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Whose Knowledge? Whose Management? Cognitive Considerations for the Provision of Virtual Library Services to School Communities

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Participating in knowledge management requires school libraries and libraries that serve school communities to understand the cognitive aspects of knowledge acquisition and sharing, and the inadequacies of knowledge management initiatives driven by information technology. Discontinuities in the data-information-knowledge continuum make information fundamentally different from knowledge. Three knowledge principles are critical to successful design and delivery of virtual services, and a knowledge management approach may require reduction in the amount and speed of information the library delivers in order to convert knowledge to value/or the school. To manage knowledge effectively, we need to shift our focus to the social context and intentionally and carefully manage the tacit knowing of librarians.

Introduction

Librarians in school libraries, in common with librarians in all sectors of the profession, frequently claim that what they do in libraries is, and always has been, knowledge management. To the extent that the formal Collection Development Policy reflects the library's perception of the nature of the body of knowledge required by the library's users, the claim is not entirely fanciful. But the library does not manage this knowledge. At best, librarians can define their role only as participation in knowledge management; because knowledge is inextricably bound up with human cognition, and in order to optimize the delivery of virtual library services, we must critically examine the assumptions about knowledge management and the delivery of library and information services. People, and how they behave at work, are central to organizational effectiveness. Therefore, it is important to understand fully the cognitive aspects of how knowledge is acquired and shared in a school—from the perspective of a workplace as much as from the perspective of a learning environment—before deciding how to conduct knowledge management. In particular, it is necessary to redefine the purpose of the library. It is necessary to articulate that the library now has a role in information interpretation and organizational memory, in addition to its long-accepted roles of knowledge acquisition and information provision. It is also imperative to recognize that these latter roles needed to be enhanced and enriched.

Knowledge Management in Context

The 21st-century emphasis on quality of decision-making focuses on responsiveness through rapid reorganization in order to meet emerging requirements. Networking of organizations has led to widespread and rapid information creation and sharing, but this pervasiveness of computers has made it imperative for organizations to identify what is relevant, what is important, and what is effective (Murray, n.d.). However, there has also been a reduction in the amount of time available to experience and acquire knowledge. This, together with the loss of corporate memory within organizations, brought about by the downsizing of the last two decades of the 20th century, has led to a need to replace informal knowledge with formal methods of capturing what staff know (Barclay & Murray, 1997).

Core business drivers, however, remain immutable: What is the purpose of the organization (not just the school, but the school district, authority, or system of which it is part)? How does it gain a competitive edge? How does it deliver results? How does it cope with change? (Davidson, 1995). We are told that the goal of knowledge management is "to build and exploit intellectual capital effectively and gainfully"**(1)** (Simoes, 1998, cited in Wiig, 1999, p. 4). The context in which the management of knowledge occurs is structured and social (Thomas, Kellogg, & Erickson, 2001), yet much of the knowledge management literature is written from the point of view of maximizing the productivity of intangible assets.**(2)** This point of view ignores the need for accumulation of intellectual capital through the development of skills and competences, and increasingly, this aspect is often lost in information technology (IT) driven knowledge management initiatives. The need to manage knowledge has been used by information systems specialists to legitimize organizational change programs aimed at using IT to capture and codify knowledge (Scarborough & Swan, 2001). Because only certain limited forms of knowledge are codifiable and capable of being stored in machines (Gallupe, 2001), such an approach obscures the reality of IT: that it is only a tool with the capacity to enable a school library, for example, to deliver its services more rapidly and economically.

No library is completely independent. Its future is, therefore, inextricably linked with the success of its parent organization, success that is dependent on how the parent organization performs relative to competing organizations. Performance is determined by capabilities and core competences. Schools are not exempt. The quality of the competitiveness of the school, both as an organization and as a community of practice, depends on the quality of knowledge generation, sharing, and use in the school. In order to participate, the school library must interact both with the organization and the community of practice in which the school library is embedded. This is not a simple matter. Schools, it could be argued, are part of a larger organization (most schools are part of some sort of system) and internally embody two distinct, and different, communities of practice or domains of collective

action: the teaching (curriculum) community of practice, and the administrative community of practice. Individuals "draw distinctions in a collective domain of action, namely in a language-mediated domain of sustained interactions" (Tsoukas & Vladimirou, 2001 p. 978). Knowing how to act in a domain of action requires learning to make competent use of the categories and distinctions constituting that domain (Wenger, 1998).

From the organizational perspective, effectiveness is not the only driver for the present knowledge management focus. Although the effectiveness of how an organization's personnel behave is a prerequisite for success, such effectiveness is dependent on the delegation of intellectual tasks and authority to knowledgeable and empowered individuals. In this sense, knowledge management also represents an evolution of the move toward personal and intellectual freedom that started with the Age of Enlightenment (Wiig, 1999) and spawned the development of libraries as we know them. But knowledge management is also the latest in a succession of management fads. Most organizations implement knowledge management initiatives without ascertaining whether hard business reasons require them (Wiig, 1999). According to Savary (1999), the best knowledge management systems evolved naturally from the internal cultures and business processes of a few large accounting and consultancy companies. It is not clear whether these systems can be replicated. Ironically, it has been the pursuit of knowledge management as a consulting opportunity that is partly responsible for the growing attention to knowledge management (Murray, n.d.).

