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## Knowledge Management and the Learning College

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Society today is facing unprecedented challenges. Organizations are facing internal and external pressures from globalization, changing technologies, reassessment of mission and values, changing demographics and competition. Such pressures are indicative of a transformation from an Industrial Society to a Knowledge Society. "In today's world, knowledge has become the coin of the realm, determining the wealth of nations. One's education, knowledge, and skills have become primary determinants of one's personal standard of living, the quality of one's life. We are at the dawn of an Age of Knowledge, in which intellectual capital-brainpower-is replacing financial and physical capital; the key to our strength, prosperity, and well-being" (Duderstadt, 1999, p. 39).

Organizations can maximize their ability to adapt to rapidly changing environments by implementing knowledge management systems that encourages information sharing, efficient access and flow, and conversion of the organization's tacit knowledge to explicit knowledge in a form that is easier to share and learn. A true learning college must have systems to effectively document what is learned.

What are the characteristics of such a college? First, the college needs to develop structures and strategies for managing information, including the "politics" of information. Second, ongoing internal and external environmental scanning is needed to help the institution gauge organizational culture and the competitive marketplace. These requirements must be met in both formal and informal ways: formal, in the sense that a strong institutional research office must be developed; informal, in that managers and leaders constantly meet these needs on a daily basis. Finally, the systems must be developed by and for

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the college's most valuable resource: its people. Organizational learning creates a situation in which the goals of the organization can be cultivated alongside an individual's goals. Thus, "people are important to the learning process, but organizational learning cannot be reduced to individual learning" (Petrides, 2002, p. 70). Teams should be involved in the design and development of systems and feedback should be solicited to improve.

Parkland College began the process of becoming a knowledge-based organization when Dr. Zelema Harris became president in 1990. With a background in institutional research, Dr. Harris' vision has always been data-driven decision making. In her tenure, the office of institutional research has become an antecedent to strategy. A spirit of collaboration has resulted in consensus-driven development of data management systems to enhance service.

In 1991, Parkland College began using an institutional planning process consisting of three components: strategic planning, operational planning and budget planning. As a comprehensive community college, Parkland aims to provide programs and services of high quality and is committed to continuously improving them. To this end, the planning process begins with the mission and purposes to provide a strategic plan defining operational structures in its human, physical, financial resources at all levels of the college. Through continuous environmental scanning of both internal and external information, the planning process uses data-based projections and knowledge regarding the impact of known future events to anticipate opportunities and threats that will require responses. Input from faculty, staff, community leaders, and organizations helps adjust Parkland's Strategic Plan biennially to ensure that

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the institution remains dynamic and responsive.

The Operational Plan is the key feature for helping prioritize, document, and review specific activities taken by departments and units to meet the goals of the Strategic Plan. Each fall, the College's Operational Plan for the next fiscal year is built through submission of "action plans" from administrators, faculty and staff. The action plans include budget estimates that aid in the building of the budget and staffing plans. Periodically, the action plans are updated to indicate completion, continuation or no implementation along with any costs incurred.

The load of information that is generated and reviewed in this process can be quite daunting. To ease the process of monitoring and maintaining over 600 paper forms annually, plus several summary reports, a team of Parkland staff envisioned a system of tracking and reporting that would eliminate the need for paper forms, allow for continual updating with periodic snapshots, and make more explicit the link between strategy, operations, and budget. In addition, a web-accessible database was created to collect and maintain these action plans. The originators of the action plans are those most impacted, but the plans can be reviewed and approved by other faculty, department chairs and administrators. Supervisors select some as College-wide plans. Each action plan is explicitly linked to a strategic plan goal and performance indicator costs and source of funds are also listed. Each action plan can be tracked in terms of its status and can be updated by the originator at any time. Action plans currently in the database rollover to the next planning cycle simply

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by setting a flag. In the paper system, the plan had to be re-typed and re-filed, wasting time and resources.

The database is used to conduct a wide array of analyses and reports that were impractical to do with the paper system. Action plans can be sorted by the linked strategic goal, level of completion, budget level, or source of external funds. Updates can be summarized easily to create snapshots of progress. The results of these analyses and reports are fed back into the process each year as indicators of success and to highlight areas of improvement.

