E-LEARNING

CONCEPTS, TRENDS, APPLICATIONS

About

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Contents

Introduction

While the term "e-learning" has been thrown around quite a lot in recent years, many are still unaware of what it actually means and how it can help them achieve success in both their professional and personal lives. This short e-book aims to provide an introductory level overview of the e-learning field for those people.

This e-book is divided into five main topics. The **first topic** sets the case for e-learning by dealing with subjects such as its history, its advantages and any drawbacks, and whether it can actually lead to learning. The **second topic** describes important types of learning tools that are available today. The **third topic** deals with the characteristics of online courses and how one can create successful learning communities. The **fourth topic** is about emerging learning trends. Here we explain themes such as micro-learning and gamification. And the **final topic** describes the application of e-learning in different industries.

What is e-learning?

When it comes to education, the model has been pretty straight forward - up until the early '00s education was in a classroom of students with a teacher who led the process. Physical presence was a no-brainer, and any other type of learning was questionable at best. Then the computer evolution happened and it radically changed the learning landscape.

In essence, e-learning is a computer based educational tool or system that enables you to learn anywhere and at any time. Today e-learning is mostly delivered though the internet, although in the past it was delivered using a blend of computer-based methods like CD-ROM.

Technology has advanced so much that the geographical gap is bridged with the use of tools that make you feel as

if you are inside the classroom. E-learning offers the ability to share material in all kinds of formats such as videos, slideshows, word documents and PDFs. Conducting webinars (live online classes) and communicating with professors via chat and message forums is also an option available to users.

There is a plethora of different e-learning systems (otherwise known as Learning Management Systems, or LMSs for short) and methods, which allow for courses to be delivered. With the right tool various processes can be automated such as the marking of tests or the creation of engaging content. E-learning provides the learners with the ability to fit learning around their lifestyles, effectively allowing even the busiest person to further a career and gain new qualifications.

Some of the most important developments in education have happened since the launch of the internet. These days learners are well versed in the use of smartphones, text messaging and using the internet so participating in and running an online course has become a simple affair. Message boards, social media and various other means of online communication allow learners to keep

in touch and discuss course related matters, whilst providing for a sense of community.

In the fast-paced world of e-learning the available technologies to make a course exciting are always changing, and course content can and should be updated quickly to give students the very latest information. This is especially important if the e-learning training is being given to employees in a sector where keeping up-to-date on industry developments is of the utmost importance. This is one of the reasons why many businesses are now offering training via e-learning - other reasons includes low costs and the ability for employees to study in their own time and place.

Overall, traditional learning is expensive, takes a long time and the results can vary. E-learning offers an alternative that is faster, cheaper and potentially better.

The history of e-learning

The term "e-learning" has only been in existence since 1999, when the word was first utilized at a CBT systems seminar. Other words also began to spring up in search of an accurate description such as "online learning" and "virtual learning". However, the principles behind e-learning have been well documented throughout history, and there is even evidence which suggests that early forms of e-learning existed as far back as the 19th century.

An e-learning timeline

Long before the internet was launched, distance courses were being offered to provide students with education on particular subjects or skills. In the 1840's Isaac Pitman taught his pupils shorthand via correspondence.

This form of symbolic writing was designed to improve writing speed and was popular amongst secretaries, journalists, and other individuals who did a great deal of note taking or writing. Pitman, who was a qualified teacher, was sent completed assignments by mail and he would then send his students more work to be finished using the same system.

In 1924, the first testing machine was invented. This device allowed students to tests themselves. Then, in 1954, BF Skinner, a Harvard Professor, invented the "teaching machine", which enabled schools to administer programmed instruction to their students. It wasn't until 1960 however that the first computer based training program was introduced to the world. This computer based training program (or CBT program) was known as PLATO-Programmed Logic for Automated Teaching Operations. It was originally designed for students attending the University of Illinois, but ended up being used in schools throughout the area.

The first e-learning systems were really only set up to deliver information to students but as we entered the 70s e-learning started to become more interactive. In

Britain the Open University was keen to take advantage of e-learning. Their system of education has always been primarily focused on learning at a distance. In the past, course materials were delivered by post and correspondence with tutors was via mail. With the internet the Open University began to offer a wider range of interactive educational experiences as well as faster correspondence with students via email etc.

Online learning today

With the introduction of the computer and internet in the late 20th century, e-learning tools and delivery methods expanded. The first MAC in the 1980's enabled individuals to have computers in their homes, making it easier for them to learn about particular subjects and develop certain skill sets. Then, in the following decade, virtual learning environments began to truly thrive, with people gaining access to a wealth of online information and e-learning opportunities.

By the early 90s several schools had been set up that delivered courses online only, making the most of the internet and bringing education to people who wouldn't previously have been able to attend a college due to geographical or time constraints. Technological

advancements also helped educational establishments reduce the costs of distance learning, a saving that would also be passed on to the students - helping bring education to a wider audience.

In the 2000's, businesses began using e-learning to train their employees. New and experienced workers alike now had the opportunity to improve upon their industry knowledge base and expand their skill sets. At home individuals were granted access to programs that offered them the ability to earn online degrees and enrich their lives through expanded knowledge.
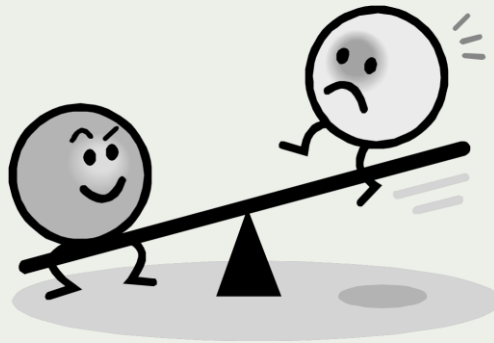
The benefits and drawbacks of online learning

Whether you're a high-school teacher looking to engage your students in a more interactive way, or a corporate trainer hired by a large company to design training

curricula, e-learning packs a punch when it comes to benefits that make the creation and delivery processes easier and hassle-free. Important benefits are outlined below:

No Boundaries, No Restrictions

Along with locational restrictions, time is one of the issues that learners and teachers both have to face in learning. In the case of face-to-face learning, the location limits attendance to a group of learners who have the ability to participate in the area, and in the case of time, it limits the crowd to those who can attend at a specific time. E-learning, on the other hand, facilitates learning without having to organize when and where everyone who is interested in a course can be present.

More Fun

Designing a course in a way that makes it interactive and fun through the use of multimedia or the more recently developed methods of *gamification* (further discussed in later chapters) enhances not only your engagement factor, but also the relative lifetime of the course material in question.

Cost Effective

This is directed to both learners and teachers, but there is a good chance that whatever your role you had to pay exorbitant amounts of money at some point to acquire updated versions of textbooks for school or college. While textbooks often become obsolete after a certain period of time, the need to constantly acquire new editions is not present in e-learning.

It Just Fits!

As companies and organizations adopt technologies to improve the efficiency of day-to-day operations, the use of the internet becomes a necessity. As multinational corporations expand across the globe, the chances of working with people from other countries increases, and training all those parties together is an issue that e-learning successfully addresses.

Let's blend all of that together and apply it in a real-life scenario:

In an effort to enhance the credibility of course material, oftentimes a professor will summon a field specialist to give a lecture relevant to the topic at hand. In the traditional model of education, the professor would have to extend an invitation to said expert, and incur the costs of his flight, stay and training.

With e-learning:

With e-learning the professor has the ability to host a guest lecture without having to spend much money. It can be done virtually, with cameras for both the lecturer and the students, and with the use of microphones to facilitate the same level of interaction that would be possible if the lecturer were physically present in the room. The added benefit comes in when we are able to replay the lecture and gain even more out of it. Students that missed out can view the recording, or students that attended can watch it again to further their understanding.

Concerns that arise with e-learning

Even given all the benefits of e-learning, one cannot deny there are some drawbacks. Practical skills are somewhat harder to pick up from online resources. For example, although building a wooden table is something you can easily share information about, record videos of and explain, the practical experience is essential. Pottery and car engineering are examples of skills that require hands-on experience.

Isolation

Though e-learning offers ease, flexibility and the ability to remotely access a classroom in the student's own time, learners may feel a sense of isolation. This is because learning online is a solo act for the most part, which may give the learner the feeling that they are acting completely alone. As technology progresses and e-learning benefits from the advancements being made, learners can now engage more actively with professors or other students using tools such as video conferencing, social media, and discussion forums amongst others.

