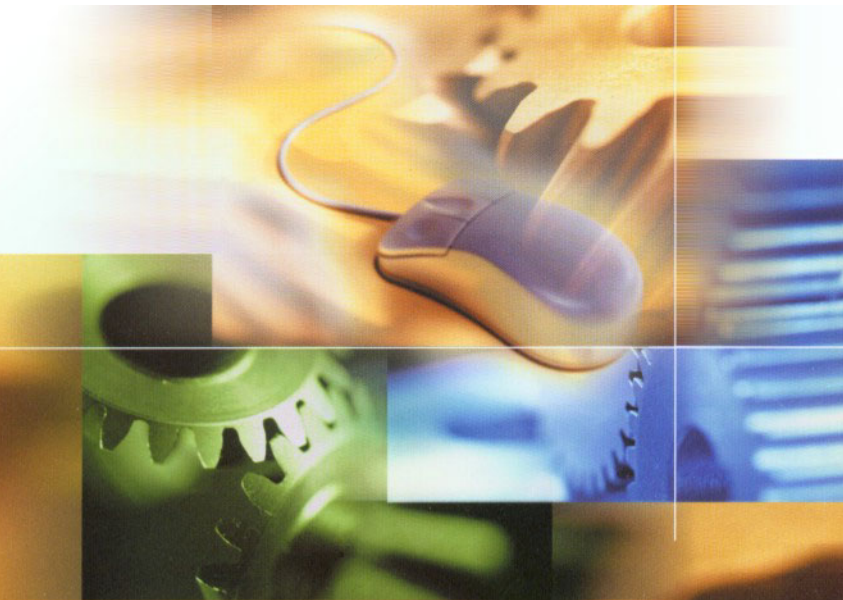


# Learning Content Management Systems - The Second Wave of eLearning -

*A Knowledge Mechanics White Paper  
by Robert Koolen*





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## Introduction

It is not uncommon for the first occurrences of a new paradigm to resemble the old paradigm at first. The very first TV shows suspiciously resembled radio shows - the major paradigm of the day - before the television started to leverage its true potential and deliver what the new medium could offer by adding pictures to sound.

Similarly, the first plastics looked like cheap imitations of existing and popular materials of the day, such as wood, before plastics began to recognize their own potential. After those tentative beginnings, plastics, with their versatility in shape, characteristics and color, served a myriad of new purposes. They conquered the world with innovative applications significantly beyond what was feasible with previous materials.

Something similar is happening in the eLearning industry. For hundreds of years, the paradigm of learning was the classroom-training model. In a time when formal learning was scarce, resources were concentrated around, and centered on, the availability of the educator, rather than the learner. Because this has served as the model that typified formal learning at all levels for generations, including our own, it is hardly surprising that this paradigm is well entrenched. The first applications of eLearning were therefore aligned with the old classroom model and its associated characteristics. While this is understandable, this classroom model, just as the first TV shows and plastics, does not yet leverage the true potential of the new paradigm: in this case the Internet as a learning medium.

## Classroom Model

Let us first examine the characteristics and shortcomings of the classroom model. Then we review how the existing categories of eLearning offerings map into these before we explore the alternatives and their benefits.

**Top-down approach of learning** – the classroom approach relies on a curriculum to be determined in advance. It prescribes the learning needs of a group of individuals and can only be effective if the curricular needs can be more or less accurately forecasted. While this may be valid for the basic and elemental learning needs, it is increasingly less applicable in today's volatile business world, with its short business cycles, rapidly transforming markets and market conditions.

The top-down approach nevertheless remains firmly entrenched and manifests itself in lesson plans, curricula, and their inevitable accompaniments of testing and certification upon completion of the prescribed path.

**Learning as an event** – a key characteristic of the classroom model is that it invariably treats learning as an event. This may be tolerable in a less demanding world where people are educated for specific predetermined tasks, and where the tasks do not often change.

Some contend the current educational model was designed to serve the purposes of the industrial revolution, in which up to 80 percent of the workforce only needed to be



trained for manual labor consisting of simple, predictable and repetitive tasks. This process is proving less and less appropriate for a more demanding and volatile business world that requires knowledge workers with versatility, problem solving skills, and the ability to think on their feet. The jobs they do, and the environment in which they work, change constantly.

**Learning at the course level** – driven by economics, the classroom must follow the preset program of maximizing the impact on as many learners as possible within a set time frame. The approach concerns itself with the aggregate group level and does not take into account the learning needs of the individual in terms of either content or learning style. The familiar consequences of this course level approach are that in every class, there are learners for whom the pace is too slow, and others for whom the pace is too fast. The one-to-many approach with its uniform delivery of classroom education does not cater to the diverse learning styles of individuals.

