

Toward a knowledge management framework for language and learning services

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Abstract: *Among the many buzzwords born of business-speak in the new economy, the term 'knowledge management' stands out as uniquely impenetrable, but also of unique pertinence to the work of Language and Academic Skills (LAS) practitioners. Often discussed in the same context as organisational learning, knowledge management's central focus is to get the knowledge out of the heads of experts and made available to anyone within an organisation who needs it. In essence, knowledge management allows an organisation to reflect on what it knows and to develop techniques for sharing its collective knowledge. At the core of our profession, language and learning centres are organisations dedicated to helping students learn the skills they need to succeed at university. In this respect, our mission is similar to that of any other learning organisation: LAS centres and the individuals who comprise them have expertise to be shared with students, with faculties, and with each other. Yet no coherent knowledge management framework exists for these centres to follow. Such a framework would need to address both the technical and the collaborative aspects of knowledge management as they relate to teaching and learning. This paper will present a preliminary framework to improve the management of knowledge within language and academic skills units.*

Key words: *knowledge management, organisational learning, academic skills*

Introduction

As Language and Academic Skills (LAS) professionals, one of our first responsibilities is to teach students how to write with clarity. We try to express the importance of avoiding unnecessary jargon or modish neologisms. For some of us though, terms like 'knowledge management' represent more than just excessive obeisance to the cult of business-speak. Some might argue that the very idea of managing knowledge is an impossibility:

How can something so amorphous and immaterial be managed? Some might not take objection with the phrase itself as oxymoronic, but with what it stands for. Acolytes of Don Watson and his *Death Sentences* (2003) will critically point to such terms as representing a concerted obfuscation of public language. But if such 'weasel words' are at best contradictions in terms, and at worst one step away from Orwellian Newspeak, why should language and learning services be interested in adopting this terminology? Not intended to be an apologia for the catchphrase industry, this paper seeks not only to illustrate the many ways in which knowledge *can* be effectively managed, but also to highlight how many of the principles and practices of LAS advising *are already* steeped in knowledge management (KM) techniques. One central theme of KM is the concept of 'organisational learning' (Senge, 1992; Pemberton & Stonehouse, 2000). Because we are all employed by organisations dedicated to learning, the final purpose of this paper is to present a four-step framework that can be employed by LAS units to improve our capacity to contribute to student learning. If knowledge management can help us help others to communicate more clearly, it might be one buzzword that is worth adopting.

Knowledge management: A general background

It is no secret that we live in an 'information age', and that the 'knowledge economy' has permanently altered older modes of production in areas such as agriculture and industry. In the simplest terms, our emergence into a postindustrial period of history means that a large proportion of participants in today's economy are knowledge workers, producing nothing more (or less) than information for the world's consumers. Drucker (1993), Lash and Urry (1994), and Castells (2000) have done much to document this shift in the global economy, as well as to reflect on what these changes might signify for society. Where labourers in the past were responsible for manufacturing tangible artefacts, today's 'labourers' are more likely to produce products through their mental activity. They are called knowledge workers because they are charged with the responsibility of creating knowledge, through the application of knowledge. While there has been great progress since the industrial revolution in managing the production and distribution of physical objects, managing the production and distribution of knowledge is a much newer – and increasingly more important – field. Hence KM.

Most businesses and organisations have long recognised the importance of keeping track of valuable assets like manufacturing equipment, raw materials, and finished products. Indeed, a company will not stay in business long if it does not have any formal systems to record what its assets are, how much they are worth, and who is in control of them. Only more recently has it occurred to organisations that this truism should also apply to knowledge assets as well. Countless examples can be found in the literature to detail how nonprofit organisations, NGOs, small-to-medium enterprises, and multinational corporations have all attained competitive advantage from implementing KM strategies (see Stewart, 1998; Pfeffer & Sutton, 1999; Tiwana, 2000; Liebowitz, 2000; Dixon, 2000). These case studies highlight how organisations have successfully harnessed the collective knowledge of their individual members and contributed to an atmosphere of organisational learning, which in turn propelled them into a position of increased efficiency and effectiveness in their fields. The irony is that for many of the companies profiled in these cases, the advancement of knowledge was not their main business – or, to put it in KM-speak, organisational learning was not among their 'core competencies'. Despite the fact that educational institutions

should be seen as premier examples of 'learning organisations', KM has largely been ignored by schools and universities up until very recently.

