THE CUBE AND THE ADVANTAGES OF ASSIMILATION

Nora Mogey
Media and Learning Technology Service
University of Edinburgh, SCOTLAND
Nora.Mogey@ed.ac.uk

Rachel Ellaway
Medicine & Veterinary Medicine Learning Technology Service
University of Edinburgh, SCOTLAND
Rachel.Ellaway@ed.ac.uk

Wilma Alexander
Science and Engineering Library, Learning and Information Centre
University of Edinburgh, SCOTLAND
w.alexander@ed.ac.uk

Abstract

Effective dialogue can only be established between different groups or units when they have a shared understanding of common goals and areas of concern, and view colleagues as collaborators rather than competitors. This short paper proposes a working model which can act as a focus for discussion and hence help different individuals or groups understand the different perspectives that colleagues may hold. It is suggested that the model can also be used to help to identify areas where communication within organisations may be particularly weak, and where misunderstandings are therefore most likely to occur.

Keywords

model, communication, institution

Introduction

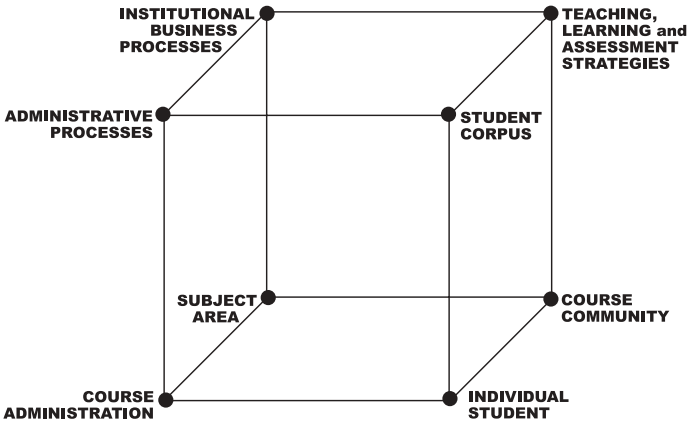
Universities are typically large and complex organisations, with many different influences, drivers and pressures on how they conduct their day to day business. The opportunities offered by technology can act as a powerful driver for change and the impact of technology is now seen in all universities to different degrees. Change is certainly taking place but a challenge still lies in identifying how to promote it to maximum effect. The University of Edinburgh is probably not atypical, having a diverse and organic community, where interactions between different groups and units is necessary to the smooth running of the organisation as a whole. But e-learning somehow doesn't fit neatly into any of the pre-existing structures or spaces, and so the processes associated with the development of e-learning can be confused. For example, learning and teaching committees view e-learning as being to do with technology and computers and therefore within the remit of the computing committees while the computing committees view e-learning as being to do with learning and teaching and therefore within the remit of the learning and teaching committees. While institutional process and procedures attempt to rationalise this conflict, , individual staff have pressed on and generated impressive and effective innovations. In several cases these small scale origins have led to the establishment of highly skilled groups operating in relative isolation within departments and faculties, each with a substantial amount of financial autonomy.

The benefits to be gained from driving technological innovations as part of a wider university strategy are not in question, but in the meantime there is a pragmatic need to foster effective working collaborations and to develop shared experiences. The authors of this paper all work to support staff round the University of Edinburgh make effective use of learning technology. Two work for faculty based units,

one for a central service and they have arrived in very similar roles from backgrounds in library and information services, media production services and education.

