



White Paper: Learning Requirements Planning: An Enterprise-Wide Learning Management Approach

INTRODUCTION

With the advent of a variety of Learning Management Systems (LMS), Knowledge Management Systems (KMS), Electronic Performance Support Systems (EPSS) and various other attempts to automate the learning process through technology, one key element is still missing; a systematic framework into which all of the managed knowledge, learning objects, and performance support systems can be integrated. Even without a technological solution, a systematic framework is essential for effective organizational training.

If an organization is a set of integrated functions all focused on the same outcome, then the learning management process of an organization should reside in a framework easily understood by various departments such as information technology (IT), operations, human resources (HR), trainers and upper management.

Unfortunately, until this time, no comprehensive organizational model has been available to serve as an overarching framework for the disparate but important functions of IT, HR, training and operations. A newly published framework that serves as a common ground for integrating all types of automated knowledge management and learning management systems is Learning Requirements Planning (LRP).

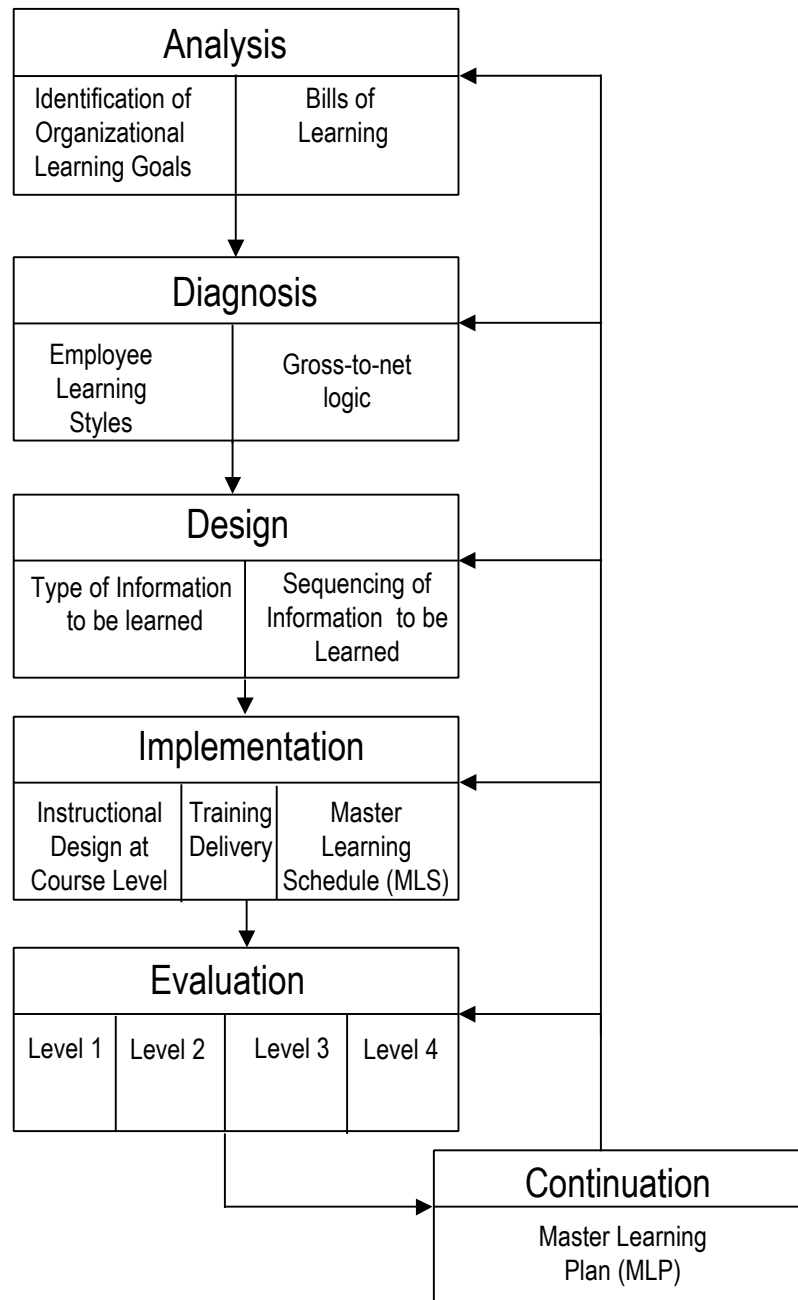
WHAT IS LEARNING REQUIREMENTS PLANNING?

