

Knowledge Management Strategies for Distance Education

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Abstract

This paper will review the importance of effective Knowledge Management in education, with a specific focus on its role in supporting distance education.

The paper will provide an introduction to the concept of Knowledge Management, and then focus attention to why Knowledge Management has become so important in distance learning. The paper will take readers through a non-technical overview of key design principles that will need to govern any successful knowledge management system for distance learning. In doing this, the paper will draw particularly on best emerging from a collaboration that is focusing on the development on learning object repositories for the African Virtual University and COL's Virtual University for Small States.

Introduction

As information proliferates, it becomes increasingly important to develop strategies to be able to store, search, sort, and analyse it effectively. If this is not done, this information will either quickly overwhelm us or become useless to us. This is of particular importance in the field of education (and even more so in distance education), where information plays such an important role in processes of teaching and learning. In response to these challenges, there has been a significant growth in the field of 'knowledge management', mostly in the business world but also, to a lesser extent in education itself.

This paper will seek to share some lessons learned in knowledge management over the past ten or so years, providing an introduction to the field and helping readers to think about what steps they might take to manage knowledge more effectively in their own setting.

Learning Organizations, Knowledge Workers, and Education

A learning organization can be defined as:

An organization that is able to transform itself by acquiring new knowledge, skills, or behaviours. In successful learning organizations, individual learning is continuous, knowledge is shared, and the culture supports learning. Employees are encouraged to think critically and take risks with new ideas. All employees' contributions are valued [1].

It is thus clear that effective knowledge management strategies sit at the heart of learning organizations. In a business context, these ideas are typically associated with competition for customers. Organizations that 'learn' more effectively should theoretically be best positioned to meet the needs of customers, although they do not necessarily see the customer as part of the learning organization. This approach also changes the role of employees. As lower-level and repetitive tasks become increasingly automated, the need grows for knowledge workers, who have to apply greater knowledge and adapt quickly through learning.

These concepts should resonate in an educational context, as educational institutions should logically function as 'learning organizations' and educators as the ultimate 'knowledge workers'. Any institution operating in the field of education should pride itself on creating structures that enable the organization itself to learn, as this can play a major role in fostering learning environments that stimulate the achievement of educational objectives. Sadly, though, it seems that many institutions offering education to learners do not reflect in their form the core function that they have been established to perform.

Educators are prime examples of knowledge workers because they typically have considerable personal discretion and responsibility in analysing, developing, and implementing their curricular goals. The most exciting part about applying these ideas in an educational context is that the primary 'customers' – the learners – can also become an integral part of the learning organization, as they can play a critical role in helping to create and share knowledge throughout the system. Thus, in an educational context, learners need not simply be perceived as passive 'customers', but can rather become knowledge workers themselves, playing a unique role in producing and managing knowledge within the learning

organization. One of the key challenges posed by the advent of the knowledge economy is to develop the role of educators and learners as knowledge workers within broader, integrated education systems.

Creating learning organizations and harnessing educators and other employees effectively as knowledge workers demands effective strategies for managing knowledge. Unfortunately, however, many prevailing working practices militate against such strategies. Below is a list of problems that organizations often experience in this regard:

- Techniques used rely on close contact between individuals, so the benefits of the knowledge generated have tended to be local rather than necessarily organization-wide.
- Relatively little emphasis has been placed on documenting processes for audiences wider than immediate team members, thus limiting the ability to leverage the new knowledge generated.
- Beyond the 'workplace team' level, management and communication structures generally do not exist to support process improvement on division-wide and company-wide levels.
- Initiatives that share process-oriented approaches are often kept separate with their own implementation teams. For example 'Quality Assurance' is seen as different to 'Continuous Improvement', and in turn 'Best Practice' is often made distinct from 'Business Process Re-engineering' [2].

With some interpretation, it is easy to see how these problems map directly onto many education institutions and systems. And the problem is not simply one of bad management. As Carroll et al have noted, 'the greatest obstacle to effectively managing teacher professional knowledge is the attitude – even among teachers – that teaching is basically common sense...the generally dismissive view of teaching knowledge, the highly personal nature of individual teachers' concepts and techniques, and the lack of shared vocabulary and representations militate against the articulation and accumulation of professional knowledge by teachers' [3].

