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Nuclear Regulatory Commission

Learning Management System Launch and Operation

A Best Practices Case Study

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NRC Launch and Operation of a
Learning Management System
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Overview

This paper describes how the Nuclear Regulatory Commission achieved high levels of end user satisfaction with their Learning Management System (LMS), while vastly improving their return on investment. Typically, customer satisfaction with LMS and talent management systems is very low (see Figure 1.) However, in a few short months, the NRC was able to achieve significant improvements in satisfaction, and has set the stage to achieve much higher levels of satisfaction in the future, and greater use of their LMS/talent management system.

Over the past couple years the NRC has experienced major changes in its mission requirements, resulting in dramatic new demands on learning and development. To meet this challenge the NRC drastically improved the delivery of training and development services by repositioning and upgrading its Plateau LMS and related learning processes. This has resulted in a **112% improvement in LMS customer satisfaction key indicators** with the LMS and related services and achieved a **$2.2M annual savings in FTE hours by improving operational efficiency**, with an **ROI of 470%** when compared to the improvement costs. This was accomplished by applying the principals of strong customer focus, systematic communications, best practices in LMS implementation planning, business process reengineering, improving help services and right sizing staff support.

Figure 1 -NRC Satisfaction Compared to Average Satisfaction Rates with LMS and TM Systems

About the NRC

The U.S. Nuclear Regulatory Commission (NRC) is responsible for regulating domestic activities related to radiation protection and nuclear safety for nuclear facilities and for promoting the common defense and security related to uses of radioactive materials. The NRC also licenses the import and export of radioactive materials, participates in international nuclear activities, including multilateral and bilateral safety and security activities, and works closely with its international counterparts to enhance nuclear safety and security worldwide.

For the last four years, the NRC was ranked by its employees as the number one place to work in government. By way of background, all Federal agencies are required to annually survey their employees to measure employee satisfaction and agency performance using a standardized survey tool provided by the US Office of Personnel Management (OPM). The NRC uses this information to identify and improve programs and processes that are important to employees, as well as to assess the effectiveness of its leadership and management practices.
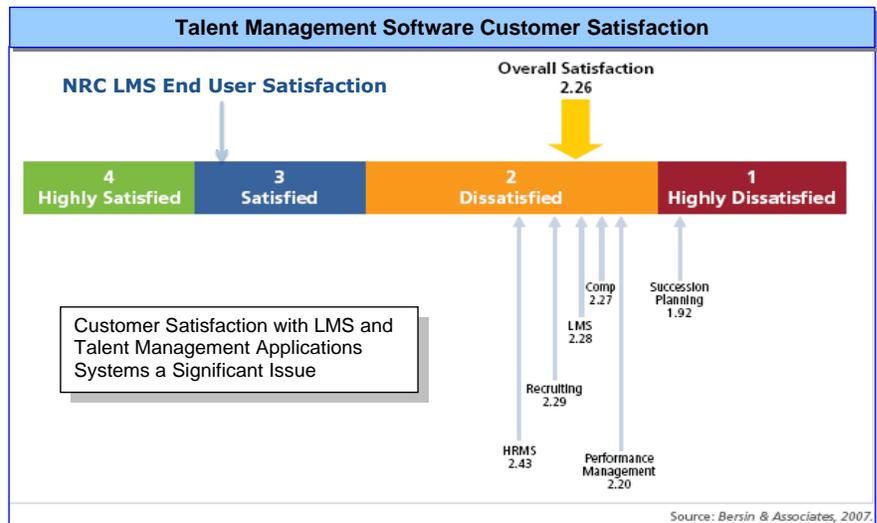
Significantly, the NRC ranked highest in 12 of the 13 dimensions of organizational performance, including Training and Development. Therefore, the expectations for service excellence for the Plateau LMS (which is referred to as iLearn) are extremely high. This write up describes how the NRC met and exceeded these expectations with the launch of the LMS.

Challenges

Recently the NRC faced new and challenging mission requirements caused by the dramatic increase in activity associated with new nuclear plant construction. This required hiring record numbers of new employees and deploying new training programs, resulting in a 100% increase in NRC-provided annual training offerings. Additionally, NRC leadership maintains a culture of high performance expectations, especially regarding employee learning and development. The NRC has been recognized as *the* best place to work in government by OPM's Federal HC Survey Program; however, a survey of end user satisfaction with the LMS and related services indicated significant room for improvement. Therefore, these factors combined to highlight the need for substantial enhancement of the end user, manager and training coordinator experience with the LMS. The NRC determined the best way to enhance the LMS services was to completely re-launch the LMS while upgrading the system capabilities and reengineering the supporting processes and services.