In no other industry should the goals of organisations and the principles of knowledge management be more closely aligned. Educational institutions are dedicated to teaching and learning, their primary resource is information, their most important clients are students, and their best-selling product is knowledge. If KM strategies are important for companies in other industries, they are vital for educational institutions. The following section briefly outlines some contemporary initiatives to promote knowledge management in the education sector.

Knowledge management in education

At the most fundamental level, education has always been implicated in the transition to a knowledge economy, as formal education continues to be an important avenue by which people gain access to knowledge in the first place. Tertiary education, though, has been held particularly accountable for the job of imparting knowledge, for it is at universities that future workers are expected to gain the knowledge required to keep this economy rolling. The recent increase in tertiary enrolment numbers worldwide (OECD, 2000) points to the fact that fewer school-leavers are entering the industrial job market or considering careers in the trades or manufacturing. But at another level, it is also clear that universities have had to adjust their offerings in reaction to this global shift toward postindustrialisation. Not only have universities contributed to the growth of the knowledge economy, they have had to reconsider their degree programs to reflect the new demands of today's students, as well as the changing needs of their potential employers. Goddard (1998) and Johnston (1999) have both touched on universities' role as participants in the knowledge economy. In particular, Burgess (2001) has remarked on the growing prevalence of degree programs catering to the knowledge industries, citing increased enrolments in management and information technology programs, and discussing the growing popularity of postgraduate degrees in the field of knowledge management itself.

Although most formal education happens in the early years of an individual's life, as these students turn into workers they will continue to engage in learning. Advances in the notions of lifelong learning, and an increasing emphasis on further education in the form of workplace training, have ensured that adult education is a major component of the knowledge landscape. Kinney (1998) has pointed out the importance of KM in adult education, especially while on the job. Since so much of workplace training has been moved onto online environments, it is only natural that there be links between knowledge management practices and e-learning. Citing a report by the Gartner Group, Rosenberg (2001, p. 18) illustrated the zeal created by the natural affinity of this link with the following optimistic quote: 'In two years, KM will be a subset of elearning. Or elearning will be a subset of KM'. While this prediction has not fully eventuated, others (Oakes, 2002; Reamy, 2003) have also pointed out the increasing convergence between these two once-distinct fields.

While most of this work has gone toward discussing the macro relationships between knowledge management and education at the institutional or policy level, the objective of this paper is to look more closely at the practical point where the KM rubber meets the

educational road – that is, where knowledge management theory is put into pedagogical practice. As busy teachers and researchers, university staff demand and deserve more specific details of how knowledge management can benefit them in their day-to-day jobs. Rowley (2000, p. 325) discusses just this in a paper on KM in higher education. Focusing on the key KM activities of ‘creating knowledge repositories, improving knowledge access, enhancing the knowledge environment, and valuing knowledge assets’, Rowley cites examples of how staff, management, and students have adopted knowledge management techniques within the UK higher education system.

Drilling down to an even smaller scale, Rao (2002) explores the use of KM strategies within individual academic departments. Using a computer science department as a case study, Rao illustrates how the organisational unit undertook a seven-step process for knowledge management, working its way through the identification, collection, selection, storage, sharing, application, and creation of knowledge. Similarly, Curtis (2003) provides an example of KM in action within a teaching-and-learning community centred around an integrated university preparation program. Detailing the progression of knowledge management using web logs (blogs) within collaborative teacher and student groups, this work highlights some of the practical advantages of adopting a KM strategy for people on both sides of the lectern.

KM in LAS

There are almost as many different KM frameworks as there are definitions for knowledge management. Some generalised frameworks tend to focus on the technological aspects of knowledge management (Allee, 1997), others pay closer attention to the socio-cultural dimension of KM (Tanner, 2001), while some – like the European Committee for Standardisation Integrated KM Framework (CEN, 2004) – detail a complex, layered approach to knowledge management at a nation-state level. For smaller organisational units, where time and resources are at a premium, the simplest framework is often the best. Because the staff of most Australasian LAS centres have such numerous demands on their time, anything but the most straightforward KM framework would be counterproductive. The four-step KM framework which follows does not necessarily represent ‘best practice’ in the field of LAS knowledge management, as such a term implies that one solution can fit all circumstances. Rather, this is a framework of ‘good practice’, whose components can be adopted and adapted to suit an individual organisation’s needs. It should also be noted that my own Language and Learning unit has only begun to implement a few of these strategies, with the remainder representing a sort of ‘where-to-from-here’ hypothetical future.