The ability to harness information effectively is a crucial differentiator in the performance of organizations. Educational institutions have played a crucial role in using information of different kinds to generate knowledge, as any reader of academic texts will know. Likewise, the process of education is – in many ways – the construction of a set of services around information, which focuses on helping learners to convert that information into meaningful knowledge that they can act upon to improve the quality of their lives, whether it be intellectually, financially, socially, or personally. In principle, then, universities should be well placed to compete for resources.

Regretfully, however many education institutions have actually paid remarkably little attention to consolidating the information resources that they have created since their inception. Significant time and energy have been expended on the above-mentioned activities, yet institutionally there is very little to show for it. Information within education systems often resides largely with individuals, with the result that easy, well-ordered access to it often becomes impossible when academics leave for whatever reason. Institutional strategies for harnessing these extensive information resources – so that they can either reduce the investment necessary in future educational and knowledge production activities or increase their relative value – are completely inadequate. This means that investments made in generating information are largely dissipated when individuals resign or retire.

Likewise, there are very few clear strategies for turning management information into an organizational asset. For example, information about potential, current, and future students – a highly valuable potential marketing asset – is not stored in formats that facilitate easy access or analysis, particularly across years. Similarly, accurate and relevant financial information is notoriously difficult to extract from financial systems (except in very specific, rigid formats), even for people at higher levels within the institution. Consequently, its potential for supporting decisions taken by people managing educational programmes or research projects is negligible, which severely hampers attempts to introduce cost-effectiveness into operations. Clearly, then, the challenges of effective knowledge management in education are significant.

Knowledge Management and Distance Education

One of the key attributes of distance education programmes is their requirement to approach educational planning and implementation more systematically than their face-to-face counterparts. To compensate for separation in time and space between educators and learners, well-functioning distance education institutions make significant up-front investments in development of structured curricula and materials, creation of flexible learner support systems, and maintenance of carefully designed administrative systems to support learners studying at a distance.

Based on the introductory overview provided of what knowledge management is, it is relatively simple to identify various examples ways in which well-designed and effectively-functioning distance education systems already engage in practices of managing knowledge:

- 1) Typically, well-functioning distance education systems demand extensive investment of time and resources in rigorous processes of programme and course design and development. These investments usually involve diverse groups of experts, collaborating to produce programmes, courses, modules, and learning materials that enable independent study by learners. They can all justifiably be considered as investments in managing knowledge effectively. Importantly, they represent a process of taking knowledge that once was tacit (curriculum design, learning outcomes, teaching and learning strategies, and subject matter) and making it explicit by documenting it thoroughly. It is possible to leverage even more institutional value from these investments if the resulting materials are stored in a centrally accessible repository. In many cases, this value is not created because the resulting knowledge 'products' are not shared or made accessible beyond an individual department or faculty.
- 2) Cost-effective distance education systems require enrolments of large numbers of students on individual programmes in order to achieve the economies of scale needed to reduce the cost of learning per student. In order to be able to assure quality of delivery in such circumstances, well-functioning distance education programmes create standardized approaches to the way in which learners are supported (within learning materials, through student counselling and administrative systems, during tutorial support, and via feedback on assessment tasks). Again, providing this support typically requires processes of making tacit knowledge explicit, so that it can be documented and shared with often large, de-centralized networks of tutors and facilitators who constitute the primary point of reference between the student and the institution. Such systems are often very sophisticated in the way in which the structure and manage communication across the institution.
- 3) Provision of distance education and management of communication with large, dispersed groups of students across wide geographical areas also usually requires investments in very efficient administrative systems, which gather and store large volumes of data about learners and learning. In best-case scenarios, such systems will now harness the power of computers and databases to support student administration. Although these systems are not – in and of themselves – knowledge management systems, they are critical sources of data and information about what is happening within the distance education institution. Such systems are potentially enormously valuable building blocks within an overall knowledge management strategy, as they can feed reliable information reports on many critical aspects of the educational process into the institution, thus supporting the creation of learning organizations that are able to adjust how they operate based on knowledge of what is and is not working successfully.
- 4) Extensive literature has been produced about quality assurance in distance education, and robust, vibrant quality assurance systems are typically a feature of well-functioning distance education systems. Although quality assurance systems are by no means unique to distance education, the requirement to provide high quality learning experiences to large numbers of learners and the involvement of many employees in delivering such experiences has created a strong imperative for their development in such environments. The process of designing a quality assurance strategy is an important precursor to its successful implementation, and should involve a wide range of staff members at various phases. Developing quality assurance systems demands effective knowledge management across the organization.

