



**THIRTEEN “MUST ASK” QUESTIONS ABOUT
e-LEARNING PRODUCTS AND SERVICES**

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INTRODUCTION

- **A changing marketplace**

The e-Learning marketplace is growing rapidly. For example, in May 2000, Fortune Magazine estimated that on-line learning will become a \$22 billion market by 2003 and the estimates keep on rising. Another source, research firm IDC, estimates the U.S. *executive* e-Learning market alone will grow from less than \$1 billion today to \$7 billion in two years. Numerous companies are entering this space by converting old product offerings into new digital forms. Others are trying to reinvent e-Learning to take advantage of the special characteristics of web technology in more fundamental ways. As a result corporate decision-makers face a bewildering array of products and services relevant to corporate training, education and general performance management.

The fact that a company with a long history of delivering executive education enters the e-Learning market does not guarantee that their offering will meet your needs. *Effective e-Learning requires that the education content be written and delivered very differently than in the past.* A company with legacy learning systems, whether classroom or CD-ROM based or a competence in computer based technology (CBT), may not be successful in translating its legacy content and approach so that the e-Learning process delivers the desired learning experience and business results. Think of the transition from vacuum tubes to transistors. The legacy vacuum tube manufacturers did not fully understand the transistor technology or market, resulting in a transfer of leadership to new electronics companies.

As you will find, there are new categories of service in the e-Learning space. These include Portals, Content Providers, Learning Customization service providers, and specialist technology companies. Your company may need the services of all of these providers.

- **Why ask the thirteen questions?**

The purpose of this briefing is to help cut through the complexity by highlighting thirteen key questions that you need to ask in assessing the strengths, weaknesses, and applicability of different e-Learning offerings. Properly answered, the thirteen questions provide a solid basis for evaluating on-line learning and education products. Most importantly, they will also help shape your thinking in a way that will help position your company's approach to e-Learning with an eye on the future instead of the past. The e-Learning market will quickly evolve from the first generation of products and services now available to exciting new systems that truly capture the potential of Internet technology in upgrading knowledge and skills and providing comprehensive performance support.



SOME BACKGROUND DEFINITIONS

- **First generation e-Learning:**
Use of the Internet to deliver conventional educational products and services in a new way. For example: Putting manuals, text and courses "on-line". *Instructors and others are in control: the Internet is simply used as a delivery mechanism.* There may be many technical bells and whistles in the product features, but the educational philosophy basically belongs to a pre-digital era.
- **Second generation e-Learning:**
Use of the Internet as a *new educational environment* where products and services have been specifically conceived and designed to tap the learner-driven potential of the Internet. The needs of the learner are in control. *The educational system adapts to the learner, not the other way around - as in the "text or courses on-line" models.* Second generation systems create a capacity to build all learning around the needs of the learner. They also allow learning to be directly linked to key business issues on a just in time, just enough basis. Instead of being asked to "study a pre-determined course" or "follow a pre-determined competence development program" second generation e-Learning systems allow these actions to be infinitely customized to meet the needs of the learner in a way that creates a seamless integration between work and learning. They promise: just in time, just enough learning uniquely tailored to the needs of the learner and his or her job!
- **Third generation e-Learning:**
Internet based learning systems that build on a second generation "learner in control" philosophy while incorporating high band-width learning tools and supports such as complex simulations, virtual classrooms and other forms of "on-line" collaboration. The elements of third generation technology exist today, but without a comprehensive second generation platform remain as expensive and relatively isolated learning tools – wonderful, but only for the rich, privileged few. Because most providers have not yet understood second generation learning principles most current applications of these learning tools build on a first generation learning philosophy. When band-width and accessibility improves, third generation systems will win the day. For now (in the year 2001) they divert attention from what really needs to be done to drive e-learning throughout the corporate marketplace.