It may well be easier not to look too closely when wishing to keep up with the latest fashion, but lack of intellectual rigor can lead to misdirection and to a focus on knowledge management not as a means, but as an end. While having the capacity to deliver good results, knowledge management, in common with its predecessors, including benchmarking, business process reengineering, continuous improvement, culture change, management by objectives, outsourcing, partnering, strategic alliances, and total quality management, to name but a few, is prone to strategic groupthink. Whereas the availability of recipes and checklists for implementation of many of these earlier management strategies resulted in almost formulaic clarity for those who wished to emulate early adopters, by comparison, there is little clarity about the concept of knowledge management and its components. Despite apparently having a clearly understood objective—to capitalize on potential reuse of ideas contained in documents and to support recognition and capture of insights resulting from relationships among various information elements—knowledge management is as prone to be used as a panacea for uncertainty as were earlier strategies. When uncertainty is the motivation for adopting knowledge management, it signals a failure to recognize that uncertainty differs qualitatively from ambiguity. If we make more information available to more people, we may not resolve the problem of ambiguity. Rather, we may increase it (Swan & Scarbrough, 2001). Despite these

shortcomings, proponents of knowledge management suggest that knowledge management is not just another management fad, but will become established "as a new aspect of management and organization and as a new form of expertise" (Hull, 2000, cited in Alvesson & Karreman, 2001, p. 995).

Although most writers demonstrate some concern about the question of what knowledge is and how it differs from data and information, discussion in the literature quickly centers around the notion that knowledge is a valuable commodity in its own right, a commodity that can be abstracted, captured, shared, and managed (Swan & Scarbrough, 2001). It would appear that most organizations take it on faith that knowledge initiatives produce desirable results (Roberts, 2001). The logic seems to be "we don't know what knowledge is but it seems to solve problems in a functional way, so let's use it anyway" (Alvesson & Karreman, 2001, p. 999). This has led to widespread acceptance of what Swan and Scarbrough (2001), refer to as "the master syllogism of the knowledge management field" (p. 914). That is, "if knowledge is a critical resource and source of competitive advantage, then it must be managed more effectively" (p. 914). It has also led to mechanistic treatment of the concept of knowledge. Much of the literature fails to analyze this concept fully, is heavily biased toward technological solutions, and, therefore, glosses over both organizational context and the limitations of information technology (Scarbrough & Swan, 2001).

Knowledge and Organization

Tsoukas and Vladimirou (2001) argue that our difficulties with understanding organizational knowledge stem from a double failure: in order to understand the generation and utilization of knowledge, we need a theory of knowledge; and in order to understand organizational knowledge, we need a theory of organization. It is my contention that when delivering library services, including virtual services, we particularly need to understand both the personal nature of knowledge and the collective or group nature of knowledge in an organization, and in a community of practice, and how they differ. This is not a simple task, attested to by the lack of a precise and widely accepted definition of knowledge and the lack of exploration in knowledge management literature of the links between individual knowledge, organizational knowledge, and human actions carried out in organizational contexts. Although most people intuitively identify knowledge with individual knowledge, Polanyi's (1962) insight regarding the personal character thereof has largely been misunderstood to be viewing knowledge as in one sense tacit and in another sense explicit.⁽³⁾ But for Polanyi, knowledge was only ever tacit (Miller, n.d.). Once we attempt to make knowledge explicit, it reverts to information and once again requires human intervention for sense-making.

At first glance, Wittgenstein's (1958) claim that all knowledge is fundamentally collective would seem to be incompatible with Polanyi's (1962) view that all knowledge is personal. But these two views are not uneasy

bedfellows. Knowledge is not merely an object or artifact. It is also the outcome of people working together, sharing experiences, and constructing meaning out of what they do (Choo, 2000). On the other hand, how knowledge becomes an individual possession and how it is related to individual action is not obvious, nor is it clear in what sense knowledge is organizational (Tsoukas & Vladimirou, 2001). Individuals appropriate knowledge and expand their knowledge repertoires in a personal way. Knowledge in organizations evolves from different origins and is engaged in different ways. Indeed, there is empirical evidence that the nature and structure of knowledge in organizations differs from other forms of knowledge (Choo, 2000). In a school, one must add another aspect: personal knowledge contextualized in a community of practice. Unfortunately, here too there is lack of clarity about how contextual information might originate and apply in the minds of individuals.

The knowledge management literature, when examining the nature of knowledge, divides into two camps: those who subscribe to the assimilation of knowledge as a superior level of information in a value chain or continuum (the Davenportists) and those who subscribe to the assimilation of knowledge to the process of knowing (the Polyanyists).

The question of the nature of knowledge is interesting in itself, but we librarians need to ensure that our consideration of the nature of knowledge is approached from the point of view of how what we perceive as the nature of knowledge might shape the assumptions that underlie service design and delivery. In particular, care must be taken to identify and question assumptions about the extent to which knowledge can be captured and delivered via virtual library services, and to ensure that what we know about the cognitive characteristics and failings of the users of those services is preeminent in decision-making processes about delivery of library services.