Step 1: The knowledge audit

In an education context, a knowledge audit can be regarded as *collective reflection* (Curtis, 2005). As such, a knowledge audit is an opportunity for an organisation to review and reflect on all its knowledge assets at a group (as opposed to an individual) level. Liebowitz (2000) breaks a knowledge audit into three questions:

- What knowledge is needed?
- Who needs this knowledge?
- What knowledge is available and what is missing?

To answer the first question within an LAS environment is relatively simple. For an organisation with a teaching focus, all knowledge should be couched in how it addresses the language and learning needs of students. From a student-centred perspective, an LAS unit's knowledge needs are dictated by the types of students that use our services, their academic, cultural, and linguistic backgrounds, the discipline-specific context in which they are working, and the unique difficulties they encounter given these parameters. In short, the principles and values which guide good teacher reflection (Schön, 1983) at an individual level, are the same principles and values that govern knowledge auditing at an organisational level: We need to reflect collectively on who our students are, where they are coming from, what troubles they are facing, and how we have been (in)effective in addressing these troubles up until now. This process can be done with interviews, questionnaires, focus groups, or through brainstorming sessions. Once the knowledge needs have been established at the collective level, the second question narrows the answer down to certain individuals within the organisation. Maybe some staff members work exclusively with non-English speaking background (NESB) students, maybe some only with postgraduates, thereby limiting their own knowledge needs to these specific areas.

When it comes to determining what knowledge is available and what is missing, it is useful for an organisation to make the distinction between 'explicit' and 'tacit' knowledge. As defined by Polanyi (1967), explicit knowledge is that which has been formally articulated, and is typically expressed in words or numbers in documentary format. Tacit knowledge, in contrast, is deeply rooted in personal experience and intuition. It involves ingrained mental models and technical know-how. Referring to this multidimensionality of knowledge, Nonaka and Takeuchi (1995) recommend that an organisation identify these different attributes, including the following:

Knowledge forms

- Explicit knowledge (written reports, policy statements, books, journals, conference proceedings, discussion forums, blogs, intranet sites, letters, memos, emails, instant messages, lecture notes, teaching materials, wikis, software, etc.)
- Tacit knowledge (skills, abilities, subject-matter expertise, relationships, personal experience, etc.)

Knowledge stores

- Explicit stores (libraries, databases, filing cabinets, hard drives, network drives, intranets, post-it notes, scrap paper, etc.)
- Tacit stores (wizened veterans, 'boundary-spanning' colleagues, resource officers, new employees from other industries, project teams, research interest groups, etc.)

Knowledge sources

- Explicit and tacit knowledge from prolific individuals, teaching experience, social networks established through conferences, popular mailing lists, journals, etc.

Knowledge **flows**, constrictions, and sinks

- Between which members of the organisation is knowledge passed?
- Are there knowledge bottlenecks or gatekeepers?
- Are there any dead-ends or knowledge graveyards?

Answering all these questions can be an incredibly time-consuming and laborious process. But often the process of the knowledge audit is as valuable as the end-product. That said, once all these attributes of knowledge have been catalogued, the organisation can move on to the next stage in the LAS KM framework.

Step 2: The knowledge map

A knowledge map is a visual representation of an organisation's knowledge assets. As such, it 'points to knowledge but does not contain it' (Davenport & Prusak, 1998, p. 72). The idea behind the knowledge map is just as it sounds: It is a cartographic tool for navigating an organisation's knowledge resources. Like a map in geography, it does not attempt to alter or improve the landscape, it merely tries to represent reality as it is. From the findings of the knowledge audit, a map can be drawn as a navigational aid to identify knowledge sources and stores, as well as the flows between them. But a knowledge map can also help in locating bottlenecks, gaps, or areas of missing knowledge – just as the charts of the early navigators pointed out spots where 'there be dragons'.