Health Related Concerns

E-learning requires the use of a computer and other such devices; this means that eyestrain, bad posture and other physical problems may affect the learner. When running an online course it's a good practice to send out guidelines about correct sitting posture, desk height, and recommendations for regular breaks.

Can we learn online?

One of the most longstanding debates in the field of education has been whether or not we can benefit from e-learning to actually learn. Do we, as human beings, have the ability to soak up information in this fashion, and can we truly learn new skills and expand our knowledge by learning virtually? We realize the reservations of people who will argue that computers promote procrastination and offer distractions, however we owe it to ourselves to dig a little deeper and see the other side of the coin that pinpoints the unique advantages of learning online.

It's true that as individuals we don't all respond to one teaching method in the same way - some learn visually, and others learn with repetition or writing; some prefer

to learn by themselves, whilst others need someone to guide them all along the way; some are extroverts and feel comfortable talking in front of people, whilst others are introverts and are afraid to communicate openly inside the classroom. E-learning responds to those different needs with the use of different tools and a variety of materials. For example, e-learning commonly offers audiovisual content or interactive testing on the go that can be more attractive for younger learners than traditional books. E-learning also lets people communicate through email, forum or chat, allowing even introverts to take part in related conversations.

E-Learning, in comparison with traditional learning, significantly reduces the time needed to locate information. It also offers access to online resources, databases, periodicals, journals and other material you wouldn't normally have access to from a library. If a student has trouble understanding part of the coursework, finding tips on the matter couldn't be easier than having immediate access to supplementary, unlimited and mostly free material online! Those characteristics can potentially maximize the time spent actually learning rather than looking for information

(note however that seeking information can be a learning process in and of itself! – the word *serendipity* describes exactly that, the accident of finding something good or useful even when not specifically searching for it).

Learning online in practice!

Universities already embrace the power of e-learning to deliver content to students all over the world, even for free. At a time in which universities are under great pressure to deliver education, combining technology with education is integral to coming up with a final product that will empower the educational institution, set it apart, and allow it to grow its student base worldwide. Harvard and MIT are just two of the most well-known universities that have launched programs focused on offering classes online for free. Harvard videotapes its lectures and puts them online, so even its own student body can view and review them in case they missed a lecture or need to review a section.

Coursera is a hub for universities that choose to offer online classes through its platform for free. Already, companies and corporations spanning the globe accept certificates of completion of classes offered in *Coursera*

as valid credits, as if they had been completed at the university of origin. The material is essentially the same, the difference is the medium. Harvard for example, takes the delivery of online courses very seriously, delivering live classes which are recorded and delivered online. Harvard has even launched a specially designed section within its campus, employing videographers and specialists to design and create the perfect content to be delivered through its online platform.

Best practices of online training

Online learning can offer a wide range of benefits. However, the knowledge that a student is able to acquire this way depends not only on the course material that is

offered, but also the practices used to provide them with this information. Here are just a few of the best practices of online training which help to better facilitate the e-learning process:

A supportive community

Teachers and e-learning establishments should encourage a strong sense of community amongst their online students. This will enable students to interact with one another and the instructors, as well as with the resources provided, making for an enhanced educational experience!

Clear expectations

Students should be aware of what they will be receiving from the virtual class instruction, and both parties should know the preferred method of communication and delivery of the core curriculum. For example, a teacher may prefer to email assignments to students, while another might choose to deliver it via the e-learning site instead. Also, it's best to have clear expectations about how long each item of coursework should take to complete.

Asynchronous and synchronous activities

It's important to incorporate activities that are more interactive, as well as those that require the student to brainstorm and research a topic in depth. Thanks to the internet students can now attend virtual live courses as well as complete coursework offline that can enable them to delve into a specific subject or skill set.

Effective usage of available resources

To get the most out of the e-learning experience both the teacher and the student should take full advantage of the vast amount of resources that are available online. There are literally hundreds of online services that offer access to information, with Wikipedia being a prominent example. Instructors should seize the opportunity to enhance their content with online material or redirect students to additional web resources.

Learning vs. Training

It's important to understand the difference between learning and training. Of course they are inextricably linked, but they are unique aspects of any educational process. Training is the giving of information and knowledge, through speech, the written word or other methods of demonstration in a manner that instructs the trainee. Learning is the process of absorbing that information in order to increase skills and abilities and make use of it under a variety of contexts. Whatever the goals, the quality of the learning will rely largely on the quality of the training, and so the role of trainer is very important as it can have a huge effect on the outcome of a course for the learner.

Let's look at the characteristics of each, and see what makes an e-learning environment work.

The characteristics of learning

As mentioned above, learning is the process of absorbing information and retaining it with the goal of increasing skills and abilities in order to achieve goals - but it's more than that. Learning is what we go through when we want to be equipped for non-specific and unexpected situations and the two are not mutually exclusive. While you do learn to do something specific, you are also inadvertently equipped with the knowledge and/or skills to face future challenges. In essence, learning is all about equipping a person to tackle not just today's issues, but preparing him/her to creatively come up with ways to tackle tomorrow's issues.

The characteristics of training

Training on the other hand focuses more on the development of new skills or skill sets that will be used. Training is the process each new employee goes through when joining a company to learn how to carry out the day-to-day operations, know how their department works and how job-specific tools operate in order to carry out their responsibilities. In essence, through

training, we are not looking to reshape the behavior of an individual rather the point is to teach the employee or learner how things are done so that they can then carry out a process on their own.

Ideally, an e-learning environment will utilize both learning and training principles throughout its curriculum. This allows instructors/trainers to provide their learners with the tools to tackle current issues, develop life-long skills, improve on their problem-solving skills and utilize resources to the best of their ability.

E-learning in education vs. corporate sector

E-learning allows both students and business executives to learn anywhere and at any time. You can learn from

virtually any place with a computer or mobile device and internet connection, meaning you can study from home, on vacation or in your break. But e-learning is more than about convenience and there are fundamental differences between e-learning in the corporate sector and in education.

What happens in the corporate environment?

The role of corporate training is to ensure an employee has the knowledge and skills to undertake a specific operation to enable an organization to continue to operate. Fundamentally, corporate training is centered on knowledge transfer. For example, conferences and workshops are an essential yet expensive part of business and e-learning makes it affordable and efficient - sales people, for instance, can receive their training on new products and sales strategies online. E-learning can be translated to lower costs to deliver training in a shorter period of time, especially when employees are spread worldwide.

Corporate education however adds another dimension and depth to training by involving learners as participants in generating new knowledge that assists an organization to develop and evolve.

The main characteristics of corporate learning are:

Fast-paced: Enterprise learning is mostly "fast paced" because "time is money" in the corporate world. Training needs to be delivered in as short a time frame as possible with maximum results.

Career-related: Enterprise learning helps employees gain new skills to advance their careers inside the company. Enterprise LMSs have additional modules to facilitate that process.

Benefits organization: Enterprise learning focuses mainly on pragmatic issues with immediate benefits for the organization rather than just individual benefit. Ultimately training is required for the organization to function correctly, and corporate education in order for it to evolve and develop.

Training vs. Education: Enterprise is mostly focused on training, while education is mostly about learning though "igniting curiosity" (check out this related post on ['Learning through Curiosity'](#)). Training usually means the act of being prepared for something, of being taught or learning a particular skill and practicing it until the required standard is reached. This has obvious practical implications for the workplace.

Return on investment: An enterprise needs to be able to calculate the ROI of its learning investment. In an educational context this ROI is difficult to calculate and usually the effects of learning take years to show.

What happens in educational institutes?

In comparison with corporate learning, learning in the education sector focuses primarily on knowledge transfer and not on training i.e. in education we mainly strive to learn things with global scope (e.g. a subject such as mathematics) whilst corporate e-learning is more focused on business needs (e.g. new recruit induction). The word education means to gain general theoretical knowledge and this may or may not involve learning how to do any specific practical work, tasks or skills. Please note that there is some overlap and that the word 'education' can also refer to a process of training or receiving tuition. For example, basic training in a field such as health services is usually a combination of theoretical, educational and practical learning skills.

Convergence

Corporate e-learning professionals can learn from academic e-learning initiatives and vice versa, and we

are currently seeing a convergence of academic and corporate e-learning needs. For example, the academic space is starting to gravitate towards incorporating corporate methods in the classroom on how certain topics are taught. And on the corporate side they're shifting the model of utilizing technologies in a way that supports the traditional classroom of academics especially with regards to blending technologies.