"Knowledge access is only the beginning" (Davenport, 1998, section 8) is a critical knowledge management principle for virtual service design. Successful design and delivery of virtual services depends on the library understanding the intellectual or cognitive aspects of access. It is impossible to explore these fully without rigorous examination of the nature of knowledge. In particular, the meaning of and relationships between data, information, and knowledge require in-depth analysis, because the value chain view of knowledge is the approach most commonly used in library circles, arguably because it fits so well with collection development practices.

Knowledge Continuum

Conventional wisdom is that data, information, and knowledge are part of an interpretative hierarchy in which they lie along a linear continuum beginning with data (an interpretation of a physical environment), progressing to information (the result of interpreting data), which in turn progresses to knowledge (the result of interpreting information) and beyond. At the heart

of this is the idea that knowledge consists of separate little "factoids" (Thomas et al., 2001, p. 864) that can be accumulated, organized, interpreted, collected, stored, and shared.

Although data, information, and knowledge constitute the core of the value chain—and, many writers add, wisdom—some writers add other levels. Ackoff (cited in Bellinger, Castro, & Mills, n.d.) suggests that understanding lies between knowledge and wisdom. Bellinger et al. (n.d.), on the other hand, contend that understanding is not a separate phase. They argue that it is understanding that supports the transition from each stage to the next, and that one's progress is achieved along the continuum only as one's understanding develops. Barabba and Zaltman (1990) interpose intelligence (rules) between information and knowledge (which they interpret to be a combination of all the levels below, namely, data, information, and intelligence). Wiig (2002) adds signals (a term he does not explain but that I interpret to mean symbols) to the beginning of the continuum, so we end up with an enhanced emergent continuum:

- symbols;
- data;
- information;
- intelligence;
- knowledge;
- wisdom.

Figure 1 demonstrates Bellinger et al.'s (n.d.) belief that as partial understanding becomes more complete, one moves along the continuum towards the next phase.

Further, Bellinger et al. (n.d.) argue that although data is a discrete entity, the progression to information, to knowledge, and finally to wisdom does not represent discrete stages of development. Examination of the nature of these conceptual constructs and the processes that create them reveals discontinuities that make information fundamentally different from knowledge (Wiig, 2002). A collection of data is not information; a collection of information is not knowledge; a collection of knowledge is not wisdom; and a collection of wisdom is not truth (Fleming, n.d.).

Discontinuity between information and knowledge is caused by the way in which new knowledge is created from received information. The process is complex. For information to become knowledge, new insights must be internalized by establishing links with already existing knowledge. Prior knowledge is used to make sense of received information. New insights are then internalized by linking with prior knowledge. So new knowledge is as much a function of prior knowledge as it is of received inputs. This creates a discontinuity between the inputs and the new knowledge that results from those inputs (Wiig, 1999).

This characteristic of knowledge is demonstrated by the near impossibility of measuring a library's intellectual output. One of the difficulties of