Depending on the types of knowledge that an organisation wants to chart, a knowledge map may take the form of a hierarchical tree, a diagram of nodes and links, or a flowchart. If an organisation's knowledge is especially social in nature, it may be found in a community of practice (CoP), in which the community creates knowledge as members interact with one another (Duguid, 2005). If this is the case, the relationships and CoPs in which the knowledge resides can be represented by an interaction ontology or sociogram, whereby the social networks of an organisation are represented graphically. An interesting approach to mapping communities of practice was recently taken at Bell Labs in California (Tyler et al., 2005), where email logs were used as a form of spectroscopy for the automated discovery of community structure within the organisation. While most LAS units will not have access to these kinds of sophisticated analytics, it is not difficult to identify people within our own organisations with whom we have the most face-to-face conversations, email exchanges, or telephone calls. Because knowledge resides in documents, in people's heads, in practices, and in relationships, any knowledge map drawn by an LAS centre will need to represent not only tacit and explicit sites of knowledge, but also the social networks in between them. A knowledge map therefore needs to encompass not just the know-how of one person, but the know-what, know-why, and the know-who of the whole organisation.

Step 3: The knowledge atmosphere

Through this process of identifying and mapping knowledge, it will become obvious that some individuals within an organisation are better at sharing their knowledge than others. This notion of knowledge share is pivotal in the success of any KM project. If members of a group are not willing to share what they know with other people, there is no point in trying to manage the group's knowledge collectively. Fortunately, both researchers and practitioners (Speel et al., 1999; Burnett et al., 2004) have pointed out the positive benefits of performing the knowledge audit and mapping procedures. Claiming that the

collective engagement of an organisation in this sort of reflection process serves to rally the individual members around the knowledge management cause, KM scholars and consultants have shown that these practices can positively influence an organisation's knowledge atmosphere. This leads to an ethos of knowledge sharing and to a shared vision for the organisation's KM objectives.

In an LAS context, a commitment to improving the knowledge atmosphere can be fostered whenever and wherever LAS practitioners gather to reflect on and discuss their work. Within an individual language and learning unit, professional development forums on teaching and research can contribute to a knowledge sharing environment, as can the formation of dedicated work teams to tackle specific projects. Across the LAS discipline, study trips, conferences (such as LAS2005, for which this paper was written), and email discussion lists like Unilearn (in which LAS advisors and lecturers post and answer questions about their practice) also help breed a knowledge-sharing atmosphere with colleagues from inside and outside our own institutions.

Despite these measures, there are still some real and potentially insurmountable obstacles to successful knowledge management. Research has shown that the overwhelming cause of KM failure within an organisation can be found in its organisational culture (Husted & Michailova, 2002). If an organisation has a strictly hierarchical leadership (heavy-handed management style), if there are structural barriers to staff interaction (dislocations in time or place), if there are severe constraints on staffing or resources, or if collegiality is not seen as an organisational priority, then any KM initiative will surely fail. The most conducive culture for knowledge management implementation is one that is driven from the bottom up, one that does not tolerate knowledge hoarding, and one that is open to organisational change. The challenge faced by LAS units is to promote this kind of atmosphere despite the external pressures of workplace and higher education reforms, and a climate of declining international student numbers, all of which serve to threaten our funding and future job security.

Step 4: The knowledge repository

The fourth step in this KM framework is what many people associate with the term knowledge management. This is the stage where all the knowledge that was identified in the earlier steps is collected, codified, stored in a central repository, and distributed to the organisation. As Liebowitz (2000, p. 64) says, 'a knowledge repository is an on-line, computer-based storehouse of expertise, experience, and documentation about a particular domain'. In the LAS context, the repository should contain all the knowledge we have about our students, their language and learning needs, and how to address these. According to Housel and Bell (2001), the knowledge repository stage includes the following activities:

- Knowledge capture
- Knowledge generation
- Knowledge organisation
- Knowledge access and retrieval

The creation of a knowledge map in Step 2 feeds directly into the capture of an organisation's existing knowledge. Usually the simplest part of building a knowledge repository, the

capture phase includes the formal collection of all identified *explicit* knowledge into one centralised location. If an organisation's current explicit knowledge resides mostly in electronic documents, this can be as easy as ensuring that all individuals' files from their personal computers are backed up and stored on a central network drive. But because an LAS unit's explicit knowledge usually takes the form of both paper-based and softcopy documents in a variety of different formats, archiving all these files can become a complicated process. In addition, the difficulties of cross-platform and inter-generational compatibility (Will this Microsoft Word 6.0 lesson plan created on a Macintosh work with MS Word 2003 on Windows XP?) coupled with authorship and version-control issues (Which copy of `StudySkillsForPGs.ppt` is the most recent?) can make for hair-pulling stuff when deciding exactly what explicit knowledge to include in the repository. In cases like these, the findings of the knowledge audit – locating who has the answers to these questions – can be beneficial.