The original model and its use

Many authors provide insights into the range of barriers to the effective use of learning technologies. Some propose models for the effective adoption of technologies. Bates (1997) presents twelve organisational strategies for change, each a necessary but not a sufficient condition for a successful transition towards the effective integration of technology. McNaught (2000) concludes from studies in Australia that factors affecting the adoption of learning technologies can be grouped under the headings of culture, policy or support. Beetham, Jones & Gornall's (2001) audit of 22 UK universities and their use of learning technologies explored institutional organisation under the headings of culture (learning and teaching practices), infrastructure (physical, technical, and organisational environment) and expertise (information and knowledge networks). They identified 17 inhibitors of change, many of which were essentially about inefficiencies in communications, at all levels and involving individuals, groups or structures. We sought a model which would help us to understand the different perspectives held by the different stakeholders within our own institution and could relate strongly to the communication issues and the range of different drivers reported by others. At the core of university business we were conscious of three main tensions: administration vs pedagogy; institutional vs course specific; communities vs individuals. Mapping each pair of forces as opposite faces of a cube led us to the first working model, which was presented at ALT-C 2001 (Ellaway, Alexander & Mogey, 2001)



Different groups or organisations within the university were then mapped into this framework, although visualising the three dimensional results wasn't always easy. Immediately it was clear that the model might indeed provide a vehicle to help understand different stakeholders' perspectives, and thus to identify gaps or overlaps in provision. Overlaps could be particularly enlightening in presenting a reason for the protective, territorial interactions that occur in many organisations. The cube was also used to provide a visual snapshot of different institutions and their use of learning technology.

Discussion at and after ALT indicated that there was interest in a model of this kind, but highlighted several unresolved issues - where was the recognition of the role of networking, resourcing and computing infrastructure, essential to the progress of e-learning in any institution? Did the edges of the model represent anything meaningful? What was represented by the space outside the cube? Why a cube anyway, why not a cuboid , or a sphere?

Remodelling

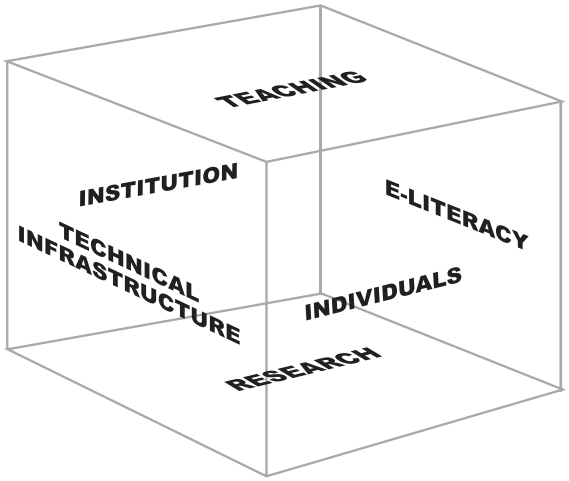
One of the most useful and productive areas of discussion centred on the labelling for the axes and apices of the cube. In detailed discussions it was clear that the preferences of each of the authors for particular terminology reflected variations in areas of interest and concern. Part of the utility of the model, it seems to us, is that is can be applied in a flexible fashion to a range of contexts and situations, and that discussion about the "correctness" or accuracy of the terminology is itself a desirable outcome in promoting communication between diverse groups. Therefore we have been actively considering remodelling the cube for a variety of contexts; one of these remodelled versions is presented below.

Ford et al (1996) propose a learning environment architecture as a method for examining processes within a higher education institution and as a method for managing change. The architecture examines in turn business systems, social systems and technical systems. This proved helpful in challenging the original axes for our cube. In most universities the main business systems are devoted to achieving quality in research or in teaching. Although an exploration of the issues associated with the increased use of learning technologies is not primarily concerned with how centrally an institution places its research role, to ignore research and the drive it can place on institutions is unrealistic.

Hence the revised version of the model takes its three orthogonal axes as follows

1. Business Processes : Research to Teaching
2. Social Processes : Institutional to Individual. Institutional is used here to mean groups which have an impact wider than just within their own immediate environment, a focus on the needs of the many rather than the needs of the few. Individual is used to describe something discrete - it could be individual students or staff, or it could be a clearly identified discipline group with very specific needs.
3. Technical Processes : Infrastructure to E-Literacy. Infrastructure would include the hardware and the physical network, perhaps in some sense the technological power. E-Literacy is the label used to cover the skills and understanding of users to enable them to exploit the technology available.