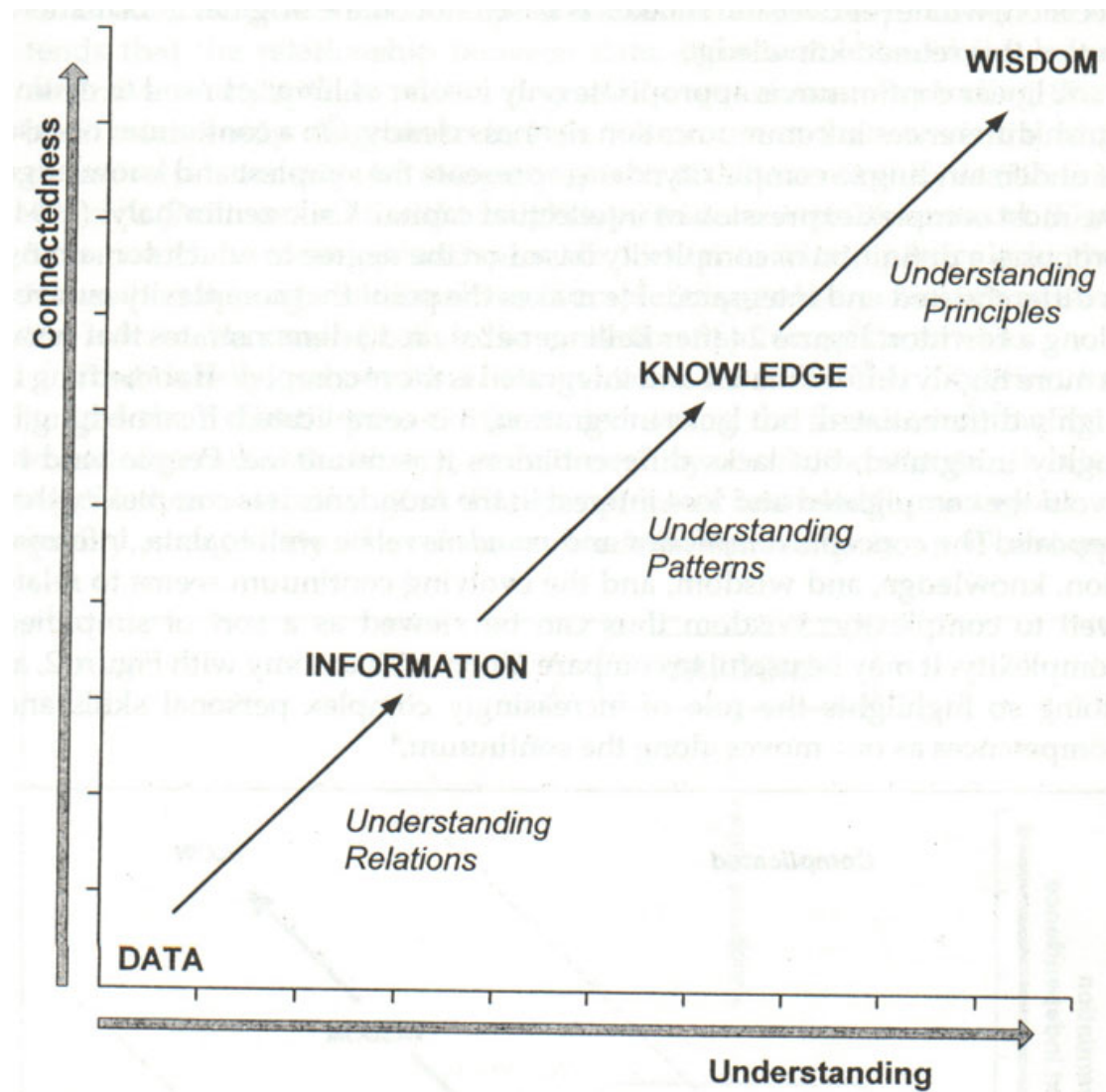


Figure 1. Data-knowledge continuum.

attempting to measure the value of a library is that the intellectual output of a library is wholly dependent on the proportionate intellectual input of the library user. For example/ the library acquires the published intellectual output of authors and publishers, but these are valueless without consensus as to their meaning. Such consensus implies both continued human interpretation and an identifiable loss of richness in the communication. Knowledge is highly personal and extremely difficult to transfer with richness as complete as the original holder of the knowledge understands it (Lee, 2000), so even if what the library provides is a document containing a record of an author's knowledge, what the user receives is information. The library might enhance the publication or information by organizing and possibly analyzing it. When the library provides the publication or information to a user, that user in turn adds value by evaluating the information presented in the context of his or her personal knowledge, experience, and judgment. When the user uses the information or publications, for example, to inform a

decision, whatever decision is taken is based not on the original information, but on this refined knowledge.

A linear continuum is appropriate only insofar as libraries need to distinguish differences in communication richness clearly. On a continuum of ease of understanding to complexity, data represents the simplest and knowledge the most complex expression of intellectual capital. Csikszentmihalyi (1994) proposes a definition of complexity based on the degree to which something is differentiated and integrated. He makes the point that complexity evolves along a corridor. Figure 2 (after Bellinger et al., n.d.) demonstrates that what is more highly differentiated and integrated is more complex. If something is highly differentiated, but lacks integration, it is complicated. If something is highly integrated, but lacks differentiation, it is mundane. People tend to avoid the complicated and lose interest in the mundane. It is complexity that appeals. The concepts *complicated* and *mundane* relate well to data, information, knowledge, and wisdom, and the evolving continuum seems to relate well to complexity. Wisdom thus can be viewed as a sort of simplified complexity. It may be useful to compare Bloom's Taxonomy with Figure 2, as doing so highlights the role of increasingly complex personal skills and competences as one moves along the continuum.(4)