Learning Requirements Planning (LRP) is a formal, enterprise-wide learning and technology implementation process that is time-phased to meet the long and short-term learning objectives of an organization. LRP uses the concepts of “explosions,” Bills of Learning, Master Learning Schedules, and Gross-to-Net Logic to help manage the training, education and knowledge acquisition process within an organization. The six steps of the model consist of Analysis, Diagnosis, Design, Implementation, Evaluation and Continuation.

LRP provides the integrated approach demanded by today’s sophisticated organizations. Managing an organization’s knowledge assets with LRP provides a competitive advantage for the organization and an effective method for keeping all employees trained and informed.



Learning Requirements Planning Model





ELEMENTS OF THE LRP MODEL

Learning Requirements Planning blends elements from the enterprise software known as “ERP” with a macro-level version of the basic instructional design model. LRP is an explosion of strategic goals into discrete, measurable training and implementation objectives combined with proven feedback methods and systematic performance analysis. The key is that the strategic goals of the organization can be linked directly to educational materials available throughout an organization like e-learning classes or objects in a knowledge management system.

With LRP, the knowledge and learning initiatives within a company are tied directly to corporate strategic direction, articulated throughout the organization, delivered efficiently, and evaluated for constant improvement. Figure 1 shows the LRP model and all of its inter-related management functions.

Analysis

The first step in the LRP model is a careful analysis and development of strategic learning objectives based upon the strategic objectives of the organization. Once the strategic objectives of the organization are identified, learning objectives are developed to support the direction of the organization.

The analysis step of LRP starts with viewing the organization as an interrelated system. This examination provides insights into the integrated nature of the organization and clearly illustrates that “quick fixes” in the area of process improvement do not work.

Several techniques are available to help organizations examine their business processes. Some of the techniques include developing a systems loop diagram, questioning the organization, human resources analysis and benchmarking the organization against both direct and indirect competitors.

Once the business needs driving the organization are established, the process of defining learning objectives begins with a meeting of representatives from the major functional groups within the organization. The sales department, finance department, operations department, and others must all be involved. This group defines broad learning objectives for the implementation.

This group must analyze the strategic objectives of the organization and develop learning objectives to support the strategy. The learning objectives are broad areas of competencies that the organization must capitalize on or new competencies that the organization must develop.

The next step is to “explode” the learning objectives developed by the steering committee into Bills of Learning (BOL). A BOL is a break down of corporate strategic objectives into discrete, measurable learning objectives for

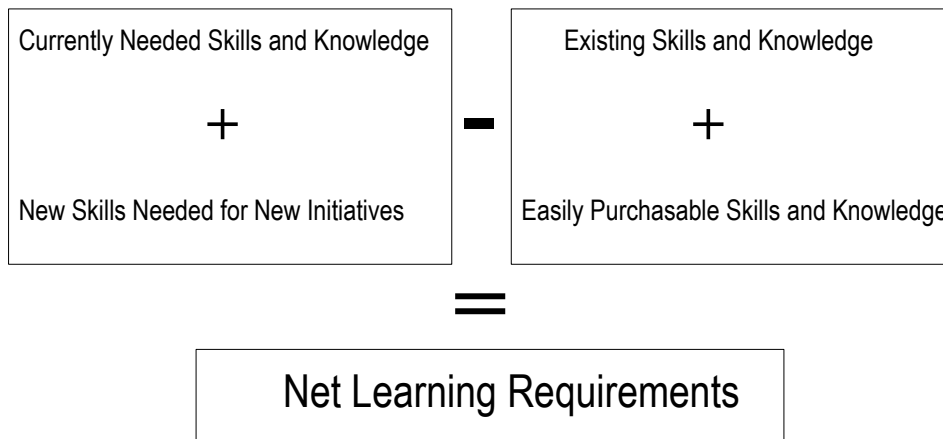


specific skill sets. The explosion process ensures that the educational initiatives within a company are tied directly to the strategic direction of the company.