There is obvious overlap: mobile learning for example is becoming increasingly popular with learners having one if not more mobile devices in their possession and taking these devices to school or work. Learners have access to the internet and social networks via these mobile devices so all the technologies required to gather information, create content and communicate with other people are readily available and naturally create an environment conducive to learning. Currently both the education and corporate sectors are struggling to answer the exact same questions: how do we use these for learning? How do instructional design, and teaching methodologies and theories apply to delivering content via mobile devices? It's only natural for knowledge to be shared across the table.

The future of e-learning

E-learning is here to stay. As computer ownership grows across the globe e-learning becomes increasingly viable and accessible. Internet connection speeds are increasing, and with that, opportunities for more multimedia training methods arise. With the immense improvement of mobile networks in the past few years and the increase in telecommuting, taking all the awesome features of e-learning on the road is a reality with smartphones and other portable devices. Technologies such as social media are also transforming education constantly.

Generally speaking, learning is expensive, takes a long time and the results can vary. E-learning has been trying for years now to complement the way we learn to make

it more effective and measurable. The result now being that there are a number of tools that help create interactive courses, standardize the learning process and/or inject informal elements to otherwise formal learning processes. Several e-learning trends give us a view to how e-learning and learning tools will be shaped in the future:

Micro-learning focuses on the design of micro-learning activities through micro-steps in digital media environments, which already is a daily reality for today's knowledge workers. These activities can be incorporated into a learner's daily routines. Unlike "traditional" e-learning approaches, micro-learning often tends towards push technology through push media, which reduces the cognitive load on the learners. Therefore, the selection of micro-learning objects and also pace and timing of micro-learning activities are of importance for didactical designs. Micro-learning is an important paradigm shift that avoids the need to have separate learning sessions since the learning process is embedded in the daily routine of the end-user. It is also perfectly suited for mobile devices where long courses can be overkill.

Gamification is the use of game thinking and game mechanics in a non-game context to engage users and solve problems.

Personalized Learning is the tailoring of pedagogy, curriculum and learning environments to meet the needs and aspirations of individual learners. Personalization is broader than just individualization or differentiation in that it affords the learner a degree of choice about what is learned, when it is learned and how it is learned. This may not indicate unlimited choice since learners will still have targets to be met. However, it may provide learners the opportunity to learn in ways that suit their individual learning styles and multiple intelligences.

The distant future: Automatic learning

In a well-known scene from the movie *The Matrix*, Neo lies down in a high-tech dentist's chair and straps on a wild array of electrodes, downloading a series of martial arts training programs into his brain. Afterward, he opens his eyes and speaks the words geeks have been quoting ever since: "*I know Kung Fu.*"

This type of automatic learning might sound like a dystopian future for many but it is where we are

heading. And despite the ethical questions that may arise, the benefits could be substantial at multiple levels if used properly. Here's how it works: you pick a task that requires high performance from your visual cortex such as catching a ball. Then you go find someone who's a pro at catching a ball, place them in an [fMRI machine](#) and record what's going on in their brain whilst they visualize catching a ball. Then you've got your ball-catching program, and you're ready to learn. Next step: put yourself into the fMRI machine, and rig it to induce that pro ball-catching imagery that you recorded earlier in *your* brain using neuro feedback. You don't even have to be paying attention while this is going on. Your brain, though, becomes familiar with that pattern - which is essentially what learning is: the brain becoming familiar with new patterns.

Research has shown that this fMRI pattern playback can cause long-lasting improvement in tasks that require visual performance. In theory, a type of automated learning is a potential outcome and what e-learning in the distant future may look like.

LEARNING PLATFORMS
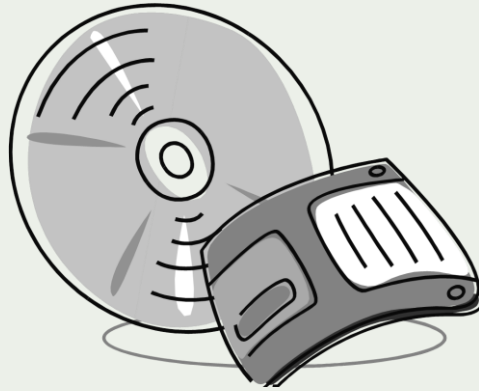
What is a LMS?

LMS stands for Learning Management System and it's a global term for a computer system specifically developed for managing online courses, distributing course materials and allowing collaboration between students and teachers. A LMS will allow you to manage every aspect of a course, from the registration of students to the storing of test results, as well as allowing you to accept assignments digitally and keep in touch with your students. In essence, the LMS is the backbone of most e-learning activities.

LMSs are built on various platforms, commonly PHP, .Net or Java and they will hook up to a database such as

PostgreSQL, MySQL or SQL Server. There are many LMSs out there, both commercial and open source.

In a corporate environment such a system can be used to monitor staff, and keep records of appraisals and training. Whether your course is run for a few learners over a long period of time, or for many over a shorter period, a Learning Management System makes your life easier and helps your course run smoothly. A good LMS will also have a reporting system so you can access information that would be tricky to gather yourself.

LMSs do vary in the features they offer, but most systems are likely to have some or all of the following features:

Easy GUI

GUI stands for Graphical User Interface. Most LMSs offer customization options for the interface to allow the user to give a unique flavor to his learning platform. Although the GUI is there to make the environment more aesthetically pleasing, it's also meant to be functional.

Customization

Aside from the GUI an LMS will oftentimes offer several different options for customization to tailor the system to your needs. Language options, notification settings and other important features can be changed to suit the way you want your LMS to work for you. This is great because one LMS can be used by many different types of users, each with unique preferences.

Enrollment

The system may allow students to enroll online and keep track of their details, course progress and test results for you. It may also allow students to pay their course fees online via credit card, debit card or PayPal.

Virtual Classroom

Your LMS may integrate with whiteboard systems for virtual classroom sessions and help you to schedule sessions too. It may offer you the ability to send out invites or reminders for classroom sessions and integrate with an online calendar system or with Outlook.

Social Networking

An LMS may be able to integrate with social media so you can share your content or news items via Twitter or Facebook etc. at the click of a button.

Communication

Your LMS system should also have built in functionality for communicating with your students, such as sending out a bulk email to everyone on a particular course, to individual students or to students studying a particular pathway. You should also be able to schedule automatic emails which can be very useful for notifying students of an upcoming test or virtual classroom session. A LMS may provide you with a chat room or a forum that you and your students can use.

Course pathways

With your LMS you should also be able to specify the details of a course with a flexible work flow to set students on certain 'learning pathways'.

Reports

Any good LMS will have a reporting system you can tap into, generating reports that you can export into Excel, and also offering you graphical representation of your data for ease of understanding.

Help with content creation

Being user-friendly is more than just a phrase. It's an action. When entering into your LMS for the first time it's good to have at least a sample of a course to get you going. An example of how to upload, manage, and distribute content within the system can go a long way with a new user. Templates are also good at getting new users going. **Testing**

Tests are an important part of many online courses and most LMSs will have plenty of functionality related to this. You'll want a robust test environment with various types of tests available to you and some built-in templates to use as a starting point. It's likely that you'll have the ability to randomize test questions and set a time limit for tests. With the test environment being within your LMS, you should also be able to rely on the security of your system. Test results will be stored and available to you within the reporting area of your LMS. You should also be able to set up a multiple choice test to be self-grading and choose to have the results delivered just to you, or perhaps also displayed instantly on-screen for your students.

Types of learning management systems

There are many LMSs available depending on your needs and budget. There are even free systems such as open source software that by definition are 'open' i.e. the source code is freely available for you to use and to adapt to your own needs. Many users of open source software will make improvements or use add-ons for their own needs, and then put it back out into the community for others to use. Open source LMSs can grow rapidly if they get enough interest and input. While you may not get any official support for an open source LMS, there will usually be a strong community

base online with forums or email lists where you can ask for and offer help.

Of course there are also commercial LMSs. If you're paying for an LMS then you'll get a more robust product, you're also likely to get good documentation and you'll probably have a good level of support as well. A commercial product may be more stable and bug-free than a free version, but of course there are always exceptions to that rule so it's a good idea to read reviews of various LMSs before you make your choice. Check out the features to ensure that everything you need is included.

You'll also need to consider whether to use a *deployed solution* or a *hosted system*. A deployed solution system will generally be set up on computers within your premises and behind your firewall. A deployed solution (or Internal System) may incur extra costs as the setting up of the system is likely to be done in-house rather than remotely. An installed system may also require more maintenance and support than you're able to provide unless you have a dedicated IT team ready to support it. It is vital your system stays up and running so before you choose this option make sure you have

people with the relevant skills available who will be willing to fix problems as soon as they occur.