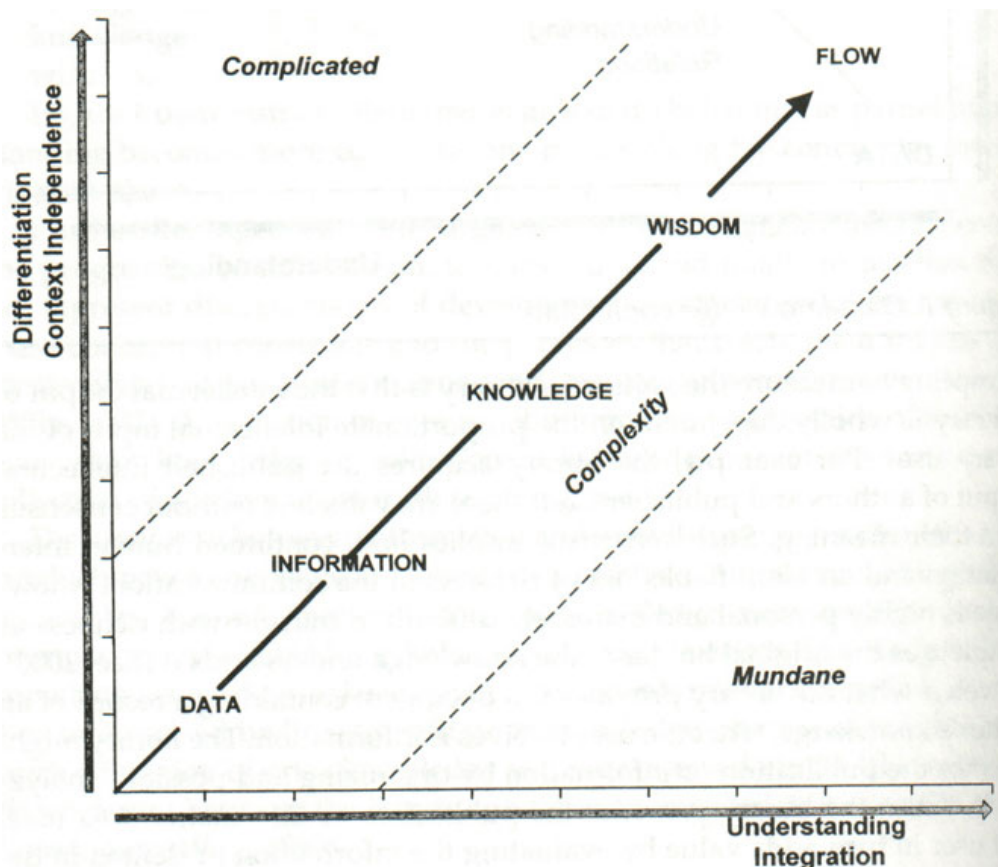


Figure 2. Relationship between data-knowledge continuum and complexity.

Bhatt (2001) takes the concept of a continuum one step further. He contends that the relationship between data, information, and knowledge is recursive and depends on the degree of organization. Expanding Bhatt's basic relationship diagram to include the processes that are central to this recursive relationship, by integrating with it Csikszentmihalyi's (1994) and Ackoff's (Bellinger et al., n.d.) insights, provides a useful framework (Figure 3) in which to develop and provide virtual services, particularly those focused on the organizational, for example, targeted services such as executive information and selective dissemination of information services.

Traditionally, school libraries, in common with other libraries, have judged their effectiveness on flows. Increasing the flow of information or knowledge out of the library, as evidenced by circulation statistics, has been regarded as a worthy goal. But the point of knowledge management is quality, not quantity. The reason we focus on knowledge is not to have more

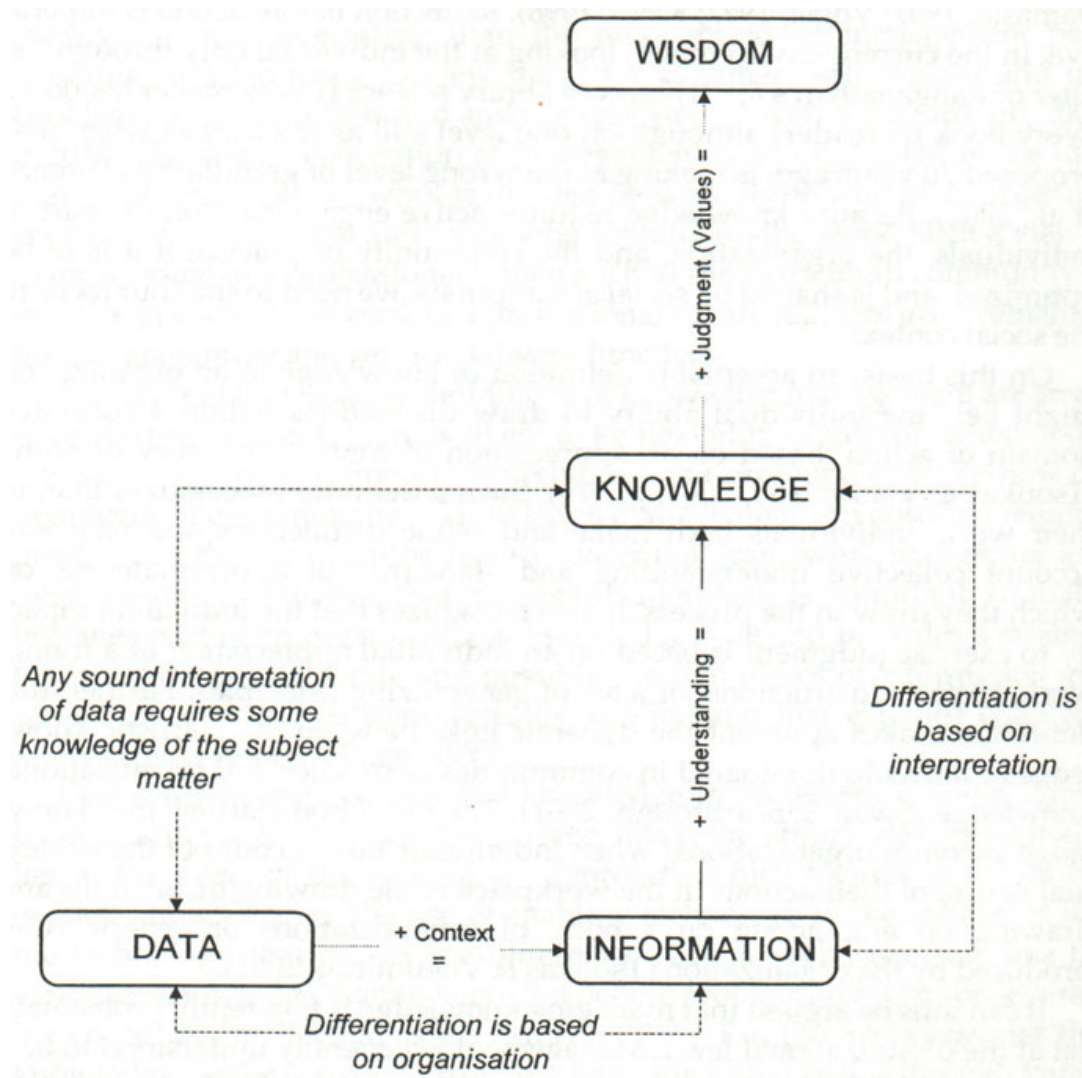


Figure 3. Recursive relationship between data, information, knowledge, and wisdom.