Diagnosis

The diagnosis step involves the determining what skills and competencies the organization already possesses and what is needed to effectively implement the ERP system. *Gross-to-net logic* is a concept of comparing the existing skills and competencies within an organization with the skills and competencies required to obtain the stated strategic and e-technology implementation goals of the organization. This process compares the BOL's with existing skills and competencies identified within the organization. Use of gross-to-net logic identifies the gaps existing between what individuals within the organization know today and what they need to know in the future to compete.

Learning Requirements Gross-to-Net Logic Calculation



The result of conducting the gross-to-net calculation is a list of skills and competencies needed within an organization that are not currently within the organization and cannot easily, quickly, or efficiently be purchased or developed.

The purpose of Diagnosis is to complete both sides of the Gross-To-Net Logic question. What skills do the employees already possess? What skills can be easily and quickly purchased or outsourced? What skills are currently lacking



within the organization? What competencies are needed to succeed in the future but are not in our current knowledge base?

This process yields information about the gaps between what competencies and skills the organization already possesses or can easily possess and what skills or competencies it needs to develop in-house. Limited training dollars can then be focused on the skills and competencies most needed for organization but not readily obtainable through other means.

In addition, the Diagnosis concept in LRP involves comparing all of the learning goals and BOL's within an organization to identify common learning objectives. Common learning objectives can be grouped together and used to provide a baseline of training within the organization. Pooling learning objectives provides increased efficiency when training employees.

During the diagnosis process, employees should be taught methods to help them identify their individual learning style. Each employee within an organization approaches learning with a different perspective or style. Some employees need to see the "big picture" before they can dive down into the details while others "stack up" the details of a situation and develop the big picture based on their own insights. The Diagnosis step takes the time to allow employees to learn how they learn. This, in turn, helps employees to more quickly grasp and utilize the information within the various knowledge management systems within the organization.

An organization also needs to conduct a diagnosis of the location of employees on Abraham Maslow's hierarchy of needs. Understanding Maslow's hierarchy of needs is important when considering any major change in an organization.

The basic assumption in Maslow's hierarchy is that people are motivated by different things based on their position in the hierarchy of needs. If a lower level is not satisfied, then reinforcement at a higher level will be fruitless. Likewise, once a lower level is satisfied it will cease to be a motivator.

The most important factor to consider when introducing change is the reaction that occurs in people. For most people, work provides the means to provide food, shelter and security for their family. When a major change is introduced in an organization, the initial reaction of many people is concern over whether those base level needs (food, shelter and security) are in jeopardy.

If employee's basic needs are not being addressed, they will have a difficult time concentrating on learning. Organizations should take the time to diagnosis employee's skills and level of satisfaction on Maslow's needs hierarchy to receive maximum benefit from employee training.



Design

The next step in the process is the Design of the knowledge management, e-learning or LMS system. This process involves determining the best method of delivering the information in terms of sequence, presentation format, and distribution to employees.

An organization must develop a series of training classes, on-line tutorials, information databases and other learning events to address the needs of employees. Each training class or learning event needs to utilize a combination of different teaching strategies and tactics. Strategies range from a simple job-aid containing an abbreviated list of information to a quick on-line checklist to a full-blown classroom experience complete with role-play exercises.

The process of developing an effective training and enterprise learning design begins with the development of effective learning objectives. If the objectives are developed correctly, they provide a solid foundation for effective instruction. The next step is to categorize the type of learning that needs to take place to reach each learning objective.

Categorizing the types of learning prevents costly and unnecessary training expenses. In many cases information can be transferred to employees quickly and inexpensively without the cost of traditional methods. Following are some methods for designing the appropriate training based on the different types of learning.

Memorization of Names, Jargon, Facts And Acronyms—Factual information can be transferred to learners through simple job-aids, word associations, and mnemonic devices. In today's ever changing environments, teaching employees how and where to look up information rather than expecting them to memorize is more valuable than teaching the actual information. As Albert Einstein has been rumored to say "...don't memorize anything you can look up."