THIRTEEN "MUST ASK" QUESTIONS

Here are the key questions that need to be asked about e-learning products and services:

1. What service(s) does the e-Learning supplier or application that you are considering actually provide?

In understanding the e-Learning marketplace it is useful to distinguish between four main categories of supplier:

- **Portal services**

These act as channels between content creators and end users. Typically, portals have no content of their own. They offer the software that allows clients to order courses and learning resources on-line from specialist content providers and to manage the learning process by tracking use of the courses purchased. Some portals also have systems that allow users to assess learning needs and competency gaps, and evaluation systems that assess progress toward learning goals.

- **Content providers** Typically these fall into two categories:

"High-priced" course providers who bring top quality management courses on-line for relatively high prices - usually set on a per user basis and equivalent to attendance at a top management program. Prominent suppliers here include companies such as UNext and Ninth House who have struck strategic alliances with leading universities such as Harvard, Columbia and Stanford. They offer on-line executive development programs, backed in some instances with live links or chat lines with course instructors and professors. These programs usually are presented as complete courses, equivalent to a semester of college for each one. They do not lend themselves to customization, except perhaps to incorporate examples derived from your company or industry. They are hard to fit into a just-in-time learning environment, but they are a good fit for someone desiring to earn a degree, such as an MBA, or to fill a gap in a previous degree program.

"Lower-priced" course providers that typically offer a much larger range of courses aimed at employees engaged in different functional roles. The aim is to replace traditional training seminars with on-line instruction on specific topics. Prominent companies in this category include SkillSoft and SmartForce. Most companies in this e-Learning space today offer only, or predominantly, technical skills training courses or packages, such as "How-to" courses on software usage. Some of these companies advertise executive education, but have extremely limited offerings.



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Customization companies. These offer to put company specific training and education on line for a custom price. Customers typically provide the content, or the customization company purchases third party content to meet the customer's learning specific learning needs. For a fairly high price tag, companies can use these services to commission their own learning applications for use on corporate intranets. For extra fees, they can keep the courses up to date. Digital Think, Quisic and GP are examples of prominent companies operating in this sector.

- Specialist technology and service companies. In the e-Learning marketplace there are dozens of companies offering special services such as on-line interaction, chat rooms, computer simulations, and electronic competency assessment and training evaluation tools. These are usually freestanding products and services that can be plugged into the “front,” “middle” or “back” ends of corporate on-line training programs. For example, competency assessment and evaluation services can be purchased to assess and measure learning needs at the “front end” and the success of training outcomes at the “back end”. On- line chat room facilities can be used to create virtual classrooms that deliver a training program worldwide by allowing participants in remote settings to interact. Usually, the customer using these services brings their own training content and instruction. The specialist services are there to refine and improve delivery. Companies desiring to create corporate universities, or to become learning companies, often engage these services to provide a tracking system for employee development.

One of the key issues in evaluating the products and services offered by all types of company depends on the learning philosophy they bring to the product design. Another hinges on the ability of the systems and services to evolve with developments in the e-Learning marketplace. More will be said on this in question 13 which addresses the general differences between first and second generation e-Learning systems. Many existing product and service offerings are based on first generation thinking and may lock users into first generation learning and content delivery. Be particularly careful in examining and selecting portal services as your primary e-Learning platform. Make sure that they are equipped to deliver the flexibility required by second and third generation e-Learning systems. Otherwise you'll find that by "locking in" to their services you will be "locking yourself out" from many important developments.

2. What type of instructional content is being supplied?

In choosing a content supplier it is important to consider the breadth and quality of the instructional materials provided. Many companies have excellent courses in technical skills training, especially in the computer field – for example, “How to Use Microsoft PowerPoint.” However, high quality e-Learning based instruction on general



management and soft skill development is much harder to find. Though many companies claim to be providing broad coverage, actual offerings on the “soft” as opposed to the “technical” side are scarce. The choice often boils down to the offerings of “high priced” course providers with general programs for management development, or purchase of discrete courses on special topics such as Marketing or Negotiation Skills from companies specializing in these domains.