knowledge, better knowledge, or faster delivery of knowledge, but to create value. Increasing the level, rate, or quantity of knowledge flow in the organization does not ensure an accumulation of intellectual capital or an increase in the value of that intellectual capital. Libraries have to come to terms with the idea that converting knowledge to value might require that we reduce the amount and speed of the information that flows out of the library. The new mantra is: Get it out to precisely the people who need it rather than to as many people as possible. But talking about knowledge management solely as if it involves delivery of information to a person, or to a set of people, diminishes the potential role of the library. The cognitive processes used by people when they are retrieving unstructured information often differ markedly from the processes used by those who are responsible for putting the information away. In addition, contemporary understanding of decision-making is that most decisions are made based on intuition rather than on deliberate and systematic reasoning (Bechara, Damasio, Tranel, & Damasio, 1997; Vogel, 1997; Klein, 1998). Reflection before action is imperative. In the current environment, looking at the individual only through the filter of Ranganathan's (1931) laws of library science (Every reader his book; Every book its reader) although on one level still as relevant as when first proposed 70 years ago, is looking at the wrong level of granularity (Thomas et al., 2001). Because knowledge requires active engagement on the part of individuals, the organization, and the community of practice if it is to be optimized, and is shaped by social assumptions, we need to shift our focus to the social context.

On this basis, an acceptable definition of knowledge in an organization might be: "the individual ability to draw distinctions within a collective domain of action, based on an appreciation of context or theory or both" (Tsoukas & Vladimirou, 2001, p. 979). Such a definition recognizes that, in their work, individuals both make and refine distinctions and take into account collective understanding and standards of appropriateness on which they draw in the process. It also recognizes that the individual capacity to exercise judgment is based on an individual appreciation of a framework, abstract instructions, or a set of generalizing principles. Further, this definition makes apparent the dynamic links between the heuristic knowledge of individuals situated in communities of practice and organizational knowledge (Swan & Scarbrough, 2001). The definition clarifies that knowledge becomes organizational when individuals take account of the contextual nature of their actions in the workplace while drawing distinctions and drawing on and acting on a body of generalizations or generic rules produced by the organization (Tsoukas & Vladimirou, 2001).

It can thus be argued that managing knowledge is inherently problematical at the organizational level. Management is generally understood to be a process, established and carried out in organizations for the purpose of achieving results. When management is applied to the fuzzy concept of

knowledge, the resulting term *knowledge management* becomes a source of confusion (Godbout, 1996). Part of this confusion results from the social reality. Knowable objects exist only as knowing subjects (people). Clearly, knowledge is a dynamic phenomenon that is difficult to understand fully because it is both ambiguous and unspecific. Wiig (1999) has succinctly summarized how our lack of understanding compromises our attempts to manage knowledge:

We do not understand much about knowledge. Our understanding of the cognitive aspects of human functions (as related to decision making and knowledge-intensive work) is marginal. There is not an accepted economic "theory of knowledge" that is applicable to business or daily life. We do not have a general understanding of how to undertake comprehensive and systematic knowledge management within an organization, (p. 20)

One of the reasons for this lack of general understanding may be that the knowledge part of the concept of knowledge management, due to its complexity, is more interesting than the more mundane management part, resulting in a tendency to view the latter as either "self-evident and unproblematic or ... black-boxed and unexplicated" (Swan & Scarbrough, 2001, p. 919). The classic conception of management is an expression of the idea that in an organization, work is divided between those who plan, organize, coordinate, and control and those who actually do the work. Such a view is inappropriate in a professional milieu such as the curriculum community of practice in a school, as work of a professional nature requires involvement in both management and service delivery functions.

It is evident that because definitions of knowledge management are largely context-dependent, there is likely to be flexibility of interpretation about what it is. An organization's interpretation has a profound effect on how the organization operationalizes knowledge management. An absolute requirement is that the organization have a conceptual framework to organize and integrate the information that the organization feels is important, so that it becomes part of an organizational knowledge base and provides a strategy for transforming disparate and possibly random pieces of information into something that can be systematically applied and that expands collective knowledge (Frاند & Hixon, 1999).