With a hosted or SaaS (Software as a Service) LMS a lot of the work is taken off your hands, the system runs on someone else's server so you don't have to worry about server load or maintenance. The system will be set up by your provider and they should also take care of backups, or at least offer you a simple interface to schedule your own backups. A hosted service is normally up and running as soon as it's ordered since the service provider will be used to the procedure. In some cases it can even done automatically by the system upon electronic request. They'll also be able to implement any updates and fixes remotely for you.

A deployed solution will have a greater initial cost as you'll have the software and installation to pay for, but it may be more cost effective in the long run. With a hosted system you'll have less to pay initially, no software purchase costs, no installation fees and limited technical problems but over the years you may end up paying out more than if you'd opted for an installed LMS.

What is a content authoring tool?

An e-learning authoring tool is a software package which developers use to create and package e-learning content deliverable to end users.

According to Wikipedia.org, "a content-authoring tool is a software application used to create multimedia content typically for delivery on the World Wide Web. Content-authoring tools may also create content in other file formats so the training can be delivered on a CD (compact disc) or in other formats for various different uses. The category of content-authoring tools includes HTML, Flash, and various types of e-learning authoring tools."

Many programs can be considered authoring tools, including Flash, and PowerPoint. However, only a small group of programs specifically include support for e-learning content standards such as SCORM (Shareable Content Object Reference Model) or AICC (CBT) (Aviation Industry CBT Committee). Examples: *Articulate Storyline*, *Composica*, *Adobe Authorware and Camtasia.*
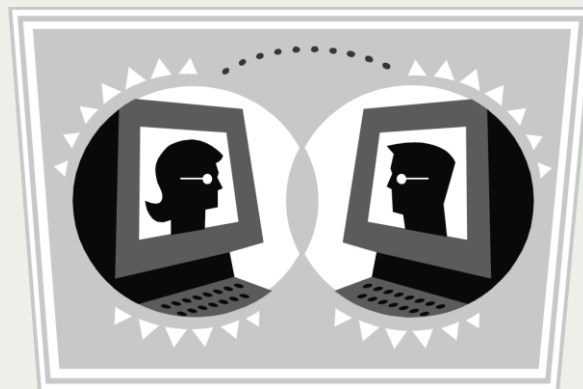
Synchronous e-learning vs. asynchronous e-learning

In today's e-learning environment the type of learning that takes place is generally divided into one of two categories: **synchronous** and **asynchronous**. Both strategies have their own pros and cons, and the

technique that is right for a student greatly depends upon their method of absorbing the information that is being provided.

What is synchronous learning?

Examples of synchronous e-learning are online chat and videoconferencing. Any learning tool that is in real-time, such as instant messaging that allows students and teachers to ask and answer questions immediately, is synchronous. Rather than learning on their own, students who participate in synchronous learning courses are able to interact with other students and their teachers during the lesson.

The main benefit of synchronous learning is that it enables students to avoid feelings of isolation since they are in communication with others throughout the learning process. However synchronous learning is not as flexible in terms of time as students would have to set aside a specific time slot in order to attend a live teaching session or online course in real-time. So it may not be ideal for those who already have busy schedules.

What is asynchronous learning?

Asynchronous learning on the other hand can be carried out even when the student or teacher is offline. Coursework and communications delivered via web, email and messages posted on community forums are perfect examples of asynchronous e-learning. In these instances, students will typically complete the lessons on their own and merely use the internet as a support tool rather than venturing online solely for interactive classes.

A student is able to follow the curriculum at their own pace without having to worry about scheduling conflicts. This may be a perfect option for users who enjoy taking their time with each lesson plan in the curriculum and would prefer to research topics on their own. However, those who lack the motivation to do the coursework on their own may find that they do not receive significant benefit from asynchronous learning. Asynchronous learning can also lead to feelings of isolation, as there is no real interactive educational environment.

Ideally, effective e-learning courses should include both asynchronous and synchronous learning activities. This allows students and teachers to benefit from the

different delivery formats regardless of their schedules or preferred learning methods. This approach provides students with access to immediate help if needed, while still giving them the ability to learn at their own pace.
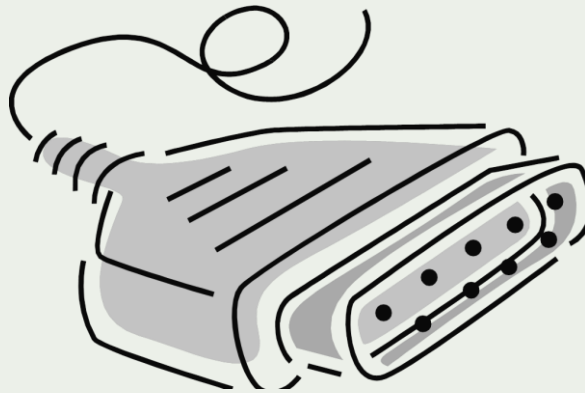
What is SCORM & TinCan?

SCORM, or Shareable Content Object Reference Model, defines a specific way of constructing Learning Management Systems and training content so that they work well with other SCORM conformant systems. Basically, the different versions of SCORM all govern the same two things: *packaging content* and *exchanging data at run-time*.

Packaging content determines how a piece of content should be delivered in a physical sense. At the core of

SCORM packaging is a document entitled the "*imsmanifest*". This file contains every piece of information required by the LMS to import and launch content without human intervention. This file contains XML that describes the structure of a course both from a learner's perspective and from a physical file system perspective. Questions such as: "*Which document should be launched?*" and "*What is the name of this content?*" are answered by this document.

Run-time communication, or data exchange, specifies how the content "talks" to the LMS while the content is actually playing. This is the part of the equation we describe as delivery and tracking. There are two major components to this communication. First, the content has to "find" the LMS. Once the content has found it, it can then communicate through a series of "get" and "set" calls and an associated vocabulary. Conceptually, these are things like "request the learner's name" and "tell the LMS that the learner scored 95% on this test." Based on the available SCORM vocabulary, many rich interactive experiences can be communicated to the LMS.

Why should I use SCORM?

SCORM is a really powerful tool for anyone involved in online training. Content can be created one time and used in many different systems and situations without modification. This plug-and-play functionality can be powerful within an organization but even more so across organizations. Content can be sold and delivered to the user more quickly, more efficiently, and at a lower price.

SCORM is widely adopted by huge organizations. It has the critical momentum and is the de facto industry standard. The US Department of Defense has specified that all of its content must be delivered via SCORM. *All* of it! Industry is following suit, and the standard appears in a vast majority of RFPs to procure both training content and Learning Management Systems.

What is TinCan?

SCORM was developed over a decade ago now. Times have changed and the requirements of educators have changed, and so TinCan was developed. TinCan is an open source API that adds some needed extra functionality to SCORM and lifts many restrictions of older specifications.

The extra features provided by TinCan include simplicity, extra security measures, the ability to run courses outside the LMS, better support for offline and mobile learning and (potentially) more detailed reporting.

Development of TinCan is an ongoing project so we should expect more from it in the future.

Technologies used in e-learning

E-learning makes use of many technologies - some of which have been developed specifically for it, whilst others conveniently complemented the learning process, for example computer games. Communication technologies are also widely used in e-learning. Starting with the use of email and instant messaging, message

forums and social networks, we see a plethora of tools that any internet user would use in any case.

There are also some technologies that work in a complementary manner to other software and enable new features, for example software that adds a whiteboard on your video conferencing tool to allow you or your peers to make changes on other people's work for review, or screen-sharing which allows someone to make a presentation while still making comments and giving input using the microphone.

E-learning makes good use of database and CMS (Content Management System) technologies. These two work hand in hand to store your course content, test results and student records. The data is stored in the database and the CMS provides a user interface for you to add, update and delete data. A good LMS will often provide reporting tools to generate and store progress reports.

Technologies to improve the quality of content are manifold. Software such as Flash and PowerPoint will help you make your presentations slick and interesting, with high quality, graphically rich content. There are word processing packages and HTML editors available

these days that make formatting your text or web pages a breeze, removing a lot of the complexity. There are also lots of online services available that you can use to create interactive elements for your courses such as quizzes and games.