Figure 2 OPM's Federal HC Survey Results for NRC

Based on feedback from a number of LMS customer listening posts, the NRC determined the following were the top LMS improvements to be addressed, in order of priority:

- Improve the overall ease of navigating the LMS site, finding and registering for courses
- Resolve technical issues impacting the accuracy of recording progress and completion of on-line courses
- Improve help services
- Document and improve overall LMS processes and procedures, including improving the LMS notifications
- Improve the level of service provided by LMS administrator services

Keys to Success – The Approach

The key elements of the implementation and improvement initiative which contributed directly to the highly successful launching of NRC's Plateau based iLearn LMS are outlined below. Plateau personnel provided significant support in developing and executing the implementation plan.

Strong Customer Focus and Relationship Management

The following outlines the NRC's customer focus method used to achieve high levels of satisfaction:

- ***Identified key customer groups and most important LMS customer satisfiers***
  The NRC identified each of the key customer segments and established listening posts to obtain real time, practical feedback on LMS performance issues;

- ***Listened to Customer feedback, built support for improvement efforts***
  The NRC used focus groups with stakeholder groups to obtain feedback on the level of satisfaction with key processes and services. Town Hall style meetings were held with senior executives in attendance to

solicit feedback from employees to determine areas that require attention or improvement. From this input, satisfaction surveys were developed and used to obtain accurate information about needed improvements on an ongoing basis.

- ***Built strong relationships, established customer listening posts***
  The HR Training and Development Branch (HRTD) established close relationships with each of the training organizations throughout the NRC; representative personnel from each of the user groups were solicited for input; members from each customer group were invited to attend the improvement meetings held weekly.

- ***Measured satisfaction results, shared results with customers***
  Based on focus group feedback, the NRC confirmed and established the order of priority of improvement efforts. Using correlation analysis, the NRC was able to determine which issues were the most robust against overall employee satisfaction and then addressed these in the order of priority. The priority of improvement efforts were also confirmed with input from samplings of user groups. On going, monthly surveys are taken of persons who used the LMS during the current month were used to track trends in satisfaction so that the LMS services could be continuously improved.

Communications and Change Management

The centerpiece of the improvement initiative was the NRC's approach to Total Involvement of LMS stakeholders, which included representatives from IT security and network services, the NRC desk top services helpdesk, training centers, instructor representatives, training coordinators, each of the Regional Offices and other geographic locations. A detailed communications plan was developed and implemented. (See attachment 1 at http://keapro.biz/NRCAward/Att1_NRC_Comms_Pln.docx). The team used SharePoint, GoToMeeting and detailed progress reports to communicate on a detailed, practical level. Significantly, the month before the LMS was rolled out, members of the implementation team visited each of the Regional and headquarters offices and demonstrated the new, repurposed capabilities provided in the upgraded version of Plateau, introduced the new service processes, and communicated how the LMS would be upgraded and improved at future intervals. New lines of communication were continuously established.

Detailed Up Front Planning

The NRC involved each of the key stakeholder groups in the upfront planning and developed detailed implementation plans which explicitly identified each and every step by each stakeholder group that was needed to achieve success. Each stakeholder group's responsibilities were documented in detail in the implementation plans and implementation schedule (see attachments 2 at http://keapro.biz/NRCAward/Att2_NRC_ProjMgtPln.doc and attachment 3 at http://keapro.biz/NRCAward/Att3_NRC_ProjSched.mpp) which were then tracked weekly in progress meetings. When activities fell behind schedule, the core project team escalated the issue to assure timely and thorough accomplishment. The lessons learned from other agencies was incorporated into the detailed plan, and comprehensive test scripts, to assure trouble free start up, were developed and executed. (See attachment 4 at http://keapro.biz/NRCAward/Att4_NRC_TestPlan.xlsx). Plateau personnel and the LMS implementation consultants were critical in the help they provided in sharing lessons from other implementations and improving the implementation plan.

Leadership Commitment

The NRC's high level of commitment to the development of its employees was directly reflected in the level of commitment of the necessary resources to assure implementation excellence. Often LMS implementations are attempted without adequate resources, which results in suboptimal implementations, high lost opportunity costs and wasted resources. Instead, the NRC demonstrated a high level of commitment to the learning needs of employees as follows: (1) NRC hired a leading LMS expert to assume the role of LMS Project Manager; (2) a dedicated LMS super administrator, expert in the Plateau LMS, was hired; (3) senior management was actively and visibly involved in the key details of the implementation, and promptly removed roadblocks *as they occurred*; (3) an expert eLearning courseware technologists was employed to resolve technical issues; (4) expert LMS implementation consultants were acquired who had specialized skills with LMS implementations, and communications and change management. Senior leadership was then actively and visibly involved to reinforce the high level of commitment to excellence.