One can take the position that knowledge management is about knowledge sharing and reuse. On the surface, this is the library view—but it also lies at the heart of the technology approach, which focuses on capturing explicit knowledge by the use of enabling technology in the belief that it is the technology that makes the difference. Alternatively, one can take the view that knowledge management is a people problem and focus on leveraging corporate intellectual assets (Murray, n.d.). But this view assumes that knowledge can be separated from the knowing individual. Although knowledge management can be addressed at either a technological level or at a philosophical level (Davenport, 1998), in practical terms, the question we

should be asking is: What are we managing? Is it the object of knowledge, the process of knowing/ or a combination of the two? (Godbout, 1996). A third view is that of a growing number of writers, such as Larry Prusak (cited in Fraud & Hixon, 1999), who acknowledges that it is not really possible to manage knowledge. Prusak notes that an organization can "manage the environment that optimizes knowledge" (p. 23). It is perfectly reasonable, when trying to manage the environment, to use knowledge management principles, as these ensure that issues are addressed at a high level.

Despite the impediments to realizing the promise of knowledge management, knowledge management is an extremely important part of the wider information environment in which every library operates. A wider information environment has eight major characteristics:

1. a visible shift in the management view of the nature of organizational activities, which is moving away from emphasis on function to emphasis on activities that are occurring as cross-functional processes;
2. team-based work;
3. customer focus;
4. knowledge-based organization;
5. learning organization;
6. knowledge management (which brings together the key aspects of 1-5, as demonstrated in Figure 4);
7. the networked organization;
8. the extended enterprise.

In face-to-face librarianship, librarians have traditionally been good at negotiating the reference question. In other words, by instinct, good librarians take into account the specific needs of the individual user. To achieve this requires working with the user to ensure that his or her information need is contextualized. The process requires that librarians take an active and constructivist role in the negotiation, using knowledge about the context and the library user to ensure that the information provided, when interpreted by the library user, will have the desired effect. These skills must be consciously translated into the virtual environment. To accomplish this task, libraries need to construct hybrid knowledge management environments in which we use both humans and computers in complementary ways. "Technology and librarians" writes journalist Leigh Buchanan (1999), "are the yin and yang of information management" (p. 3).

Two further knowledge management principles are germane to delivering virtual services, because they emphasize that good outcomes for the user require more than the library delivering appropriate information: to achieve good outcomes requires that the user must engage with and learn from the information the library delivers.

The first of these principles is "Knowledge management benefits more from maps than models, more from markets than hierarchies" (Davenport, 1998, section 5). Although it may seem logical that libraries would try to