Also, it is important to consider whether content provision will lock you into linear course-based learning patterns as opposed to education that can provide a key element of job-based performance support on a just in time, just enough basis. Remember, if new e-learners get a bad e-Learning experience they may be put off the process for a long time.

3. How granular is the content?

Many companies are moving into the e-Learning business by putting text or traditional instructional materials on-line. Computer terminals are being used to deliver overwhelming amounts of content by “chunking” books and articles into bite-sized pieces. These “chunks” are often described as learning objects that can be mixed and matched or accessed by users in a variety of ways. But if the materials have been created in a linear fashion in the first place – just like traditional books and articles have a fixed beginning, middle and end – the “chunking” into learning objects doesn’t achieve very much.

To take advantage of the interactive, learner-driven opportunities created by Internet and web-based technology, a completely different approach to the design of content is necessary. Learning objects have to be designed and produced for the web from the “bottom up” in a granular fashion so that they can be accessed in a way that serves learner’s needs as precisely as possible. In judging a learning product or on-line course, it is thus important to judge whether it has been specifically designed for the web in learning object form, or whether the “learning object” concept is being used in a superficial and inaccurate way to describe a “chunking” of traditional material. If you don’t ask this question you’ll probably end up buying a product that is inflexible and difficult to use, and impossible to customize for your organization or for individual users in any significant way.

The claim “We have a learning object based system” tells you nothing about the true flexibility of the system and the capabilities for learner-driven learning. The granularity and associated self-organizing capabilities of the learning object architecture is what’s key!

4. Is it possible to customize the product or service being offered?

Web based technology provides an opportunity for mass customization because it is possible to treat every learner as a distinct individual, and to find ways of delivering each



corporate customer exactly what they need. It is no longer necessary to accept a “one size fits all” principle. In considering e-Learning offerings it is important to ask about customizability and the price and speed at which it can be achieved.

To meet the “second and third generation” potential of e-Learning you need to strive for a completely customizable product where each user is able to develop unique learning experiences and create their own learning paths. At a corporate level the system needs to be capable of being customized to focus on key business issues, and to create and share new knowledge in relation to those issues. The interface between system learning materials and your corporate specific material should be as seamless as possible to maximize the learning potential of both sets of material.

5. How flexible and focussed is the learning experience provided?

Most of us have had experiences where we have spent hours surfing the Internet in search of information, only to find that we have to sort through piles of junk to find the precious “nuggets” that we require. We have also probably spent valuable days or hours in training seminars or on educational programs – "on line" or in a classroom - waiting for the instructor to get to the material or ideas that we really need. Think of the 80/20 rule. Typically, 80% of the value of a classroom learning experience might be delivered in 20% of the total course time. In selecting a learning or course provider, it is vital to avoid this problem and opt for systems that have the flexibility required to meet specific learning needs as rapidly as possible.

The best e-learning systems are designed with this need clearly in mind. Tagging, hyper-linking and search capacities built into the operational core of the product can help users find exactly what they need. Further, as technology develops each learning experience should be capable of being accessed in a flexible way to allow the user to drive directly to what is needed, in a manner that suits their learning style.

Many e-Learning experiences are still “course-based”. This means that learners usually have to plough through the whole course to get what they need. It is the old “first generation” instructional model in electronic form. The learner is, in effect, in a classroom where the instructor or course designer is in control. Internet and granular learning object technology avoids this problem by allowing us to reinvent the concept of a course. Instead of presenting pre-determined learning paths, it can cluster learning experiences that can be accessed in any way the learner wishes. This creates immense flexibility and allows users to focus on exactly what they need. If a learner already understands something, he or she can start “in the middle”, saving time and maintaining learner motivation. If the learning experience is pre-structured so that the learner can apply what is learned to his or her work situation, learning can also lead to immediate increased value on the job.