ONLINE COURSES
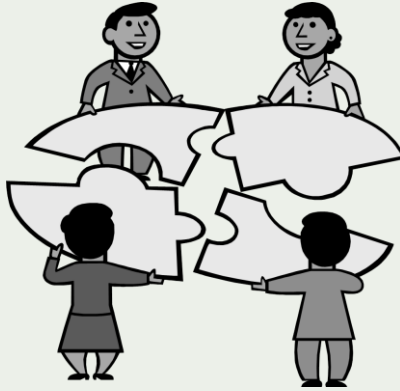
Elements of Online Courses

When creating an online course, a number of criteria must be met to ensure that students receive the benefits they signed up for. Below is a list of important ones:

Consistent instructor presence: the value of feedback

The role of the instructor is very important in the e-learning process because it's in his hands to encourage, inspire and ensure students don't feel like they have embarked on the learning trip alone, and also because it will ensure that students will be tracked and given proper feedback which is very important throughout the learning process. To facilitate such a relationship, Learning Management Systems offer options like

instant messaging between peers, email and other tools that ensure learner and professor are but a click away from each other.

A streamlined and well-designed LMS

When talking about the success of a LMS, we primarily mean that we want an e-learning site that will be easy to navigate, is well-organized and contains high quality material. Everyday tasks include the distribution of new material and sending, receiving and grading assignments. A well designed LMS will ensure that those tasks are hassle-free and that its users can easily tap into the myriad of features that are an important part of the e-learning process.

Content that is up to par

Aside from the ease and design of your LMS, the next most important thing to keep a student satisfied is the material. The role of the curriculum is to set the tone for an organization to design a successful course and offer both teachers and learners a set of guidelines. So while a system must be well designed and efficient, the quality of the content must be on par with the impression you want the LMS to make in its entirety.

Tested delivery methods

Let's start with an example: you are running a course on astrophysics and you have found a very interesting video that you feel enhances the points made within the already existing content. Is adding said video to the material the right move?

As with any other website, application or product, compatibility is always a delicate matter. We need to always be sure that the material we post for learners to use is compatible with all the possible web browsers or platforms being used. To avoid discouraging learners, keeping it simple is preferable to overextending ourselves and possibly hitting an incompatibility roadblock.

All of these key elements have the ability to foster a supportive, effective e-learning environment. When all of these essential components are in place, online learning establishments have the ability to not only provide students with the skill sets and knowledge base that they are looking for, but a virtual education platform that helps to contribute to the future success of (and serves as a model of excellence for) the e-learning industry.

Online tests and quizzes

Despite the fact that e-learning lacks the element of physical presence, tests and quizzes are still an essential part of the educational process. Through online tests and quizzes an instructor is able to track the progress of students and assess the effectiveness of the curriculum, while at the same time students have the ability to track their own progress and improve on their skills accordingly.

Why are tests and quizzes a vital part of e-learning?

Tests and Quizzes play an important role in e-learning and provide an array of benefits for both the learner and the instructor.

Let's first look at how they improve the experience of the instructor.

Less work to be done

Remember school, when tests lasted an hour at a set time of day and the instructor usually had to stay up late to grade them and then write detailed feedback for each and every individual student?

We've already gone through how e-learning alleviates the need for testing to be done at a specific hour, but it also makes testing a hassle-free task as corrections are automated with a LMS. In the cases of "Essay Question" tests, e-learning systems are usually equipped with keyword tracking tools that grade depending on what has been mentioned in the essays. This isn't a fool-proof system but it helps save some time in comparison with long grading sessions.

Unique Tests

Testing and quizzing can be made unique in a LMS by randomizing question and answer order. This is especially useful when a learner has to re-do a test which he/she previously had poor performance on so that the test is not completed by memory, but rather by

actually thinking through the correct solution once again. This feature is also useful to produce more variety by using a large pool of questions from which testing can be done, rather than recycling the same questions over and over.

Instant grading and feedback

Grading and giving feedback is probably the most time consuming task for the instructor. It's where the instructor has the ability to comment on the strengths and weaknesses of a learner and enable learning to actually take place! Feedback needs to be good. A LMS will usually allow the instructor to create dynamic feedback depending on the answer a learner will give to a specific question. For instance, in a multiple-choice test if the learner chooses answer B over the correct answer C, the appropriate feedback will be given back to the learner, indicating fault in the thought process, or hints as to why another answer would be more appropriate. This complements point 1 above (i.e.: "Less work to be done") by the instructor because it allows the learner to get *instant* feedback on a correct/ incorrect answer, and it saves time for the instructor who can take advantage of automated feedback.

In-depth analysis readily available

Tests have to be gathered and graded, and feedback has to be written for the individual learner to take back and improve on particular areas. Learning Management Systems give the instructor even more analysis though. Through a reporting system, a LMS gives the instructor an overview of test scores, progress and growth with graphical representation to make the analysis even easier to grasp especially when the class-size is very large. That way, an instructor has the ability to analyze which students scored highest/ lowest, and which questions were hardest/ easiest for the majority of students. Reporting is a handy tool that allows the instructor to see trends and act upon them to improve the curriculum.

It is also environmentally friendly!

Going from hard-copy tests/ quizzes to offering the same capabilities online reduces consumption of goods such as paper - especially important when the online classroom is large and growing!

Now, let's see how tests and quizzes improve the experience of the student:

Self-assessment tool

Testing and quizzing online will usually provide the user with results instantly. This is good for students because it allows them to know what they did wrong immediately, what they need to focus on, and how to improve should they have to retake the test.

Keeps learners engaged

Tests and quizzes have always been a motivator to study harder when students know that their progress will be judged upon an exam, a performance review etc. It sets a deadline for when material needs to be learned by and diligent students know they must adhere to that.

Further considerations

The use of different forms of testing, such as multiple choice tests, fill-in-the-blanks, true or false, or essay questions can also be used to assess the progress of students with different learning styles. Catering to the needs of different learning styles is an important aspect of e-learning which gives it the edge over traditional

learning models. It is a good idea to use different types of material, and varying types of tests and quizzes to engage everyone in an online class.

An important note on online quizzing and testing is the ability a learner has to research the web for answers and creating tests should be done with that in mind. If something is too hard and/or a little off topic in terms of the material taught, it is likely to be researched online. If the tests are too easy, they will be dismissed and passed over without much being learned. Thus tests should be structured in a way that encourages learners to think back to the material taught within the course rather than looking for answers elsewhere.
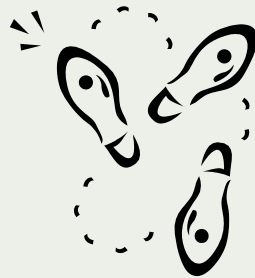
How to make e-learning effective

Anyone may be able to create a simple online course, however creating an *effective* e-learning course is

altogether different. An effective course takes a good deal of time, hard work, and a commitment to high quality content.

Here are some tips that can help you create a highly effective e-learning course regardless of the material or curriculum:

Know your subject material well!

There is no golden rule on how much time you need to put into creating the ideal content, but one thing is certain - you need to take your time to research material before making it available to your learners. The reasons are simple, you want to be prepared to back up any claims made within your course material, not all learners digest information the same way, and some may need more explanation through examples or further proof.

Online courses provided should appeal to all learning styles

The design of the online course should take every learning style into consideration. For example, while one student may benefit from visual multimedia presentations of coursework and lessons, another

student may be able to better absorb the information when it is presented in text form. An effective e-learning course always takes these various learning styles into account when the lessons are being created.

Facilitate Contact

Students and teachers should be able to establish an open line of communication. Also, teachers should specify which means of communication they prefer and during which hours. This will ensure that expectations are met and that the student receives the help or support that they need. Also, students should have contact information for the systems IT support staff, and have access to a member of staff on a regular basis if needed. Examples of how students can communicate with their instructors are: discussion forums, social media, chats, email, video conferencing and other VoIP technologies.

Platform should be easy to navigate and fully functional

When designing the site and e-learning platform, ease of navigation and functionality should be top priority. A well organized and intuitive web-based learning platform enables students to focus on the coursework

rather than having to sort out technical issues that may arise from poorly designed sites and systems.

Course documents should be available to every student enrolled

Course documents like the syllabus must be available for students to view, particularly at the beginning of the term. This will ensure that the student knows which lessons will be covered throughout the course, and can use the syllabus as a guide throughout the entire course. It provides teachers with an effective road map as well, and helps structure their lesson plans.

Set and communicate clear goals

A point we can't stress enough: one of the reasons teams are unable to achieve goals is not having clear enough guidelines on how to reach them. Part of the curriculum of any course should be what will be done, when it will be done, and what is needed for the successful completion of tasks. It is therefore important that all instructors set and communicate clear goals to their learners in a manner in which they are sure they will understand and will be able to put into action.

