

## **Hawaii International Conference on Education**

Title of the Submission:

**Learning Linking & Leveraging Knowledge to Support School Staff**

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Abstract:

School administrators, teachers and support staffs are overwhelmed with programs, information and regulatory requirements. The amount of general knowledge they need to do their jobs is mind boggling. The challenge then lies in bringing together what the people do with the knowledge they need to do the work. How successful a school's staff is with learning linking and leveraging knowledge in their work will impact how successful they are in educating their students.

This article introduces Knowledge Management as a discipline that can aid school staffs blend together people and information to improve performance. It identifies basic concepts and offers a systems approach for optimally sharing knowledge.

## **Learning Linking and Leveraging Knowledge to Support School Staffs**

Learning linking and leveraging knowledge is about blending people with the information they need to improve what they do.

School administrators, teachers and support staffs are expected to cope with numerous programs and regulatory requirements. This is in addition to the mind-boggling amount of general knowledge needed to do their jobs. The challenge then lies in bringing together process, what people do, with the knowledge necessary to do the work. How successful a school's staff is with learning linking and leveraging knowledge will impact how successful they are in educating their students.

Every organization has a body of knowledge that its staff must possess. Relevant questions include:

- What knowledge is needed to run the organization?
- Who needs to know it?
- When do they need the information?
- Where do you find what you need to know?

In bringing together people and information we first need to explore two key concepts. The first is E-Learning, the process by which people use the Internet to acquire new skills or knowledge for the purpose of enhancing their performance. The second is Knowledge Management. Knowledge Management (KM), as defined by the Federal Chief Information Officers' Knowledge Management Working Group, is "a conscious strategy of getting the right knowledge to the right people at the right time and helping people share and put information into action that will improve organizational performance."

The essential goal of E-Learning and KM is improving performance. However improving performance is a collaborative process. It needs people to willingly share what they know with others. Yet as noted author Peter Senge states, "Sharing knowledge occurs when people are genuinely interested in helping one another develop new capacities for action; it is about creating learning processes."

So what is so great about Knowledge Management and E-Learning? To appreciate their value lets first look at the impediments facing school personnel:

- Too much to do and not enough time to do it.
- Too much to know.
- Extensive state regulatory requirements.
- Systems for knowledge dissemination are lacking.
- Too much tacit knowledge is walking out the door with retired teachers.

To further comprehend the magnitude of the information explosion envision the knowledge requirements associated with operating a school.

The body of knowledge associated with running a school encompasses the following components.

- Academic Instruction
- Staffing
- School Improvement
- State Accreditation
- Health & Safety
- Physical Environment
- Food Service & Nutrition
- Community & Parent Relations
- Child with Special Needs

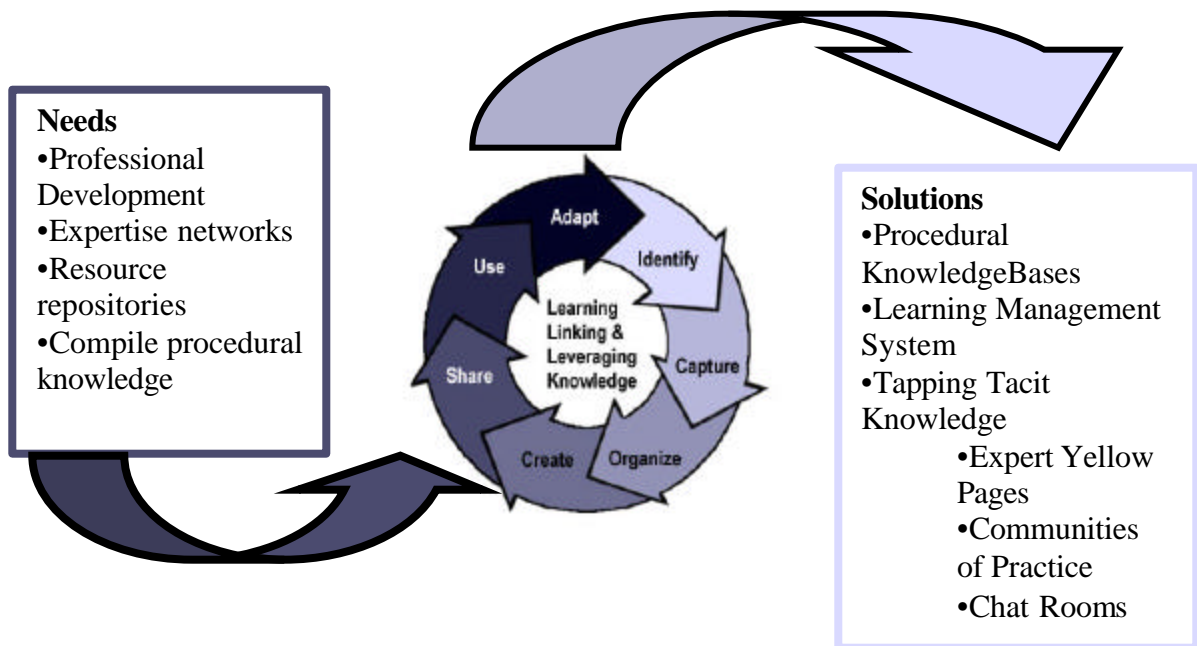
Within each of these components there are subsets of knowledge required to effectively run a school. The body of knowledge is extensive yet the building principal is expected to know all and be all to everyone. Likewise, teachers and support staffs are expected to know just as much. A daunting task!