6. How interactive is the learning system?

In selecting a learning product or service it is vital to select a system that involves and intrigues the learner. Systems that simply put text on screen and require the user to scroll and scroll, or which try to dictate the pace and style of learning, typically remain unused. Successful learning systems must create a collaborative, interactive experience where the user and system act as partners in achieving learning goals.

The learning system that you are involved with at this moment (i.e. reading this article) is *not* very interactive because it is following a “first generation principle” of putting “a lecture on line”. I have tried to create some measure of interactivity by allowing you to drill down to the specific questions that intrigue you in any order that you wish. But in terms of interactivity I would score it as a “2” on a 1-10 interactivity scale (where 10 is high). To see the contrast, visit the learning experience at <http://www.newmindsets.com/demo.htm>. As a free standing learning object this alternative perhaps merits a 6 or 7. In a broader system comprising hundreds or thousands of such experiences that you can mix and match to meet specific learning needs, it would approach a 9. With "third generation" bells and whistles it would reach a 10.

7. Is the learning system intended to complement or replace face to face styles of education

Face to face interaction and exchange will always remain a valuable element of many learning experiences. There are times when it is important to bring people together so that they can see and experience each other, share stories, empathize and learn from each other in very personal and direct ways. Hence the challenge of e-Learning is not to get *everything* on- line and communicate solely via modem, voice or video exchange. The challenge is to use e-Learning where it works best and retain classroom or other face to face modes of instruction where they can pay real dividends.

If the classroom, with all the overhead and travel costs needed to bring people together, is just being used to communicate routine content, chances are that resources are being wasted – even when the classroom is electronic rather than real. When it comes to communication of the *content* of most learning experiences, web-based instruction can usually do the job much more effectively and achieve much more focussed results than traditional means. This is where on-line methods need to be used and where e-Learning experiences can replace classroom time with significant cost savings. e-Learning experiences have a powerful role to play in “before and after education” as well as through free-standing learning events. In this way it is often possible to use e-Learning to compress one week of traditional classroom instruction into one or two days, using the classroom or equivalent face to face interactions where they are most needed and can add most value.



8. Is the learning architecture open or closed?

Some learning systems lock you into “straitjackets” and “dead ends” as you become a prisoner of the content and style of what is being presented. These problems come in many forms: as step-by-step learning paths that allow no variation; through content that presents just one limited view, allowing no other perspectives or information to be included in the learning process; as outdated or biased information; or through the unintended limitations that a content expert or instructional designer has unconsciously built into the product. It is thus essential to ask whether the learning systems that you are purchasing are based on an open architecture. Closed systems lock you in; open systems allow you to explore. They may even allow you to find new materials that may not be an explicit part of the training system.

Look for an open-system architecture. Look for systems that allow many possible learning paths. Look for learning object design that helps you move from one topic of study to another if you wish to “dig deeper” or explore more broadly. In a web-based world each learning experience should also direct you to the best resources worldwide on the topic you are studying: background books and references, web sites or products, training programs and services that can be purchased to enrich your learning experience. In this way the system can help users know what resources are available in the broadest sense and target exactly what they need.

9. Does the system allow you to enrich learning through complex behavioral simulations?

As bandwidth increases it is possible to deliver very sophisticated learning experiences through on-line technology. However, most users do not yet have the equipment needed to benefit from this kind of application. As a result, most complex on-line simulations have to occur in some kind of special training context or lab. There are several companies offering custom-made or “off the shelf” simulations of this kind for those who have the resources to pay and this is an area in which we can expect to see massive developments as technology improves and design and operational costs fall.

10. Does the desire to assess and evaluate learning dominate the learning process and end up getting in the way of real learning and the enthusiasm with which users will embrace the system?

It is important to ensure that on-line learning produces real, positive outcomes. But traditional methods of evaluation can often get in the way. In an on line environment the process of evaluating what an individual is learning at every step can produce much frustration and resentment. Many learners resent the “Big brother” feeling that a



computer is watching and evaluating their every move. Many learning systems fall into this trap, creating experiences that users come to resent and reject. Close monitoring and evaluation of this kind may be very relevant in helping a learner master a technical skill by providing constructive feedback at every stage. But in more open learning situations it is likely to become a problem.