Tools to create an online course

If you are considering creating an online course to upload and sell online, the process may not be as challenging as you might think. As a matter of fact, thanks to advancements in modern technology, designing a simple and straightforward e-learning course can be relatively stress-free (as long as you already have a clear concept of what content you'd like to include and a solid core curriculum). Here are a few online tools that can help you to create an e-learning course.

The LMS

Most people in the online course industry will tend to side with a LMS - especially when new to the scene -

because it offers a large array of embedded tools that provide the administrator with the ability to create, curate and enhance content in ways that are more cost-effective than using individual tools would be. Also, the benefits of using a LMS include the all-in-one element which enables the user to create the platform (website) and the content all in the same space without needing special network administration or website management skills. Another attractive feature is the ability of the system to automatically calculate exam results and generate reports which help both instructor and learner.

Website creation platform

There are a variety of free or low-cost website creation platforms online today. Even if you aren't going to be offering strictly online courses (and are planning on providing CD-based courses), creating a high impact website that is easy to navigate and aesthetically appealing can help you to promote your product. For those who are offering online courses, having a well-organized and intuitive website can mean the difference between effective e-learning and a disappointing online learning experience for both teachers and students. There are also a myriad of companies that offer e-

learning website design services if you simply don't have the time or know-how to create your own.

Course design tools

Many companies now provide affordable course design tools. These sites enable you to upload the content of your courses and then design effective presentations. There are even free platforms that you can use today. For example, Google now has an e-learning design platform that is free of charge. Even those who are not well versed in coding or course design can now share their knowledge with the world.

Multimedia production tools

The key to having a truly interactive and engaging e-learning course is using the various multimedia resources that are available today. In our technological age, we now have access to instant streaming video, crystal clear recording capabilities and instant chat support services. Also, you can rely upon a myriad of highly interactive multimedia production tools, such as design software and high definition cameras to record informative courses for your audience. There are even editing tools that give you the power to turn raw footage into a masterpiece in just a matter of minutes.

E-LEARNING TRENDS

Blended learning

Blended learning is a combination of offline (face-to-face, traditional learning) and online learning in a way that the one compliments the other. It provides individuals with the opportunity to enjoy the best of both worlds. For example, a student might attend classes in a real-world classroom setting, and then supplement the lesson plan by completing online multimedia coursework. As such, the student would only have to physically attend class once a week and would be free to go at their own pace (and without worrying about scheduling issues).

Blended learning is often also referred to as "hybrid" learning, and can take on a variety of forms in online education environments. While some organizations may

only use blended learning techniques on rare occasions, others might utilize it as a primary teaching method within their curriculum. There are two key principles commonly associated with blended learning (which are the "secrets" to its success): students who can share information and work with other students directly in a collaborative setting have a more enriched learning experience, and collaboration between students can be improved upon if group activities rely on information gathered from online resources or lessons. It's also been suggested that students who complete online coursework followed by interactive, face-to-face class activities have richer educational experiences.

Tools and platforms that complement blended learning include LMSs and mobile devices such as tablets and smartphones.

Social and collaborative learning

Collaborative learning is an e-learning approach where students are able to socially interact with other students, as well as instructors. In essence, learners work together in order to expand their knowledge of a particular subject or skill. In e-learning environments, this is typically done through live chats, message boards, or instant messaging.

Collaborative learning is based upon the principle that students can enrich their learning experiences by interacting with others and benefiting from one another's strengths. In collaborative learning situations, students are responsible for one another's actions and tasks which encourages teamwork as well.

What are the advantages of collaborative learning online?

This method of learning can be conducted either offline or on the web, and can be done asynchronously or synchronously. It allows students to learn from the ideas, skill sets, and experience of others enrolled in the course. By engaging in a shared task (whether it be a project or lesson) pupils gain the opportunity to learn a variety of skills, such as group analysis and collaborative teamwork building skills.

In addition, even students who are unable to attend a live event online can participate in collaborative learning, thanks to online forums, message boards, and other various posting sites that don't rely on real-time interaction.

Gamification

Gamification is the use of game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning and solve problems. Basically it's the use of gaming technology to solve problems outside of the games sector. Games are created to draw people in, to keep them playing, to keep them interested, entertained and involved. And it's much more than just adding rewards, points, and badges to processes to motivate people – it's the instructional method, and not just the delivery system, that provides the elements for learning in a game situation i.e. we must ask what pieces in games makes them engaging such as interactivity, content, story.

Impact of gamification

A study done by Traci Sitzmann, an assistant professor of management at the University of Colorado Denver Business School, found that *"employees trained on video games learned more factual information, attained a higher skill level and retained information longer than workers who learned in less interactive environments."* She found that games provided a high level of instruction, but she also noted that it wasn't just dependent on the game per se, but the interactivity or the elements that make the game engaging. In other words, the engagement of the learner in the game leads to learning.

Gamification is taking elements of gaming and adding them to traditional instruction. Instructional designers have been using some elements for years, like stories, case studies, or interactive activities, but gamification is more about taking into consideration interactivity and engagement first, and objectives second.

Enterprise gamification

Companies are now also "gamifying" various business processes to motivate employees, fundraise for causes, and market products.

Tech-industry research firm Gartner estimates that by 2014, "some 70% of large companies will use the techniques for at least one business process. Market researcher M2 Research estimates revenue from gamification software, consulting and marketing will reach $938 million by 2014 from less than $100 million in 2013."

Companies need to make sure that the games are not just doling out meaningless awards or badges. Overuse will cause gamification to be trivialized and non-impactful.

Micro-learning

A term that is being mentioned quite often as of late, especially in corporate e-learning environments, is "micro-learning". This teaching approach can provide a

wide range of benefits to learners as well as trainers. This is primarily due to the fact that it can provide educational benefits without overwhelming the learner. It is quickly becoming one of the most popular emerging e-learning trends.

What is micro-learning?

Micro-learning involves learning in smaller steps, and goes hand-in-hand with traditional e-learning. Activities that are micro-learning based usually feature short term lessons, projects, or coursework that is designed to provide the student with 'bits' of information. For example, rather than trying to teach a student about a broad subject all at once, aspects of the topic will be broken down into smaller lesson plans or projects.

Typically, micro-learning exercises are best utilized at the point where a student will actually need the information, or when they are going to be most receptive to receiving that information. For instance, watching a video online about how to replace a car's air filter or reading a blog post that talks about gardening indoors are perfect examples of real-life micro-learning exercises.

As a matter of fact, we encounter micro-learning on a daily basis. Even reading a bulletin that has been posted at work about on-the-job safety or going through tweets in your timeline to catch up on the latest news can be considered micro-learning activities.

What advantages can micro-learning provide?

Micro-learning gives students and employees the ability to gather information in "bite-sized" forms, which can help them to absorb it much more effectively. It is an ideal solution for those who may not have the time to devote to a lengthy course, given that you can learn at your own pace and avoid the risk of becoming overwhelmed by too much data at once.

Micro-learning can also be done on-the-go, which means that you can receive smaller lessons that help you advance toward your educational goal, even when you are waiting for a bus or sitting in traffic.

Micro-learning can be carried out in a variety of ways. Emails, online posts, short multimedia videos, and even short chat sessions can give e-learning students the small building blocks that are necessary for them to achieve their educational goals and broaden their overall knowledge base.

Video learning

Faster internet connections and the increasing use of mobile phones and tablets with video capabilities means that using video in the e-learning process has become commonplace.

We're more used to learning via video now than ever before. If you want to watch a video on how to wire a plug, plant a rose bush or bake a cake, you only need to visit YouTube and there will be hundreds of videos available, showing you step-by-step processes you need to follow to complete a task.

Video brings a whole new dimension to teaching methods. If your course content involves a level of practical skill, this can be demonstrated. Whether it's

building a PC or conducting a chemistry experiment, these aspects of the course will most definitely benefit from being seen rather than simply explained in text and static images.

Video also helps to add a feeling of personalization to a course. A video of the tutor giving a lecture helps the students to feel a connection, to put a face to a name.

Rapid e-learning

While rapid e-learning can pertain to a number of things, it is generally used to describe the pace at which an e-learning course is developed. Here are the basics of rapid e-learning, as well as an explanation as to how it can be applied to the learning process as well:

Rapid e-learning in the course development process

Rapid e-learning is, essentially, a faster process of designing and developing online-based learning courses. Rather than spending months or even years developing a course, rapid e-learning allows creators to build lessons and content in a matter of days or weeks. Typically, this is done through PowerPoint or narrated videos which are designed to dispense information quickly and conveniently to students. Software is then utilized to test the students, as well as to provide them with activities that they can perform on their own in between pre-recorded presentations or videos.