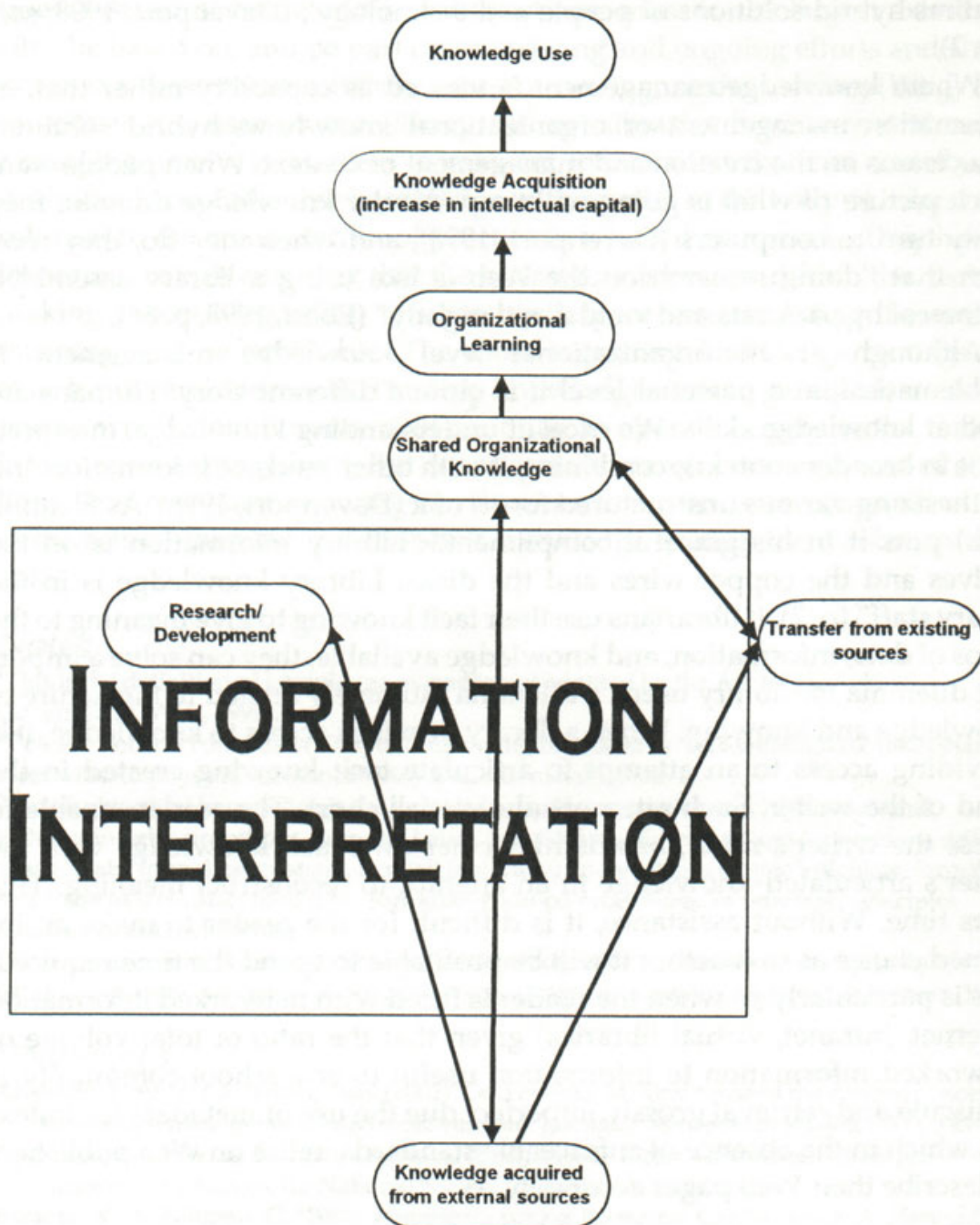


Figure 4. Knowledge management processes.

manage knowledge offered through virtual services by creating a hierarchical architecture similar to a classification scheme, most appear to have responded to market forces to shape their services to their target market and have provided and mapped the knowledge that the library's users seem to want and that the community of practice needs to achieve its goals. As Davenport (1998) suggests, such an approach is more helpful to a user than a hypothetical knowledge model that is fully understood only by its creators.

The second of these is possibly, in the long term, the most important of the three principles cited in this article: "Effective management of knowledge

requires hybrid solutions of people and technology" (Davenport, 1998, section 2).

Where knowledge management is viewed as capability rather than as information management or organizational know-how, hybrid solutions focus teams on the creation and management of context. When people want a rich picture of what is going on in a particular knowledge domain, they rarely turn to computers (Davenport, 1998), and when they do, they soon learn that "doing research on the Web is like using a library assembled piecemeal by pack rats and vandalized nightly" (Ebert, 1998, p. 66).

Although at an organizational level knowledge management is problematical, at a personal level it is quite a different story. Humans are good at knowledge skills. We excel at understanding knowledge, interpreting it in broader contexts, combining it with other kinds of information and synthesizing various unstructured forms of it (Davenport, 1998). As Fleming (n.d.) puts it in his graceful compliment, "Library information is on the shelves and the copper wires and the disks. Library knowledge is in the library staff" (p. 2). If librarians use their tacit knowing to give meaning to the chaos of data, information, and knowledge available, they can solve a important dilemma for library users, a dilemma intimately related to the nature of knowledge and knowing. When a library provides access to knowledge, it is providing access to an attempt to articulate tacit knowing created in the mind of the writer. Such attempts always fall short. The reader, unable to access the writer's mind, blends his or her own tacit knowledge with the writer's articulated knowledge in an attempt to reconstruct meaning. This takes time. Without assistance, it is difficult for the reader to make an informed choice as to whether it will be profitable to spend the time required. This is particularly so when the reader is faced with networked information (Internet, intranet, virtual libraries) given that the ratio of total volume of networked information to information useful to any school community is miniscule and retrieval grossly imperfect due the use of metadata for indexing, which in the absence of enforceable standards, relies on Web publishers to describe their Web pages accurately.

Knowledge Management and Virtual Services

In the final analysis, the question of knowledge management and the provision of virtual services comes down to a few simple requirements. Knowledge has two basic definitions of interest. The first pertains to a defined body of information. The library needs to play an active part in the process of defining the body of information that is relevant to the organization for the purpose of meeting its goals. The second refers to a person's state of being with respect to some body of information (Nickols, n.d., cited in Barclay & Murray, 1997, What is knowledge sect., p. 2), along a genuine continuum from ignorance to expertise. Ranganathan's (1931) fourth law is "Save the time of the reader." Knowledge management activities and initiatives,

instead of being additional functions, must to the largest extent possible be based on, and be part of, pre-existing and ongoing efforts and should not make these more difficult, time-consuming, or demanding (Wiig, 1999) for either the user or the library. School libraries have a central role in managing networked access to relevant information that can contribute to individual and collective knowledge with respect to the body of information relevant to the communities of practice in which they operate. They have an important role in ensuring that the guesswork is removed from the decision-making process regarding whether time spent reconstructing the author's meaning will be profitable. The most important knowledge management task, however, is personal. The only knowledge one can genuinely manage is one's own. School libraries will continue to operate largely in the realm of information management, but conscious and careful management of school librarians' own tacit knowing can do more to improve the competitive edge of the school than any off-the-shelf knowledge management solution available.

Notes

- (1) This is the definition of knowledge management adopted by the Australian Federal Government (Wiig, 1999).
- (2) Deloitte Touche Tohmatsu (2002) defines intangible assets as "an identifiable nonmonetary asset without physical substance" (Key Definition, sect., para. 1).
- (3) Tacit (subjective) knowledge is the knowledge built on experience. It is highly personal, includes insights, intuitions, personal belief, perspective, and values, and is, therefore, difficult to articulate, formalize, or share. Explicit (objective) knowledge is easy to articulate, formalize, and share as it consists of hard data, formulae, codified procedures, or universal principles (Nonaka & Takeuchi, 1995).
- (4) Bloom's taxonomy is a classification of levels of cognitive activities: knowledge (recall of data); comprehension; application; analysis; synthesis; evaluation (Anderson & Sosniak, 1994).

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