These characteristics and limitations are not new. They are exacerbated by factors such as cost of delivery, travel, time away from the office, and low retention due to lack of reinforcement. In fact, through our own intimate familiarity with the classroom, each one of us has experienced most of these limitations ourselves at one time or another. What is new is that learners around the world have never so keenly felt the disadvantages of the classroom model. Today's learners find their classroom education, at formal learning institutions and corporate training universities, has often proved a disappointingly poor preparation for the real demands of the modern workplace.

Let us examine how the pioneering categories of the eLearning world have changed our thinking so far.

### **Learning Management Systems**

The Learning Management Systems of today are concerned with managing the learning processes of today; which typically means they concentrate on classroom centric processes, such as student tracking, classroom scheduling, curriculum management, etc. This accounts for their early popularity. At the time of this white paper's publication, there are more than 100 LMS vendors, attracted by the high growth rate of the eLearning market place and increased recognition by clients. Some consolidation among their ranks is inevitable.

As pioneers of the eLearning space, the LMS vendors are to be commended for advancing the cause of internet-enabled learning, but it must also be acknowledged that the bulk of the LMS functionality focuses on how to make the old classroom paradigm more efficient.

### **Generic Content**

This vendor category provides off-the-shelf content for mass consumption, mostly at the course level. The most popular topics have been for IT training and soft-skills training, fueled by temporary skills shortages in these areas. This type of learning does not address the specific needs of an organization or individual.

### **Authoring Tools**

Until recently, tools most often used to create web-based learning content were traditional authoring tools. They require a high level of programming skills and knowledge for anything but the most basic functions. By design, content is not easily re-used due to the lack of a repository. Authoring tools are focused on creating single-use courses on a per-project basis.

### **Virtual Classroom**

This category most closely resembles the old classroom model. It continues the delivery of learning in what we call synchronous learning (learner and educator involved simultaneously) and applies the Internet, rather than the physical walls of a classroom, to deliver the session. This can make sense, as up to 40 percent of corporate training budgets are spent on the logistics of classroom training, but does not invalidate the drawbacks of relying on the classroom model only. Making an ineffective process more efficient does not necessarily solve the problem, or: rowing harder does not help if the boat is headed in the wrong direction. The most effective solution is a combination of classroom and asynchronous learning, referred to as blended learning.

*All of these first-generation eLearning applications fulfill their role, but the true potential of eLearning still eludes us.* Even if we apply these products to their full potential, it does not mean that we are serving the needs of the learner today – and certainly not tomorrow.

## **Future Needs**

Let our minds wander for a moment and speculate about the future of working and living in the 21st century. Even without consulting gurus who tell us what our future will hold, and applying our own common sense, we can confidently make some predictions by just extending trends we have already seen in the last century:

- There will be massive amounts of information, but less time to effectively absorb it
- A high level of knowledge will be required to fulfill jobs
- Learning will no longer be confined to a specific period early in one's life, but will be a lifetime commitment - just to keep up with the rate of change during one's life time
- Learning will be incorporated into our daily lives; it will be a process, not an event
- Business cycles accelerate as the frequency of change increases; competitive markets will continue to be highly volatile. In this environment, time is becoming an ever more critical element for all market players.

## **What's Next?**

We need an approach that recognizes that the delivery infrastructure of the Internet is already there, ready to substantially complement the classroom model to compensate for its inherent drawbacks described above. The emphasis will start to shift from the knowledge of the educator to the knowledge inherent in the material, whichever medium is used to deliver the content to the learner.

The characteristics of this approach should address both the shortfalls of the previous classroom paradigm and facilitate the learning needs of the future economy. Here are some suggestions:

- A learner centric approach, in terms of both content and delivery format. One could call this a bottom-up approach, starting with the needs of the individual learner, as opposed to the top-down approach of the traditional classroom model.
- Dynamic delivery, based on assessed needs. As learning needs may be difficult to predict, the new approach should enable just-in-time and just-for-me learning.
- Smaller units of learning and moments of understanding to tailor content to assessed needs of the learner, delivering only what is required, no more- no less.

The first proponent of this new way of thinking is the emerging category of Learning Content Management Systems.

## LCMS

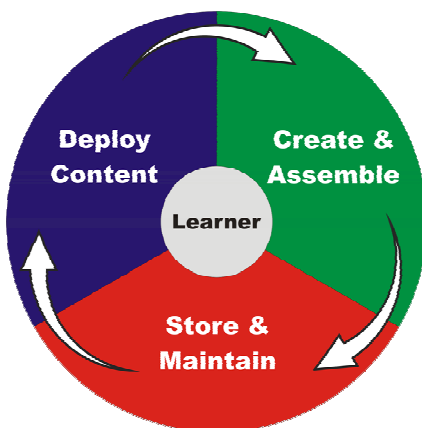
The most simple definition of a Learning Content Management System is a system that enables the creation, storage, management and deployment of learning content in the form of learning objects to serve the needs of individuals.