After the entire package has been developed, it is delivered to the student via an online LMS, site, or even by email. Overly complicated software or design platforms are generally not used during the rapid e-learning development process, and courses can be easily updated by the provider without a great deal of cost or time.

How rapid e-learning can benefit learners

Until quite recently rapid e-learning was only used to refer to the actual design of online courses. However,

today it can also be used to describe a method of learning. For example, if a course can be completed in a shorter amount of time than is typical for that particular subject, then it may be considered a "rapid e-learning course". The term micro-learning is sometimes used interchangeably with rapid e-learning.

Students can greatly benefit from rapid e-learning, given that their learning is broken down into smaller units. This can enable them to absorb information quickly and while they are on-the-go or even at work, so that they can still get the data that they need to solve a problem or further their education.

Due to the fact that students must learn in a short period of time with rapid e-learning techniques, the key to any successful rapid online education course is to *engage* the user. This will raise the likelihood of knowledge absorption and ensure that one gets the most out of the experience.

Personalization and e-learning

Personalized Learning is the tailoring of pedagogy, curriculum and learning environments to meet the needs and learning styles of individual learners. Personalization is broader than just *individualization* or *differentiation* in that it affords the learner a degree of choice about what is learned, when it is learned and how it is learned.

Elements of personalized e-learning

In essence, personalized e-learning enables students to customize a variety of the elements involved in the online education process. This means that they are asked to set their own goals, go at their own pace, and communicate with instructors and students to

personalize the learning process. Ideally, the student is placed in charge of managing his/her own learning and is able to customize the experience by having a direct say in the processes and content that is being provided.

Key elements that are customized in personalized e-learning are: the pace of learning, the instructional approach, and lessons and activities that draw upon the student's experience and interests. In truly personalized e-learning environments students are given the chance to learn what they want when they want, and even the method of learning! This typically leads to improved learning results.

Mechanics of personalized learning

A great deal of the personalization that is carried out in e-learning settings is based upon *feedback*. Feedback can either be *explicit* (in the form of a written suggestion) or *implicit* (in the form of actions on the system). The feedback can be either manually or automatically processed to help with the personalization of the platform – and ideally this should be an integral part of the learning platform. The transformation of feedback to a personalized system modification is

mostly handled through an Artificial Intelligence (AI) subsystem.

Continuous learning

On a personal level, *continuous learning* is about the constant expansion of skills and skill-sets through learning and increasing knowledge. As life changes the need to adapt both professionally and personally is as real as the changes themselves.

On a professional level, continuous learning is about further expanding our skill-set in response to a changing environment and new developments. This is very important because we are called to respond to changes daily; for example, the introduction of computers in the workplace created a need for people to train on computers to complete tasks more efficiently.

On a personal level, the introduction of computers made us rethink how we communicate with people and allowed us to keep in touch with people across the globe with just the click of a button.

Continuous learning for Individuals and Groups

On an individual level, continuous learning is defined by the practices the individual carries out daily in order to continue increasing knowledge. For example:

- Asking for help when something is not understood
- Observing more experienced employees at work
- Trying new ways of doing things and exploring alternative methods
- Practicing what has been learnt already
- Finding ways to improve such as taking up training programs or online seminars outside of work

In the organization, continuous learning has to do with shaping a team to adapt to changes in the business environment. This is very important because the ever-changing economic climate demands that any team be up to date with the latest knowledge and also be flexible

and easily adaptable to any changes that may be required.

Business Sustainability and Continuous Learning

Embracing a culture of "investing in people" has played a major role in companies training their employees rather than hiring new people which can be much more costly on different levels. Most companies nowadays want to invest in retaining their talent – and developing that pool of talent – so they keep employees well trained and up-to-date so that they can respond to the company's ever-changing needs. This also develops a sense of trust and keeps employees engaged and interested since new skills are constantly added to their 'arsenal'. Apart from saving money, continuous learning is a means for a company to show its employees they are worth investing in.

Social Learning and Continuous Learning

Social learning and continuous learning are inextricably linked. Individual Facebook/Twitter/LinkedIn news feeds and work-related groups play a major role in what we learn and how we communicate and share knowledge. Inevitably, spending all day between social

media and work-related material exposes us to learning new things. For example: a Wall Street trader or anyone working in finance has to keep up to date with new trends, movements in the market and changes in the environment that may affect his portfolio. A way to keep "learning" without using a separate learning platform is to be exposed to the social web with its constant stream of news and trends. Our trader for example may like to take part in Finance and Markets groups on LinkedIn in order to stay up to date with the latest information and be informed by his peers on what to pay attention to. This may contribute to *Constant Learning*.

APPLICATIONS OF ONLINE TRAINING
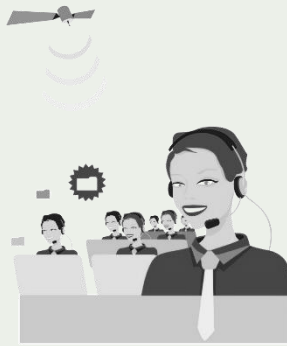
Customer service training

Customer service training is in fact the blueprint for a company's entire support process. A solid training program ensures that a team operates to consistently deliver good service to customers, with or without a game plan. Whilst a variety of elements go into creating a successful business, customer service is center-stage and every interaction the company has with a customer can affect its bottom line. In today's competitive marketplace, companies are perpetually searching for business practices that will set them apart and often customer service is what separates companies that thrive from those that fail. Offering customer service training to employees has been shown to drive sales and give businesses a strong competitive advantage. This is

why it is imperative that businesses invest in quality programs.

Broadly defined, customer service training refers to teaching employees the knowledge, skills, and competencies required to increase customer satisfaction. E-learning provides employees with those skills and competencies without taking too large of a bite out of the company's HR budget. As far as learners are concerned, a main advantage of e-learning in customer service training is that participants can be scheduled for training in a staggered fashion, and can also work at their own pace.

Training programs yield several benefits for the organization, employees and customers:

a) **Increased employee motivation & engagement:** providing training allows employees to better understand the impact their role has in the organization. Investing in employees also demonstrates that the company cares about their continual development and progress - they feel more valued and this improves motivation and engagement. Employee efficiency

is thereby increased and they are better equipped to deal effectively with customers.

b) **Improved customer service skills:** through customer service training, employees improve their knowledge, skills, and competencies and/or acquire new ones. Specific customer service training programs focus on improving communication (such as questioning to understand the customer's need or problem, listening, confirming understanding, responding with value, using positive language), problem-solving and organizational skills. Training employees on the same set of competencies gives them a standard process to deal with customers - which in the end gives customers a more consistent and professional experience. Through effective training, customer service representatives increase their ability to resolve issues and decrease the number of return calls. Often, trained employees are able to address the concern at the first point of contact, which greatly increases customer satisfaction (see benefit (c) below). The increased motivation and engagement

coupled with the new skills creates improved customer service in the company.

c) **Increased customer satisfaction:** the improved manner in which employees interact with customers leads to consumers feeling appreciated and respected. This is critical to any company's continued success. According to Wikipedia, employees who are properly trained and who demonstrate professional customer service skills can and do improve customer satisfaction and customer loyalty. This, in turn, helps the business retain customers and improve profits as it costs less to retain a customer than to acquire a new one.

d) **Increased profit:** increased customer satisfaction means pleased customers who are more open to additional sales messages and more likely to refer others as potential customers. Basically, what quality customer service training achieves is higher customer retention, the acquisition of new customers, reduced employee turnover and increased sales. Training has a great impact on employee motivation and morale, leading to increased productivity. It's a simple

equation: improved customer service + increased customer satisfaction + increased customer loyalty = an increase in profit.

Sales training

Effective sales training develops the individual's skills and builds on existing abilities to ultimately improve business performance through increased productivity and profitability. Good sales training courses can lead to an increase in activity levels, sales volumes and order size. There are also additional benefits to training such as improved sales force retention (since recruitment is costly), improved employee motivation and engagement, and a greater receptiveness to change. Online sales training also presents a very low risk investment - you only require a 0.5% improvement in

performance in order to profit from sales training and anything above that is additional profit.

