; with the former group usually within some central support service and the latter either in a dedicated research centre or attached to an academic department. In addition learning technology masters course began to arise, the Networked Learning online masters at Lancaster University for example was one of the first. And as a consequence of these new masters courses, a second generation of learning technologists emerged who tended to have more defined and standardised career paths, and didn't share the pioneering characteristics of the first generation.

Therefore a key difference between first and second generation learning technologists, is that the former tended to be multi-functional and involved in both research and practice, whereas the latter have tended to specialise. Is this separation of research from practice good or bad and what are the characteristics and main drivers of these two groups? Learning technology researchers and practitioners can be classified according to Chartland's notion of science and arts; with the researchers veering towards the scientific end of the spectrum and the practitioners towards the arts end. Chartland provides the following definition to support this:

> "… science is defined as systematic and formulated knowledge, thereby permitting inclusion of both the natural and social sciences. Research is defined as the systematic process by which scientific knowledge is developed and advanced. Art is defined as skill developed through practised application. Therefore, art involves experiential as opposed to scientific learning." (Chartrand, 1989)

Using this definition therefore the researchers are focusing on developing and advancing knowledge about learning technologies, whilst the practitioners are focused on the practical application. The table below attempts to articulate the key motivators and characteristics which distinguish the two groups.

Motivators and characteristics for researchers and practitioners	
Learning technology researchers	**Learning technology practitioners**
• Concerned with exploring and addressing learning technology research questions • Have associated epistemological beliefs and favoured methodological approaches • Usually removed from practical implementation of learning technologies • Motivated by traditional research drivers – peer reviewed publications and winning of research grants • Networking with other researchers but also likely to interface with closely aligned research disciplines – such as Education, Psychology or Computer Science • The research are is still relatively young; it is eclectic in nature, not yet clearly defined and scoped. • Much of the current research is criticized for being too anecdotal, lacking theoretical underpinning. More rigorous research methodologies are needed to ensure valid and meaningful findings. This means more systematic research but also a better understanding of the benefits and limitations of different methods and more triangulation of results.	• Concern with translating current understanding about learning technologies into practical applications and in provide support to practitioners on the effective use of ICT • Often embroiled in institutional politics and in fighting • Constant battle within institutions in terms of relevance of role and location • Tend to network with other learning technology practitioners, may also interface with others in institutional support roles such as staff developers, quality assurance units, IT support and library. • Learning technologists are now recognized as an important breed of new professionals providing a valuable institutional role spanning the technical and educational aspects of using technologies for learning. • There is no clear and established career pathway for learning technology practitioners • There is still a dearth of these professionals in senior roles or at government and policy level and there is an urgent need for better professional recognition for these roles. There is a real danger that if clearer career paths are not developed then the more senior learning technology specialists will find alternative career progression routes.

This table suggests that the researchers and practitioners are motivated by very different drivers and hence further suggests that there is little overlap or correlation between them. If this is the case surely this is a major problem which needs to be addressed. How can practitioners provide effective support if they are not informed by the latest research findings and how can researchers have a clear understanding of substantive issues in the area if they are not informed by practice?

Clearly the two camps need to find mechanisms for working together more closely. This is a two way process. The research findings need to feed in more coherently to policy and strategy discussions both at institutional and government level and practice needs to be better informed by the research. Whereas the practitioners need to be aware of and engage with elearning research and ensure that this feeds into their institutional roles and strategic developments. In short the research needs to inform their own practice and the practice of those that they support.

However, there is a tension between the needs of policy makers/senior managers and the learning technologists. The former being more interested in potential efficiency gains and cost effectiveness, wanting to see evidence-based practice with comparison of the benefits of new technologies over existing teaching and learning methods, whilst the later are concerned with how the technologies can be used to improve the student learning experience.

LINKING RESEARCH AND PRACTICE

The bipolar divide between learning technologists which have a practical, practitioner support focus and those with more of a research orientation outlined in this paper raises some interesting questions and issues for debate. Should this bipolar divide be viewed as a strength or as a weaknesses? One of the defining characteristics of the original learning technology pioneers was that they were engaged in multiple roles and hence could see the interconnection between research outputs, support and staff development, and strategy and policy initiatives. By separating out the functions have we lost this higher level inter-connection? Is there a danger that the research will become more and more esoteric and removed from practice? Equally will the more practitioner focussed learning technologist be in danger of being more and more remote from current research findings and hence out of date in terms of informing practice? Is there also a danger of an insidious hierarchy emerging with learning technology researchers being considered more privilege that the practitioners? How can we ensure that the research does inform practice and vice verse?

On the positive side, the existence of the two communities side-by-side can be seen as a strength in a number of respects. Firstly, 'support–focused' learning technologists are now well established within institutions, most if not all institutions now how one or more people in these types of roles. There are also signs of the emergence of clearer career pathways, the Joint Information Systems Committee (JISC) for example are currently funding a project which is looking at developing an accreditation framework for learning technologists (Oliver, 2003). Secondly, learning technology as a research area has gained credibility alongside more established research domains, for example there are now a number of e-learning chairs across the country. Focusing specifically on the research aspects has allowed the area to develop more rapidly than it would have if this was part of a wider set of roles.

CONCLUSION

The next decade will be critical in terms of the area finding a clear niche and position alongside more established fields. Research will offer us a real insight into the ways in which technologies can effectively support learning and teaching, and an understanding of how they can be used to improve organisational processes and it is important that this feeds into practice. We should also begin to see the development of new underpinning theories and models of explanation to account for the use of learning technologies, and perhaps even the emergence of new learning paradigms and working practices. Only time will tell.

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