The single greatest source of an organization's know-how is its people. Therefore, Knowledge Management focuses on Knowledge Flow (People to People), rather than just knowledge content.

What is Knowledge Management's value to educators? It is three fold.

- KM enables school staff to collaborate with others to improve performance.
- KM gives building administrators the tools to know who knows what within their building and school district.
- KM provides an opportunity for sharing and creating knowledge through communities of practice.

Knowledge Management is driven by work processes and enabled by technology. Its essence is "Learning Linking and Leveraging Knowledge." Through KM, organizations can address their knowledge needs through a structured process achieving technology-enabled solutions. The following graphic illustrates how Learning Linking Leveraging Knowledge brings solutions to needs.



Internet access in America's schools continues to increase according to the U.S. Department of Education's National Center for Education Statistics in their report Internet Access in U.S. Public Schools and Classrooms: 1994-2001. In particular the report noted that in 2001 75% of public schools had a web site. While commendable, the question remains as to how effective these web sites are in sharing information and how often were they accessed? Secondly, though educators are applying Internet technology towards instruction how effective have efforts been with applying it to school administration?

Applying the discipline of Knowledge Management enables educators to envision a new approach to blending theory with practice and delivering the right information at the right time to the right people.

Imagine a system that blends together information with instruction. It will be a process by which people acquire new skills or knowledge for the purpose of enhancing their performance. The envisioned E-Learning system has three components: a Knowledge Management System, a Learning Management System, and supporting procedural KnowledgeBases.

- The **Knowledge Management System** facilitates getting the right information to the right people at the right time. Knowledge focused web sites bring together structured information, expert locator systems, communities of practice, KnowledgeBases and the Learning Management System.
- The **Learning Management System** is an integrated web-based learning portal that:

- Facilitates logical and engaging delivery of training and information
  - Supplies knowledge links to supporting documentation
  - Incorporates interactive instructor involvement
  - Offers a robust management/student tracking system
  - Automates administrative functions
  - Opens vital communication channels
  - Provides return on investment metrics.
- **Procedural KnowledgeBases** organize supporting information into dynamic structures for use in performing tasks. Built around a structured process they blend theory with practice while bringing together the "what must be done" with the knowledge needed to do it.

Developing such an E-Learning system is an evolutionary process. Northrop Grumman Information Technology as a partner with the U.S. Department of Education's Region VII Comprehensive Assistance Center at the University of Oklahoma is assisting with such a process. The initial work addressed a need that Nebraska Department of Education had with supporting school districts develop English as a Second Language Programs in response to a growing Hispanic population in several areas of the state.

As new meatpacking plants brought work opportunities to rural Nebraska, the state experienced a sudden influx of immigrant families. The result was school districts that formerly served relatively homogenous, English-speaking populations now had an influx of children with a limited proficiency in speaking or writing in the English language. School administrators now needed to learn how to work with bilingualism effectively and comply with applicable Federal legislation and regulations.

The Nebraska Department of Education was struggling with how to effectively support their school districts in meeting this challenge. Nancy Rowch, director for Nebraska's English as a Second Language (ESL) programs, said those schools needed accurate and timely information to help them comply with Federal legislation, including Title VI of the Civil Rights Act and Title VII of the Improving America's Schools Act (IASA).

Traditional methods of information dissemination such as workshops and conference presentations have a built in limitation on the size of the audience. Cost and time considerations also limit the number of practitioners who can benefit. Paper reports and publications become out of date too soon wasting precious resources on materials that have become unusable.

The solution offered was to present the information via the internet making it available 24 hours a day 7 days a week year round.