Even more difficult than compiling explicit knowledge is the conversion of *tacit* knowledge. Identified by Nonaka and Takeuchi (1995) as the central focus of all knowledge management, this process of generating the explicit from the tacit is a fundamental challenge of any KM strategy. A number of KM researchers and practitioners (Linde, 2001; Denning, 2001; Ingelgård et al., 2002) take an ethnographic approach to this process, recommending socialisation through dialogue or 'storytelling' as the most effective technique for recording and formalising an individual's tacit knowledge. Advocating narrative techniques such as the use of metaphor or analogy, these KM professionals find that the easiest way for a person to externalise their accumulated internal experience is to tell stories of how, when, and why they have used knowledge in the past. These explanations can be translated, recorded, and stored. An effective way of storing this experiential and newly explicit knowledge is in a case-based repository. Here other LAS advisors, when faced by a situation new to them, could find out how their colleagues have approached similar situations in the past and learn from their successes and mistakes.

Of course, all the centrally stored knowledge in the world is of no use unless it is organised in a meaningful way. Databases are built to store and retrieve data; in the same way, a knowledgebase can be designed so that users can easily find the explicit knowledge they are looking for. One key element in knowledge organisation is the effective application of metadata. Usually defined as 'data about data', metadata is most often used to describe and categorise documents. Establishing important attributes of a file like its title, authors, and keywords, metadata can add a wealth of value to otherwise contextless resources. While there are some applications that seek to discover a document's metadata through sophisticated textual analysis algorithms, metadata is most often added as a manual process of tagging the document's text. The metatags themselves can be added according to a number of standardised formats (IMS, EDNA, Dublin Core) within the mark-up of any web-based document, such as an html file. When an organisation's intranet is fully tagged with metadata, it makes the process of searching for knowledge much easier. If an organisation's knowledge repository is not web-based, metadata about resources can be stored in a database management system, or they can be represented through agreed and strictly enforced file-naming conventions (e.g. MED-ClinicalCommunication-UG-04.doc, which tells us the name of a document, the faculty and level it is intended for, and when it was produced).

When the knowledge repository is effectively organised, issues of knowledge access and retrieval are much easier to deal with. If we know who the original authors of a knowledge resource are, we can contact them with questions, or for consent to alter the resource. In addition, we can set permissions about who has the rights to manage individual resources. Although a knowledge-sharing atmosphere is crucial to effective KM, a good repository should be able to keep track of who is sharing which knowledge with whom. In the end, the ideal knowledge repository in LAS could take a number of forms: a searchable expert 'yellow pages', a knowledge assets inventory, or a 'lessons-learned' directory. Of course, these 'expert systems' are intended to complement the expertise held by individuals within an organisation, not to replace them with all-knowing virtual LAS advisors. It should also go without saying that any knowledge management system is worthless without adequate staff training on KM methodologies and technologies. Finally, regardless of the technology or the file structure used, the knowledge repository should never be seen as a finished product. A lot of time, effort, and money can go into the making of a knowledge repository, but because knowledge is always changing and expanding, the repository should be seen as a living creature, constantly adapting to accommodate new knowledge.

Conclusion

The profession of language and academic skills advising is diverse and demanding. Some of us have been in the profession for only a short time; others for well more than a decade. Together, the LAS advisers and lecturers who make up the discipline have contributed to an overwhelming body of knowledge. Through our work together, through our shared experiences of teaching and research, LAS professionals have helped contribute to a knowledge-rich environment from which we have all benefited. But as the sheer volume of knowledge about our discipline expands, there has never been a more pressing time than now to establish effective knowledge management strategies. Although there are many blanks to fill in, the KM framework outlined herein presents an approach to developing one such strategy.

As the nature of tertiary education continues to evolve, we must work together to develop solutions to keep up with these changes by sharing our knowledge with each other. But more importantly, as educators, we must develop solutions to share our knowledge with our *students*. If nothing else, I hope this paper has highlighted the fact that teachers have always been knowledge managers, and that knowledge management involves much more than just the coolest technology or the latest catchword. KM is really about getting knowledge out of the heads of experts and into the heads of people who stand to benefit from this expertise. In this respect, knowledge management *is* teaching.

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