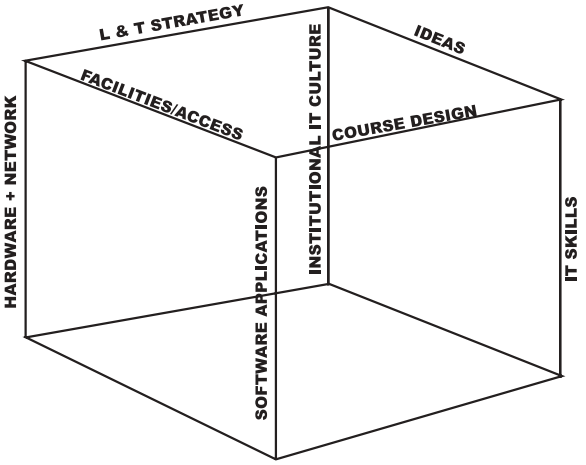
A revised model is therefore presented:



Labelling the faces of the cube as described above it is possible to start labelling the edges of the cube to arrive at a new model. It is difficult to find labels that concisely describe what is intended, but the thought processes can perhaps be illustrated with two examples:

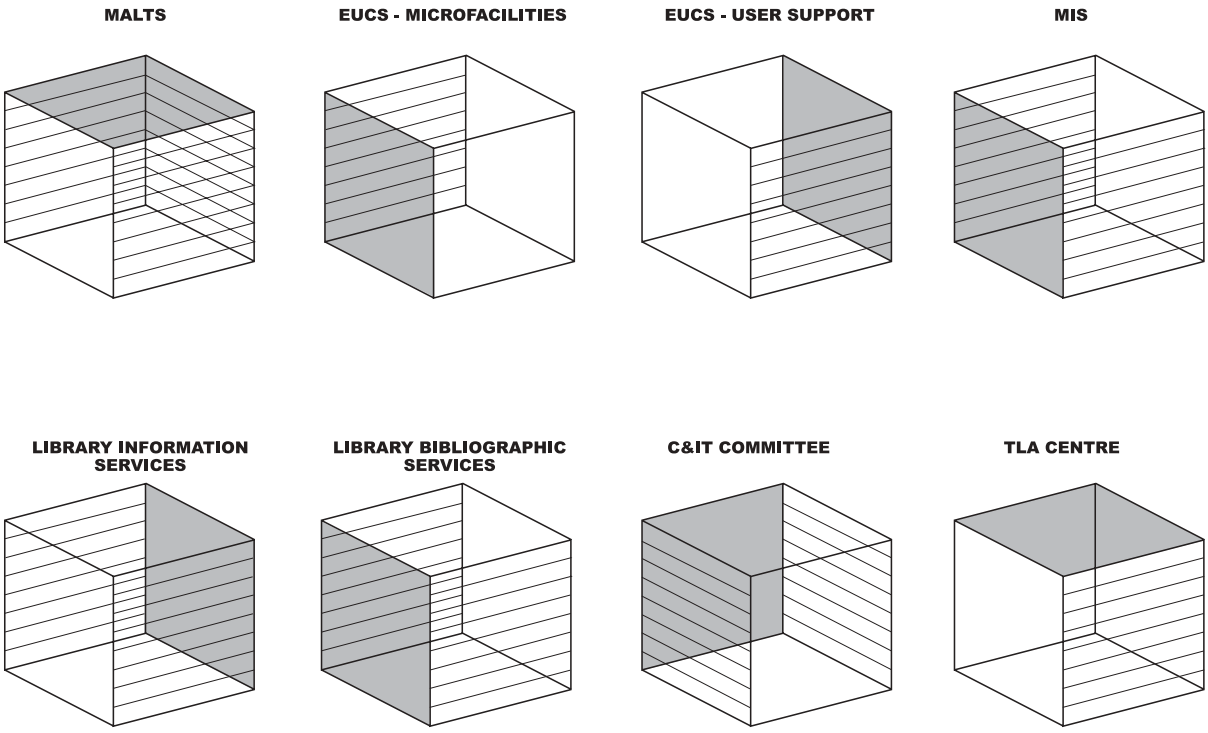
Example 1
Take the edge at the intersection of the technical infrastructure and the institution face - it must be about hardware and networks - and itself covers a spectrum from research focused issues to teaching focus - perhaps from the specialist kit required by research institutes to the equipment in student computer labs. The institutional position is important because money is needed if the technical infrastructure is to be improved but the effects are likely to be felt across a wide group of users.