Measurement, Analysis and Continuous Improvement

NRC used a systematic approach to continuously improve the LMS and related services by collecting and quantifying customer feedback on an ongoing basis, to measure satisfaction, and to calculate return on investment (ROI) for potential improvement initiatives. Verbatim analyses were conducted to help identify top issues and correlation (R^2) analysis was used to determine the order and priority of improvement investments. The features, functions and attributes of the LMS and related services that are most robust against overall employee satisfaction with the LMS are determined using correlation analysis. The Taguchi Quality Analysis methodology was
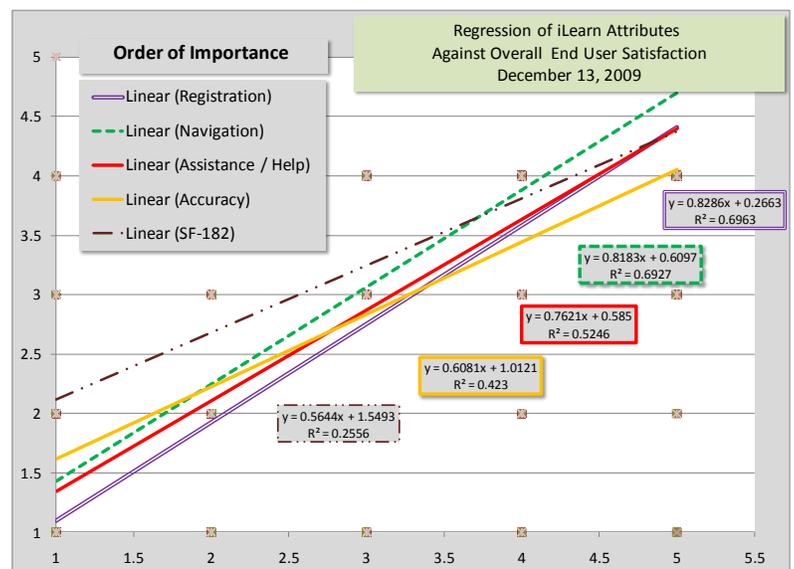

Figure 3 Indicates the order of priority for iLearn attribute based on robustness against user satisfaction using correlation and margin of improvement analysis

used to determine ROI to communicate and to prioritize those improvements that would help provide the highest rate of return on investment. (See attachments 5 at http://keapro.biz/NRCAward/Att5_NRC_Corr_Cust_Sat.xlsx and attachment 6 at http://keapro.biz/NRCAward/Att6_NRC_ROI.xlsx).

Benefits of the Approach

LMS Ease of Use

The NRC simultaneously upgraded the LMS to version 5.8 service pack 5 while improving how the LMS was configured and "bolted" to the learning business processes and infrastructure of the NRC. Many functions, such as the course catalog, the help features, the internal and external registration processes, the instructor processes, and other related processes were streamlined using a systematic, business process improvement methodology. On-line indexed, easy to use job aids were developed and implemented for the functionality with which users had difficulty navigating or which were the subject of end user satisfaction. (Click here to see the Job

Aid indexing and organization tool: https://ilearnnrc.plateau.com/content/nrc/help_guide/index.html.) Job aids were also developed for system administrators and training coordinators, along with NRC LMS administrator training materials, and online NRC-specific LMS Administrator eLearning courses were developed and implemented for which the administrators had difficulty. Periodic training classes were held for training coordinators to keep them abreast of new features and functions, to train new administrators, to obtain feedback from them on potential improvements, and to maintain open lines of communications with key, front line LMS workers. Feedback on problem areas were then cataloged, analyzed for use in establishing future improvements. Finally, helpdesk services were systematically implemented, including consistent job aids and scripts for help desk personnel to ensure they provide consistent, excellent service. Satisfaction results were monitored to track, analyze and address helpdesk issues systematically.

LMS Trouble Free Start up

End users, administrators and instructors experienced a completely trouble free start up of the LMS because, in addition to the systematic planning: (1) test scripts were developed and executed; (2) start up was carefully coordinated with the Office of Information Systems; (3) diagnostic tools were developed and implemented to test end user desk top configuration to assure trouble free operation, especially with the launching, tracking and recording of self paced courseware; (4) standards for eLearning course development were created and implemented, to assure conformance to sound Instructional System Design (ISD) standards, and to eliminate end users courseware issues; and (5) thorough, systematic training and communication was conducted with each of the different types of user groups.