### Pre-requisites for an LCMS

At the most basic level an LCMS has:

- An approach based on re-usable learning/knowledge objects (largely a terminology issue, but no fundamental difference)
- A focus on instructionally sound content (as opposed to just any content)
- A repository to store and manage these objects
- Adherence to industry standards, such as SCORM and AICC, to ensure interoperability across systems
- Meta-tagging of objects for quick retrieval of required content

At the advanced level:



- Dynamic assembly of content, driven by assessed needs of the learner
- Template driven authoring capabilities, to allow for the rapid creation of learning content without programming
- Open database approach to ensure maximum flexibility
- Multiple deployment formats (Web, CD, Print for support of instructor led training) to ensure content can be deployed in the most appropriate format for both content and learner

## Lowering Costs

In the previous section we saw how an LCMS provides a better answer for the learning content of tomorrow. Let us now have a look at the economic implications for learning content management; in the end it is a matter of economics. Any decision for an LCMS should be a sound business decision as with any other investment. If we can lower the cost of managing learning content, organizations can become producers of eLearning instead of mere consumers of it.

Forward looking businesses could apply eLearning to serve their business needs, educating their staff by serving them content that matches their real learning needs, and repurposing internal training programs and content to educate their supply chains. Some examples would be: educating their clients and end-users on their products, customizing their products through their knowledge content, or educating their suppliers or partners on new processes. In each instance new business models could be created to leverage intellectual property across the complete supply chain.

We can approach the issue from the perspective of the price of learning content. If we can lower the cost through new technology and different processes, what are the implications? The two key questions thus are:

- How exactly do we do that?
- Why should I care?

We will elaborate on the business benefits - why should we care - in the next paragraph. Let us now examine how we lower cost.

### **The three drivers of lower cost**

There are three drivers that contribute to a significantly lower cost of making instructionally sound and relevant learning content available.

1. Zero programming authoring tools. These next generation tools allow rapid creation of instructionally sound content without the need for scarce and expensive programming skills. Templates abbreviate the need for programming while ensuring the content is instructionally sound.
2. Improved development process, involving cooperation of all required disciplines (course developers, instructional designers, subject matter experts, project leaders, graphical experts). Through the use of a repository, the various stages of development can be tracked and evaluated in real-time by all involved, rather than only identifying errors, inconsistencies or misinterpretations much later in the process, as is common in the existing, more sequentially oriented development processes.
3. Re-usable knowledge objects, or “chunks” of instruction, which can be developed once and easily maintained and repurposed using different configurations for new audiences.

### **The mechanics and impact of lowering the cost of eLearning**

There is a simple logic at work from the perspective of the producer of eLearning content. If it can charge multiple organizations for the same content, it can lower the price

per unit. This is clearly the logic used by the generic off-the-shelf content suppliers, who could resell their IT training programs over and over again. The more generic the content, the larger the pool of potential customers and the more quickly payback is achieved.

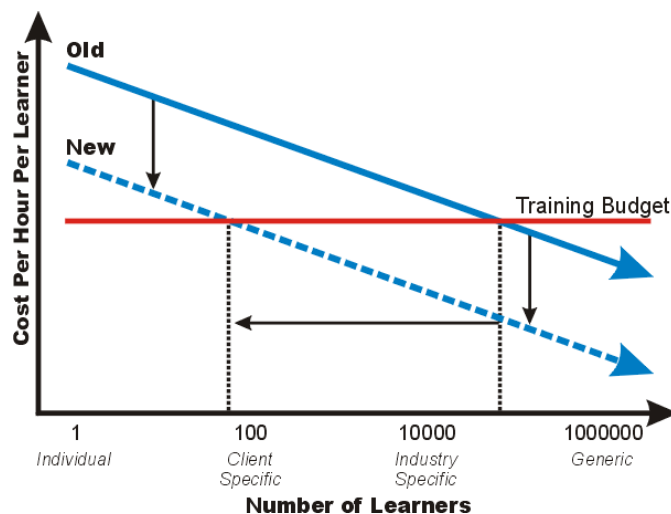
However, the generic content needs for learning within an organization represents a limited percentage of an organization's training needs; in most organizations it is less than half, and in many others, no more than 20 percent. The reason for this is that most organizations already have a workforce with applicable generic skills and knowledge. Where organizations perceive to have significant gaps in generic skills and knowledge, they are more likely to close those gaps through other means other than to completely re-skill or educate their existing workers through massive generic training programs. Such a situation thus defines a more modest supportive role for generic learning.

In addition to playing a minor role in terms of volume requirements, generic learning also tends to be the least critical component of training leading to an organization's success. Without doubt, client specific knowledge is of greater strategic value, making the organization unique and different, as opposed to generic content which is shared with countless others, and is hardly a source of significant competitive advantage.