In purchasing e-learning products and services it is thus important to review how evaluation of learning is to occur and whether it is provided in a way that will support rather than inhibit the learner. It is important to remember that what works in classroom-led training with live instructors will not always work in on-line settings.

e-Learning technology brings new challenges to the whole process and philosophy of learning and training assessment and evaluation. Be vigilant here. Don't try to hang onto your old systems. Recognize that a new approach to evaluation may be required if you are to tap the true benefits of second and third generation e-Learning. See your investment in e-Learning as part of a performance support strategy. Track your ROI with this in mind.

11. To what extent does the learning product or service result in the creation and sharing of new knowledge?

In a knowledge economy the ability to learn in a way that produces new ideas, knowledge and practical insights is vital. It is also vital that this knowledge be shared so that it is not locked in individual heads, and does not leave when people move to new positions or leave for a job in another organization. Many learning systems fail miserably on this score for two reasons. First, the learning does not always result in practical insights that can make a difference in real work situations. Second, the learning system does not do a good job in capturing and sharing the new knowledge that is created as the result of successful learning experiences so that it can be used more broadly as a corporate resource. As a result, "bottom line" ROI is often disappointing. It is thus important to select learning systems that are aware of the problems and provide means through which they can be overcome.

Look for "second generation" systems that recognize the importance of using e-Learning as an "on the job" performance support, integrating learning, knowledge creation and knowledge sharing. In principle, every learning experience in a second or third generation e-Learning system can be structured in a way that invites application to real job issues and concerns, encouraging users to capture new ideas and insights and use collaborative technology to express their ideas as freely and thoroughly as possible. In this way the e-Learning system can produce demonstrable additions to individual and organizational knowledge and ROI. Systems of evaluation (Question 10) should focus on understanding and enhancing this potential.



12. How secure and confidential is the learning system?

Security is a big issue in most corporate information systems. Chief Technology and Information officers are anxious to ensure that corporate intranets are secure and have adequate firewalls. Line managers, HR professionals and R&D specialists – to name just a few of the groups interested in this issue – are anxious that proprietary information remains proprietary and that confidential information doesn't get into the wrong hands. And, last but not least, individuals usually want to know that what's private remains private. It is thus important to know how a new learning system or application, particularly those delivered via the Internet, will interface with existing environments and whether security will be jeopardized.

Ensure that your e-Learning system is designed with these issues in mind. Individual users of the system should rest assured that the information that they produce through the learning process will only be made available to those whom they choose, and will only be used and shared in accordance with the corporate codes of conduct applicable in their organization and of which they have been made aware

13. Is the learning system "second generation" and also positioned for "third generation" development?

Most large and medium sized organizations now see e-Learning as a part of their future. They clearly understand how, in the right circumstances, it can help to increase the cost effectiveness of corporate learning and development by reducing or replacing expensive seminar and classroom education. They realize how it can bring ongoing learning to the desk of employees on a just in time, as needed basis. They realize how this can help manage the incredible demands on people's time and avoid many of the stressful "work backlogs" that follow time spent on the latest "away from work" educational program.

But in the rush to get on board the new technology, many corporations are spending millions of dollars locking themselves into "first generation" e-Learning applications that are going to be quickly replaced by second and third generation alternatives.