Conceptual Learning—One of the best methods for explaining complicated concepts is to use the mentoring or apprenticeship approach. This allows a novice learner to gain insight into concepts and ideas under the watchful eye of an experienced individual. The learner simply asks questions or is coached by the mentor until the learner becomes proficient in understanding the concept. A variation of this method is to have an experienced consultant come into an organization and help a teamwork through concepts and concerns directly related to the strategic and learning goals of the organization.

For concept learning, technology can be utilized by placing reference materials onto an internal computer network or an Intranet without the need for an expensive and overly cumbersome learning or knowledge management system. Even a computer-based "chat room" or a threaded discussion can be an effective method of sharing conceptual information within a company spread across geographical regions.



Problem-solving—This method of learning can be facilitated by a simple checklist of items or issues to consider when addressing a particular problem. A database of problems and resolutions can also be an effective tool for helping people learn to solve problems by providing them access to previously solved problems and their solutions. Experience is also a good teacher of these particular skills. Adults tend to draw upon previous knowledge when confronted with a new problem.

Soft Skills—These skills deal with the development of communication, leadership, and team building. The teaching of these types of skills involves four steps. The steps are to model the desired behavior, encourage the learner to develop a mental checklist of the desired behavior, provide numerous examples of the skills, and give learners an opportunity to practice the skill in a non-threatening environment.

Physically Manipulating Objects or Psychomotor Skills—Any skill that involves moving of various body parts requires practice. This even includes keyboarding skills and teaching employees how to use a computer mouse. An employee can read and study all they want about using a computer mouse but until they actually touch the mouse, the employee has no idea how it really “works.”

Attitudinal Learning—This type of learning is the most difficult to teach because people have different motivations for their attitudes. This area is not one in which classroom training is effective. The best way to teach attitude is by example. If the upper management has an attitude of enthusiasm and a sense of urgency about the enterprise, the employees will also have that type of attitude. If upper management has a poor attitude employees will as well. Environmental conditions impact attitudinal learning. It is important that the conditions under which people work reflect the desired attitude.

In addition, it is important to understand what motivates the employees within the organization to attend and participate in the instructional process. A systematic method for designing motivational instruction needs to be followed to ensure that the employees are paying attention to the instruction and utilizing the instructional time appropriately.

Implementation

Once the training is properly designed and sequenced for delivery, the next step of the LRP process is “Implementation.” Implementation involves utilizing the LRP process to effectively integrate learning into the organization.

When learning is a part of the daily routine of employees, it becomes easier and easier for new ideas and innovations to be assimilated into the organization. A good example of continual innovation and learning is 3M. At 3M, ideas are constantly generated and new projects are developed based on what one researcher has learned and shared with another. In fact, it is the acting of sharing information and learning what others are doing that leads to new products like the



Post-It Notes.

Implementing learning technology into an organization means that the LMS or KMS must exhibit certain characteristics to be accepted: 1) the system must offer a relative advantage over the previous method of learning or seeking information 2) the system must be compatible with the current missions and goals of the company. 3) the system must not be perceived as being too complex. 4) the users must be able to “test drive” the LMS or KMS system before going live and 5) the users must be given the opportunity to observe how the system works before they will agree to be held accountable for its proper functioning, maintenance and upkeep.

Managing, scheduling, and coordinating the Learning Requirements Planning process is not an easy task. A Chief Learning Officer (CLO) needs to be appointed to ensure that the learning needs of the organization are implemented in a manner consistent with the strategies of the organization. The job of the CLO is to monitor internal training practices, position training to support the organization, participate in planning the education of the organization’s workforce, and to champion organizational learning and employee growth and development.

Another critical element the CLO performs is the establishment of a process for evaluating the training that occurs during the implementation. It is a poor practice to conduct training within an organization and not have any measurable results of the effectiveness of the training.

Evaluation

KMS, LMS and corporate universities must be held accountable for productivity just like other production tools within an organization. Enterprisewide learning management functions cannot occur without a continual evaluation of the learning.

The LRP process provides for four levels of evaluation. These four levels are based on the levels developed in 1959 by Donald L. Kirkpatrick, then a professor at the University of Wisconsin. The four-level classification serves as a framework for evaluating ERP training.