Operational Excellence

In order to help assure continued operational excellence, a detailed operations and communications plan was developed. This plan served as the blueprint for putting in place a network of persons committed to the success which has helped maximize the benefit and operational efficiency throughout the lifecycle of the LMS; the plan included detailed, actual emails, memos, flash demos and presentations, newsletter samples, and feedback surveys. (See attachment 1 at http://keapro.biz/NRCAward/Att1_NRC_Comms_Pln.docx). The following highlights some of the key aspects of the plan.

Ongoing Communications

In conjunction with the launch, NRC also established or improved its spectra of supporting communications systems to provide in depth, far reaching, real time, consistent and continuous knowledge sharing for the LMS and related operations. This has resulted in a vast improvement in sharing valuable insight in how to provide better service using the LMS, and has greatly improved efficiency for the LMS end users, instructors and administrators.

iLearn Social Networking Services

NRC established a social networking, knowledge management collaboration and community of practice (COP) service for the iLearn LMS training coordinators (TCs) and instructors to help them better serve their LMS constituents. Currently, the knowledge management site services are being expanded to include NRC qualification program issues and to help launch an NRC-wide competency based approach to learning and development. The COP has effectively improved collaboration among TCs and allowed the NRC to vastly increase information sharing across the regions, divisions and offices of the NRC. The COP provides a quick, responsive

means to address urgent questions, provides just in time training tools, and provides live help for TCs. These services are especially critical since the iLearn TC position is a part time, collateral duty with high turnover.

Results

End User Satisfaction

The success of the NRC launch of the Plateau LMS is best demonstrated by the satisfaction results it achieved, shown in the table below. In order to determine differences in satisfaction levels and differences in the needs of the various user groups, surveying is segmented into end users, instructors, supervisors and TCs.

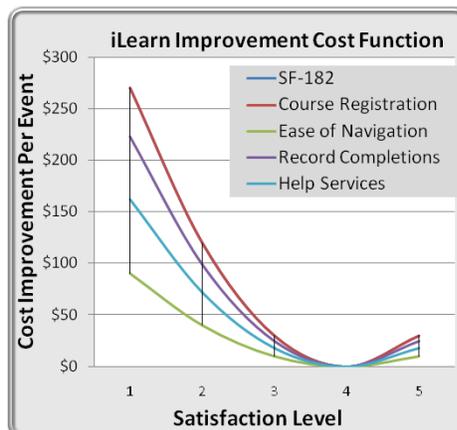| LMS Overall End User Satisfaction Improvement Results		
	Satisfied	Dissatisfied
December 2009	57%	43%
April 2010	88%	12%
Overall Average Improvement in LMS Satisfaction key indicators	+112%	

Figure 4 - This graph models the costs avoided per transaction as a result of improvements made in the iLearn implementation for each of the functions that were found to be the most robust against overall satisfaction with the LMS.

Return on Investment

NRC uses innovative methods to project and measure return on investment by measuring the savings associated with the actual improvements of specific LMS services. Using the Taguchi business process Improvement measurement model, Figure 4 shows the potential cost avoidance per activity that can be achieved at each level of customer satisfaction. Based on this measurement model, ***the NRC has achieved the savings and ROI shown in the table above as a result of the implementation methodology.*** (See attachments 5 at http://keapro.biz/NRCAward/Att5_NRC_Corr_Cust_Sat.xlsx and attachment 6 at http://keapro.biz/NRCAward/Att6_NRC_ROI.xlsx).which shows the ROI and costs savings calculations in detail. Additionally, these savings are reflected in the lowered number of iLearn helpdesk calls, which have been reduced by over 55%.

iLearn Cost Avoidance Analysis	
Annualized Savings	$2,206,639
FTE Hours Saved	26,586
ROI	530%

About the Author

Larry Mercier is the President of Knowledge Engineering and Associates (KEA), a Talent Management (TM) consulting company. Prior to that, he served a combined 30 years in the civil service, active duty and Coast Guard Reserves. Mercier retired from OPM in 2005, where he completed his federal service as the Founder and Director the of GoLearn program, a fee for service, eGovernment provider that assists federal agencies implement Learning Management System (LMS) infrastructure and talent management systems.   Mercier has developed learning strategies, TM strategies and many other learning and talent services for 14 of the 15 cabinet level departments and many of the major independent agencies.

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