To avoid this problem it is important to ask the right questions that will ensure the applications being purchased have the evolutionary potential to keep them current and relevant. In particular three issues have to be kept in mind:

- ***First and most important, in buying or developing a portal or learning system are you locking yourself into a first-generation marketplace for learning materials?*** For example, many Learning Management Systems are developing technology that seeks to control the marketplace for e-Learning products by positioning themselves between



purchasers and content creators. Many of the assumptions and evolving standards built into their infrastructure reflect "first generation" learning design and evaluation principles. For example, the simple assumption that people need to be educated through formal "courses" or other pre-determined programs can eliminate the potential for a more flexible, "just in time" performance support " approach. Similarly, old-fashioned methods of evaluation where the system is in control of evaluating what is learned through "knowledge testing questions" or "on-line" time monitoring can have very negative impacts on employee motivation and the learning that results. These old methods of evaluation - which have had a positive effect in the area of technical skills training because they are very appropriate in this arena - can become an enormous problem when e-Learning is applied to "soft skills" and general management development. To assess portal and Learning Management System flexibility ask the providers to ensure that innovative, flexible learning applications can be used through their system. Get them to demonstrate flexibility through specific examples. Make sure that your portal learning management decision is not going to lock yourself out of some of the most interesting learning design and content development activities now underway in the e-Learning field.

- ***Focus on systems geared to promote business and job-based performance support, rather than on learning and education as an end in itself.*** Universities pursue learning as an end in itself and the best do a wonderful job at this. Corporations, on the other hand, usually have a very different agenda and need to approach learning in a very different way. Why therefore, build your e-Learning activities around old university models with an emphasis on content learning, accreditation and instructor dominated courses? Second generation e-Learning presents an alternative by allowing and encouraging "learner-led learning" where the instructor is always present but invisibly inside, allowing the learner to create understanding through concrete, job-based application of what is being learned. In buying e-Learning systems think performance support. Think about how the system can help people create and share usable knowledge, not just learn content for its own sake. The second and third generation systems now appearing in the marketplace sell learning solutions that can self- organize around business and learner needs. In contrast to the first generation course based models, the system fits and mobilizes itself to meet the needs of the learner. The learner is not forced into a "one size fits all" educational mould. In purchasing e-Learning systems and applications ask whether the system can self organize around your performance support needs instead of the reverse.
- ***Pilot, experiment and learn your way into the future. Learn by doing. Don't stand by waiting for the perfect solution to arrive.*** In the e-Learning world it is possible and desirable to pursue multiple paths at the same time. Many organizations are moving too rapidly in putting all their eggs in one basket - looking for the big system application that will meet all their needs. Time will tell, but this is probably a big mistake. While big corporations like to find big solutions, there is much merit in moving forward in a more experimental mode, making sure that you don't lock yourself out of crucial second and third generation developments. The biggest danger of unfavorable "lock-out" at the moment is probably posed by the large-scale



Learning Management Systems that are seeking to control the e-Learning marketplace by acquiring an overly dominant position.

In keeping these issues firmly in mind you will be able to find flexible systems and solutions that will position you to take advantage of the many exciting developments that second and third generation e-Learning have in store.



About the Author:

Dr. Gareth Morgan is the Distinguished Research Professor in Management at York University's Schulich School of Business in Toronto. He is also a prominent author, keynoter speaker and seminar leader in the field of training and management education. He is author of seven books on management, including the acclaimed *Images of Organization* (1997) and *Imaginization: New Ways of Thinking, Organizing and Managing* (1998). Available in over a dozen translations, *Images of Organization* is used as a basic management text at over 500 universities worldwide. Gareth has been elected Life Fellow of the International Academy of Management for his international contributions to the science and art of management.

Gareth's consulting and research have been at the forefront of many contemporary management trends: prototyping the requirements of learning organizations; designing and managing decentralized networks, creating flexible team-based enterprise, unleashing creativity and innovation, using theories of paradox and self organization to find new methods of managing change. He has made hundreds of keynote presentations throughout Europe and North America on issues relating to the management of change, and the management and organizational competencies required for success in the new economy.

He has consulted with many leading corporations throughout Europe and North America and in education, government, healthcare and the voluntary sector.

Gareth and his team of collaborators have spent three years developing the *NewMindsets.com* learning system and creating hundreds of learning experiences that can mobilize the potential of web-based technology. This work builds on leading edge insights from the new sciences of chaos and complexity, resulting in a new "second generation" e-Learning design mobilizing key principles on learning and self organization.

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