Level 1 evaluations are conducted by handing out questionnaires at the end of the learning events. Was the information in the KMS easy to find? Did the reports from the LMS help in your decision-making? Where the concepts explain adequately? At this level of evaluation, initial customer satisfaction is being measured as well as a testing of the usability of the system being implemented. This is often referred to as measuring the reaction to the training. This measurement is important especially when you are trying to obtain buy-in from the employees who will be using the system on a daily basis.

A *Level 2* evaluation tests participant learning. At this level, the evaluation includes measurable feedback indicating what was learned and what was not learned. The idea is to see if the participant can pass a test demonstration



what he or she learned. This information is then used to help provide remediation to learners and to determine areas in which the training needs to be strengthened.

It is important to realize that that a “lack of learning” can occur because the design of the training of the LMS is poor. More often than not, employees are not able to perform their jobs correctly because the training is inadequate, not because the employees can’t “understand” the requirements of their job.

Level 3 evaluation checks to see if the skills taught in the training are actually being used on the job. Level 3 evaluates the transfer of learning from the learning experience to the job. This type of evaluation can be used to determine the frequency with which an on-line tutorial or help system is utilized. Is the employee accessing data from the KMS to help him or her make better, more informed decisions?

Observing the employee and asking an employee’s supervisor or customers to see if they noticed a difference are two methods used for conducting a Level 3 evaluation. This level of evaluation can also check to see if the entire organization is focused on the correct learning goals. The LRP process identifies any mis-alignments between tactical training programs and corporate strategic goals.

Level 4 evaluation attempts to measure the bottom line result of the training. Did the training positively impact the organization? Is the organization faster and more effective because of the type training available to the employees? What aspects of the KMS or LMS were more effective than others? This level of evaluation is difficult to obtain, but must be measured to ensure that the company is not wasting its training dollars.

These four levels of evaluation ensure that the LRP process is effective and yielding the desired results. Training, as with any other unit within an organization, must be held accountable for results.

Continuation

Enterprisewide training systems and initiatives are not one-time events. The LRP process should be undertaken continually to ensure the maximum effectiveness of enterprisewide learning initiatives both short and long term. Any initiative that requires tying corporate strategic goals to individual employee action and learning can benefit from LRP.

Understanding how to develop a systematic method for continuation of the LRP process and how to transfer the process to other areas helps an organization achieve a strategic advantage.



SUMMARY

LRP is a systems approach to managing the learning and educational processes within a large organization in a systematic, automated fashion. The application of the steps of the LRP process to an organization transforms the organization into a learning organization. Conducting the LRP steps of Analysis, Diagnosis, Implementation, Evaluation and Continuation is the type of strategic planning process that enables an organization to capitalize on its most valuable asset—human resources—to effectively compete on the international stage through motivated, educated and inspired employees.

**This white paper is excerpted from the book “Integrated Learning for ERP Success: A Learning Requirements Planning Approach” written by Karl M. Kapp with William F. Latham and Hester Ford-Latham and published by CRC Press. It is available at <http://www.amazon.com>.*



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Karl conducts audience and organizational analysis and makes sure that the message he is presenting is the message the audience needs to hear. He has consulted with such organizations as CIGNA Healthcare, EduNeering, PPL, Bell Atlantic (now Verizon), Merck, and L'OREAL.

Karl understands business operations. He is Certified as a Fellow in Production and Inventory Management (CFPIM) and is Certified in Integrated Resource Management (CIRM) by APICS~The Educational Society for Resource Management. He has been published in *Manufacturing Systems*, *National Productivity Review*, *Production and Inventory Management Journal*, *Hospital Material Management Quarterly* and the *Journal of Organizational Excellence*. His last book is titled *Integrated Learning for ERP Success: A Learning Requirements Planning Approach*.

Currently, as the Assistant Director at Bloomsburg University's Institute for Interactive Technologies, Karl is heavily involved with integrating learning and technology. Karl has been interviewed by such publications as *Software Strategies*, *Knowledge Management*, and *Training* seeking his knowledge of e-technology implementation procedures and methodologies.

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