As these illustrative examples show, distance education systems work hand in hand with knowledge management strategies. It is important to understand that many of the features of well-functioning distance education already constitute effective strategies of managing knowledge. Thus, knowledge management is not a new, 'high technology' concept that is beyond the reach of the average distance education institution. Nor is it a concept that should induce fear in distance educators, many of whom have for some time grasped its key principles intuitively in the way in which they have set up and manage distance education systems and programmes. However, many distance education institutions could benefit from approaching knowledge management more explicitly and working systematically to improve how knowledge is managed across the enterprise. The next section in this paper, thus, provides an introductory overview of how to tackle this task effectively. First, however, we provide a brief summary of key issues emerging from the above discussion.

Key Design Principles for a Knowledge Management Strategy

Based on the above discussions, it is possible to extract a set of principles that should inform the design and implementation of a knowledge management strategy. These can be summarized as follows:

1. Start with Strategy

Be clear what the objectives of a knowledge management strategy are, in order to ensure that knowledge management does not come to be seen as an end in itself. Document these carefully, so that they can be used to assess every aspect of the design of evolving systems and tools. In an educational context, it seems reasonable to expect that these objectives must, in broad terms, be to advance and improve student learning. If knowledge management investments cannot be linked to this overall objective, it would seem to be difficult to justify them in an educational organization.

2. Involve users in the design of the knowledge management strategy and systems

This paper has stressed throughout the centrality of people to knowledge management. The most successful strategies and systems will harness the people who are expected to drive the system from the outset, building from an existing organizational context and from an understanding of patterns of use of information already present within an institution.

3. Clearly distinguish knowledge management strategies from technology implementation and information systems management

It is critical to keep remembering that technology is not the driver of knowledge management. Technology should be an enabler, facilitating the establishment of solutions to real problems. Once technology becomes a problem that needs its own solutions, it stops being useful to its users.

4. Ensure that the broader organizational environment supports and rewards creation and sharing of knowledge

There is little point in attempting to layer a knowledge management strategy on top of an organization that is structurally unsupportive of knowledge creation and sharing. Thus, establishing an effective knowledge management strategy will require thorough review of all organizational policies and practices in an effort to ensure that people are encouraged to become true knowledge workers. These policies and practice should encourage a spirit of enquiry and curiosity, while rewarding information-sharing and collaboration. They should also work actively to break down internal boundaries within an organization, in order to make it easier for people to work in teams, so that they are able to develop their own knowledge further through innovation and interaction with others. This process of organizational change will require strong institutional leadership if it is to work successfully.

5. Approach knowledge management as an iterative process

Knowledge management is not a once-off investment, in which a system is created and then left to run by itself. It will thus be critical to ensure that support for knowledge management strategies is long-term, and that it assumes an ongoing need for iterative improvements. Again, this will require strong institutional leadership if the strategies and systems of knowledge management are to become truly embedded into the operations of the organization.

6. Measure the impact of knowledge management

As noted in point one above, managing knowledge is not an end in itself, but rather should be informed by clear objectives. To close the loop, it is critical to integrate into knowledge management strategies and system some processes of measuring the impact these investments. This may be difficult to do, as it may be difficult to quantify the benefits that knowledge management brings, but reflective review of the effect that knowledge management is having remains an important element of ensuring that its evolving design and implementation has the greatest impact possible.

Conclusion

Hopefully, this Paper has given you an introduction to the concept of Knowledge Management, explained its importance, and provided an overview of how it can be harnessed to support distance education. We leave the final word to Patrides and Nodine:

The power of knowledge management, particularly when compared to other change efforts, is that it maintains focus on people – on faculty, staff, and students – and their needs. There is no quick fix for managing knowledge in an organization. And there is no single system, no matter how complex and integrated, that can manage knowledge. In the final analysis, it is people who manage knowledge, and it is the role of organizations to promote policies and practices that help people want to share and manage knowledge effectively[4].

Footnotes

1. http://www.astd.org/astd/Resources/performance_improvement_community/Glossary.htm

2. HCI Journal, 2001. Knowledge Management Primer: Part 1 – Why?
<http://www.hci.com.au/hcisite3/journal/Knowledge%20Management%20primer%20part%201.htm>
3. Carroll, J.M. et al. Knowledge Management Support for Teachers. Unpublished Paper. p. 4-7.
4. Petrides, L. & Nodine, T. 2003. Knowledge Management in Education: Defining the Landscape. p. 18.

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