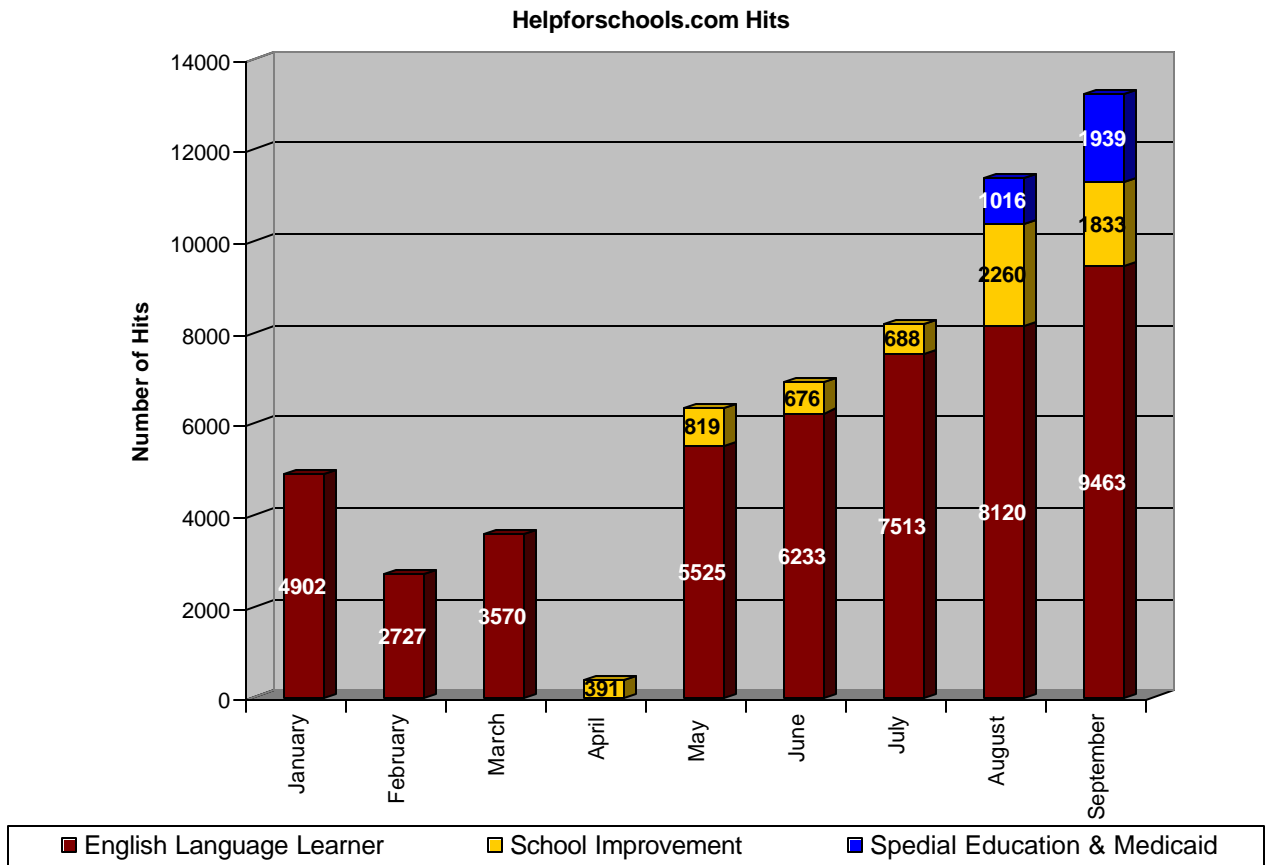
As the content of the Nebraska Limited English Proficient (LEP) KnowledgeBase became more robust a plan was initiated to scale up the Nebraska LEP KnowledgeBase to one with a regional focus supporting all the states served by the Region VII Comprehensive Assistance Center (Illinois, Indiana, Kansas, Missouri, Nebraska, &

Oklahoma). It then became known as the English Language Learner (ELL) KnowledgeBase.

The foundation of the E Learning system currently lies with the KnowledgeBases that address Developing and Administering English Language Learner programs, School Improvement and Special Education and Medicaid. They are accessible at [www.helpforschools.com](http://www.helpforschools.com).

The continuing aim is to develop a suite of E Learning tools that support school administrators in addressing the challenges of running a school today.

So has what have been the results to date? Through a structured promotional effort awareness of the KnowledgeBases has grown steadily as illustrated in the following graph.



\* April Numbers for ELL KnowledgeBase were compromised due to site reformat project.

\*\* Tracking of the School Improvement KnowledgeBase began in April of this year.

\*\*\* The Special Education & Medicaid KnowledgeBase was introduced in mid-August.

Feedback from KnowledgeBase users has been very positive as well.

A Learning Management System (LMS) is an integral part of an E-Learning System. An LMS provides the capability to manage online courseware. Typical features include student registrations, tracking, progress reports, completion status, and evaluation results. Key metrics associated with an LMS is whether people are using it and are satisfied with this form of instruction.

The Northrop Grumman Virtual Schoolhouse™ was developed and installed for the Air Force Institute of Technology (AFIT). It has achieved strong results regarding satisfaction and use. Since its inception in 1996, learner satisfaction ratings have been within the top 15 percentile. Over the same five-year period the student completion rate has grown to 74% compared to an industry standard of 20%. The cost per student has dropped from \$500 to \$200 since 1996.

What are the benefits to be gained from an E-Learning system? They include:

- Lower operating costs.
- Enhanced organizational responsiveness.
- Messages are consistent or customized, depending on need.
- Content is more timely and dependable.
- Learning is available 24/7.
- As an Internet based tools, system learning curves are minimized.
- Builds community.
- User costs decrease as more people utilize the E-Learning system.
- Leverages the corporate investment in the web.
- A knowledgeable work force leads to improved performance.

What can we expect from an E-Learning system? The twin outcomes will be an improved school and students developing their learning capacities. An ELearning system blends what people do with the information they need to do their work. It is the fulfillment of the promise of the Internet.

*This paper was authored by Art Gross, Manager Business Process Analysis, Northrop Grumman Information Technology.*