Another area in which Parkland has developed a knowledge management system is course and program information. Parkland, and all other Illinois community colleges, is required to submit course information forms (CIFs) to the Illinois Community College Board and the Illinois Articulation Initiative in order to ensure articulation and conformance with state policies. Parkland has always used a prescribed format, which initially was achieved via standard word processing procedures. In 1998, the information was migrated to a *Filemaker Pro* database to ease changes and allow view-only Web access. In 1999, the database was transferred to a customized *ColdFusion* database that allows Web viewing and editing, tracking features, and export in the prescribed format. Today, individual departments can make changes to CIFs for courses they coordinate, department chairs can review and approve, and the entire college may view at any time. Additionally, the relational database is being coupled to program pages to automatically update program requirements as individual courses are changed. Not only will

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this allow for easy updating of the College Catalog, but also administrators and department chairs will be able to review program changes and all courses affected by those changes in one function.

Finally, Parkland College has created knowledge management systems for student support functions. The admissions office had begun a process of automating both records management and registration, initially using a voice response system. In 1995 using voice response technology, students were able to register, pay their bills and access their grades using the Parkland Connection. This system was developed by a team of individuals representing several offices on campus with the idea of providing quality service to students in a more efficient and effective manner.

The evolution of the Internet has provided a new avenue to allow students, faculty and staff access to information, as well as provide a new way to conduct course management and administrative functions internal to the college. To meet the needs of all of these constituents, the college again turned to a team approach to develop an integrated system to move many of the functions formally available over the telephone system to the Internet while expanding functions for both students and faculty. After evaluation of the systems that were available to provide these services, the team made the decision to develop an in-house product, "Your Parkland Connection Online ", rather than purchase a vendor supplied solution. The team felt that by developing a system we could assure that we were meeting the needs of our students and faculty, and we would be able to develop complementary systems

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more easily. YPCO was a client-based system that required students to download software for use.

In 2000, Parkland's Department of Distance and Virtual Learning (now associated with the Center for Excellence in Teaching and Learning) completed a prototype academic portal called Online Resources for Classroom Activities (ORCA). ORCA was intended to provide online students with a platform independent way to access due dates, course information, communication tools, a customizable workspace, and to an online peer tutoring system developed in-house (now known as IVCTutor and managed by Illinois Virtual Campus). The system used daily mainframe extracts and required great integration and cooperation between Distance and Virtual Learning and Campus Technologies.

Based on the feedback of faculty, staff, and students, the academic knowledge based systems and student support systems merged in the form of Parkland Connection in 2001. Parkland Connection adds functionality, security, and ease of use because it is entirely web-based. In addition to the normal functions of course availability, registration, grades, bill payment and financial aid status review, new student modules for personal calendar, schedule generator and enhanced search capabilities for courses has been added. We have also been able to add functionality for faculty through the addition of a course management system that allows faculty members to view class rosters, communicate with students via e-mail, enter grades online and monitor enrollments in their section. The college continues to develop additional capabilities of the system, such as electronic signatures, always using the feedback received from the users to drive the development.

Utilization of the system continues to increase, as does the level of satisfaction

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of those who use it. The goal continues to be to meet the needs of all of our constituents by providing them with the best quality service and information possible, while maximizing use of our resources.

In today's constantly changing environment, successful organizations are those that are "structured to learn new ways of doing things and to be creative in the way they solve problems..." (Garvey and Williamson 2002, p. 19).

Through teamwork, creativity, and problem-solving, Parkland has successfully implemented information systems in its planning process, serving students and faculty in teaching and learning, and supporting students in the admissions and billing processes. We are now engaged in a process of more tightly integrating our systems and envisioning new and better ways to bring information to, and feedback from, students and staff. Knowledge does not consist of information alone, however, but the use of information to meet both everyday and strategic needs. Our challenge, like any learning college, is to continue to create and modify systems that help individuals do their jobs better and meet students needs more effectively. The systems we have described here have been designed to meet just that challenge. As a knowledge-based learning college, we can do no less.

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