Example 2
The edge between e-Literacy and Teaching. Remember that e-literacy is being used to describe all the soft skills associated with being able to use the technology. There is a set of skills about knowing how technology can enhance learning and teaching. It isn't the technical skill of making it work, it is more conceptual, that idea that perfectly illustrates the concept you wish the students to understand.



At the University of Edinburgh, the main central academic support services are Computing Services (EUCS) and the Library, with the Media and Learning Technology Service and the Office of Lifelong Learning as very small siblings. The Centre for Teaching Learning and Assessment (TLA) is located administratively within one faculty, although shares may of the day to day concerns of the central services. The administrative services are supported by a parallel central organisation, Management Information Services (MIS), which supports all registry information, the student portal etc.

The figure below illustrates how the principal author views the main areas of interest of these main support services, plus the C&IT committee. Faces shaded solid grey indicate the area of greatest focus and the striped faces indicate other important functions. Notice immediately that the 'top' face, representing teaching as a central driver is only shaded twice, and is never shaded as a secondary interest - indicating that the university as a teaching organisation is perhaps viewed separately from other business functions. The two cubes with the teaching face shaded are also significantly smaller in size and institutional impact than any of the other units. None of these cubes indicates a group which would be concerned to co-ordinate the teaching function of the university with the technical infrastructure.



Others will shade cubes representing these same 8 groups differently, but that provides an immediate visual awareness of the difference in understanding and perspective.

Bates argues the need for an overall policy on learning and teaching in parallel with establishing an effective infrastructure (technological and personnel), and with developing managed cross discipline teams to promote and develop effective e-learning innovations. His overall thesis is that without major restructuring of the traditional university processes, then technology based teaching will remain marginalised with the investments in technological infrastructure wasted and costs continuing to increase. In a large and diverse institution major change does not come quickly or easily. The expectation is that our portals, digital object management systems, virtual learning environments, and management information systems will become increasingly integrated, but this will require real understanding and partnership, between groups that historically have had little interactions. Pinfield (2001) quoted in the final report of the Inspiral project states that Library and Information Service staff should ensure they have an input into learning and teaching and research strategy. This would surely be of great value, but assumes an appropriate shared vocabulary which at the moment is uncertain. Effective working collaborations within the institution are the first step to establishing that vocabulary. This model is proposed as a vehicle to prompt and facilitate the discussions through which the shared understanding and vocabulary can develop.

Conclusion

The cube could be adapted to many different contexts. We have used it to explore organisational aspects of our own institution, but a similar tool could facilitate conversations between different partner colleges in a distributed organisation (such as Scotland's University of the Highlands and Islands project), or the focus could be on different tools (MLEs, portals, Digital Object management systems) rather than departments or units. While the questions raised at ALT-C2001 have not necessarily been answered, the cube has continued to be a useful vehicle to promote dialogue, and has caused each of the authors to examine in detail the role of our teams within the overall university strategy. While we have no desire to turn to the wonderful diversity of our institution into a Borg-style collective we have successfully used our cube to develop a viewpoint from which we can each see in many directions, to some small extent our individuality has been assimilated into a stronger whole. The University of Edinburgh as a whole may not see an immediate impact from our conversations, but the closer collaboration and trust that has been established can only be beneficial to all concerned.

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