However, from the producer's perspective, the initial applicability of this client specific content is likely to be limited to that organization and their supply chain alone. The cost of such client specific content is invariably higher than generic content that can be sold to a range of customers. Even less affordable is the notion that these learning programs would be somehow further tailored to smaller audiences within the client organization, let alone an audience of one - the ultimate personalized learning experience.

Conceptually this dynamic can be depicted in the diagram at the right, looking at the issue from both the client and the producers' perspective.

Lowering the cost and the price point of learning content, makes client specific learning more affordable. If we assume that training budgets remain at the same level, we can allow for a smaller more focused audience, and therefore more client specific content. Personalized learning is thus made feasible over time.



## Business Benefits

**Staff retention and productivity** – There are several aspects to this; on the one hand it affects the motivation of employees, as they want to continuously update their knowledge and thus be more valuable to an organization. On the other hand, client specific learning also enhances the ability to get new staff up-to-speed quickly on company specific processes, products, and procedures.

**Knowledge sharing and retention** – By establishing a system for collecting and storing subject matter expertise or company specific knowledge, employees are empowered with what they need to perform to the company's best interests while eliminating costly duplication of effort. And where staff retention is not feasible, capturing the client specific content to preserve it for remaining staff is key. As a recent IDC white paper on LCMS put it: "just because the goose has left the pen, this does not mean that she did not leave any golden eggs behind."

**Potential outsourcing liability (proprietary knowledge and intellectual property)** – There is an understandable and justifiable hesitance to outsource the most confidential intellectual property for development by third parties. With the advent of the zero-programming authoring tools, however, outsourcing is no longer a necessity, but a choice.

**Enabling self-directed learning** - If we can use technology to both effectively assess the real learning needs of an employee and then use those assessments to provide them with the instruction they really need, when and how they need it – then we have a real solution. Employees will best use and retain the training they want and need to excel in their jobs.

**Ability to execute strategic initiatives** - With time being one of the most critical elements in business management today, organizations are not only challenged to make the right decisions quickly, but implement them in record time. Whether the resulting initiatives concern the introduction of new products, development of new markets, strategic mergers or acquisitions, all are functions of how well an organization can align its internal and external audiences with its strategic direction. All this is a function of client specific learning, as it determines an organization's ability to execute its strategic initiatives and chosen direction.

### Why should I care?

In addition to the above, there is one more reason to care and this is related to how companies are valued; companies are valued on the quality of their human capital, meaning that a high staff turnover is detrimental to your ability to execute your strategic plans and initiatives. Education, as an empowerment mechanism, can assist in staff retention and also enables a higher probability of increased productivity. In other words, grow your people, not your headcount!

## e-Learning Impact

What does all this mean for your eLearning programs and initiatives today? At a very minimum, you may want to consider how an LCMS system would complement your existing plans or configurations. However, due to the different approach and new opportunities afforded through this technology, a more fundamental rethink of priorities would also be in order.

One approach might be to decide that generic level learning is outsourced while client specific learning is developed in-house. There are strategic reasons for this approach. Buying off-the shelf content from generic content vendors has definite advantages in terms of potential economies of scale - provided that the content can be served as knowledge objects in response to assessed real needs of the learner. In this model, organizations remain the true source for their own client specific content, and thus become producers of eLearning for the content that they know best. They only need to acquire the tools to capture and disseminate this content efficiently and effectively for delivery across the enterprise and beyond.

The LCMS, with its focus on the learner, may be the real breakthrough in eLearning; the concept that will deliver on its promise of providing what is needed, when it is needed and how it is needed. It is the second wave of eLearning and it will change the landscape of learning forever in favor of the learner and their dynamically changing needs.

The rapidly changing world and its demands for more personalized learning, beyond the paradigm of the old classroom model, are a given and is beyond the control of any individual or organization. However, whether we ignore this development at our peril or leverage this development to our advantage and treat it as a business opportunity has now become a practical choice. The outcome will inevitably shape the business winners in the time to come.



## About ...

### **Robert Koolen**

Robert is a vice president of Knowledge Mechanics, with global responsibility for Marketing and Strategic Alliances. Robert is a 15 year veteran of the technology and training sector, having worked in marketing and service positions in Europe, Africa and North America. He is also a founding member of the LCMS Vendor Council and its current Chairperson.

### **Knowledge Mechanics**

Knowledge Mechanics is an international provider of Learning Content Management System (LCMS) software. Its LCMS enables clients to create, store, assemble, manage and deliver personalized e-Learning content. This provides clients with the e-Learning infrastructure to execute strategic initiatives across their enterprise. Learn more about Knowledge Mechanics at [www.knowledgemechanics.com](http://www.knowledgemechanics.com).

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