Online sales training offers a wide range of benefits to salespeople looking to sharpen their capabilities and build new skill sets. Good online sales training will thoroughly prepare employees for sales success by enabling employees to gain expertise and practical knowledge about successful selling, give confidence to the learner, and provide them with the skills necessary to succeed.

Beyond the obvious advantages (for example, employees being able to complete training courses and modules at their own pace, on the go, and within management-set time frames) the best online sales training uses powerful interactive tools which engage learners and allow both trainers and trainees to track progress. The most effective online training programs have comprehensive tracking and reporting tools, allowing management to see how their employees are progressing at a glance.

Some benefits of online sales training:

a) **Ease of use:** any salesperson, no matter what their level of experience, can learn from an online sales training programs

b) **Interactivity:** questions can be asked and answered in real time. With online sales training programs anyone can be trained at any location, in most any language.

c) **Instant access:** training programs are available to learners all day, every day, throughout the year. Employees can log in and start learning whenever they have the time and from wherever they are located!

d) **Customization of training process:** online sales training programs allow for material to be created and added to customize training for the individual, particular company branches, localities and/or specific requirements etc.

e) **Flexibility:** online sales training programs should be accessible from a variety of devices wherever and whenever employees want to learn on the go. They should be able to log in and learn any time.

f) **Accountability:** the most effective online training programs have comprehensive tracking and reporting tools, allowing management to see how their employees are progressing at a glance.

General statistics can also be viewed and broken down.

Sales training is one of the most cost effective ways to improve business performance, and conducting that training online makes it even more of a cost saver. If implemented properly, good sales training will be repaid many times over.

Customer training

You can reduce support costs, acquire new customers and build loyalty in existing customers by offering them training online!

Since your customers are already in the cloud, it only makes sense to provide them with customer training where they are already located and interacting. Sharing and engaging with content online has become the norm

and customers expect companies to provide them with modern support and training in the cloud, they can then do in their own time, at their own pace, and on the go!

Supporting and servicing customers can be expensive and providing online training can cut these costs and at the same time increase customer satisfaction, loyalty and retention. What's more, online customer training is a great way to gain product / service feedback!

Customer training might also be used as a selling point to acquire potential consumers. A buyer may feel more secure about a purchase knowing they will receive free online training. Of course if this content is also freely available online it can be leveraged by sales or marketing departments - customers can for example take a look at the training before they buy the product or service to get a better overview of the features and functionality.

Oftentimes online courses are more user-friendly and much less cumbersome than reading a manual or guide so online customer training courses certainly have the advantage.
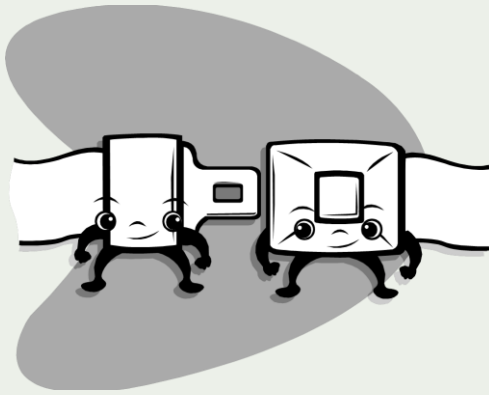
safety training

The main benefit of online training when it comes to safety and compliance is that employees can be reached everywhere, all over the world, at any time. One cannot take shortcuts when it comes to safety training and federal mandates, and face-to-face training just won't cut it when you have employees scattered all over the country, or world for that matter. Safety and compliance training needs to be quickly updated and disseminated to employees quickly and easily - with the minimum of fuss. Online training is the only way a large number or employees in different locations can be reached at once without costing a fortune.

Types of safety training offered by e-learning organizations

The subjects covered in safety training programs online varies greatly, depending upon the company and industry. For example, a moving company might want to inform their employees about proper lifting procedures to avoid back injuries, while a medical facility may opt for a blood borne pathogen safety training course.

Generally, online courses offer multimedia presentations of specific safety risk situations or hazards, and can accurately illustrate the proper response.

What are the benefits of safety training online?

The most significant benefit of virtual safety training is the decreased risk of on-the-job injury and accidents. Not only can this lower the risk of costs associated with injury, illness, death, damage to equipment, higher insurance premiums, staff turnover, and also delayed deliveries of products and service - but it can ensure that worker productivity levels remain high. A safety training program protects your company and shows you have adequately trained employees in workplace safety. An insurance company, for example, can examine the safety training program you have made employees complete,

and understand whether requirements have been met to protect employees and ensure workplace safety. Safety training also gives employees the confidence they need to work without fear of safety, and boosts efficiency and productivity.

Safety training can have beneficial impact on any business, no matter how large or small:

a) **Best practice:** this stresses the importance of the best work methods and procedures to employees, and communicates the commitment the company has to high performance standards.

b) **Compliance:** training ensures employees are compliant with all industrial and enterprise awards and agreements.

c) **Increase productivity:** training increases quality of work produced and efficiency in which tasks are completed.

d) **Reduction of costs:** fewer work-related injuries or accidents will occur, reducing overall costs (associated with injury, illness, insurance claims etc.).

e) **Risk management:** training contributes to the process of identifying, understanding and eliminating risks within the workplace.

IT training

The Information Technology (IT) industry moves at a fast pace characterized by continual innovation, this leads to a need for ongoing training. IT is a necessary part of operations for businesses and organizations alike, and introduces the latest industry standard practices and emerging trends and technologies. Employees with outdated IT skills are of little value to any business and this makes IT training is one of the most popular online courses being offered today. With online training employees can be kept on the cutting

edge – an absolute necessity for any business's survival in today's marketplace.

IT training programs respond to learners' needs taking into account the desired knowledge and ability. Integrated online learning may include virtual classroom interaction, individual assessment, online video, and multimedia that make learning more effective. Blended learning may also integrate face to face sessions and class interaction. Such training covers a wide spectrum of subjects from basic courses on Microsoft Office to very advanced topics on programming languages and IT security. Due to its nature, an IT course can easily capture detailed information about the training subject via screen video capture or interactive programming tests. Such courses are often also very effective very quickly.

IT training can benefit a variety of people in the organization at all levels from C-suite executives to administration. As a first point of call, organizations must reconsider the way training is delivered and look to offering IT programs that reflect the current roles and career objectives of staff.

Online IT training offers benefits to both employees and employers alike:

Convenience and flexibility means time savings and increased productivity for employees. As with any online training, employees can complete training on multiple devices, at their own pace and in their own time (or within time constraints set by management).

Performance can be measured and tracked, and work roles adjusted accordingly! Employee performance can be measured easily through tracking and reporting tools, allowing management to see how their employees are progressing at a glance. Management can then assign courses accordingly, have employees re-do courses if necessary, and/or assign different work responsibilities according to updated and/or new knowledge and skills!

Companies also benefit through the increased productivity and efficiency that comes with bolstered skills, and cost savings. There is for example no need to recruit new employees, pay for employee training off-site or pay for a trainer. Overall it's a win-win for both employee and employer.

Product training

When a company has a new product, despite it being an exciting time, there is the issue of training employees on its features which may be problematic due to the time and cost involved, especially in face-to-face training. Employee productivity drops when employees are spending many hours sitting in training rooms during work hours – and when the benefits of that training are not trackable it hardly seems worth the effort. Online training solves all of these problems by being available to the employee in his/ her own free time, and saving the company the costs of bringing in a trainer, renting

spaces for training, travel expenses involved and lost productivity.

What's more, in the case of multinationals, when staff are trained across borders, training programs need to be adapted to different markets since a "one size fits all" approach will not work. With elearning, product training courses can be adapted with a minimum of fuss so that cultural learning differences can be accounted for and content can be delivered consistently across borders.

There is also a very real impact in terms of ROI. Businessspectator.com cites the following example: "*In July 2013, CommVault looked to demonstrate the value of training by conducting a test with a customer that had consistently reported high numbers of monthly training-related incidents.*" CommVault had the customer do a specific course for one of its products. After completing the training the pre-training incident log of 17.5 calls per month moved to 6.5 calls per month - a decrease of more than 62%. *"This delivered a saving of $5,000. Before taking the course, the operating cost for this particular customer was $8,000+ per month,*

not including the cost impact of customer productivity losses and downtime."

Benefits of online product training:

a) Training becomes flexible, easy and quick. Staff can complete training in their own time, on their own devices, and on the go.

b) Employees can be trained up on a new product or service in multiple locations, multiple languages, all at once or at different times, and from day one of release!

c) Training can be adapted cross-culturally and to different markets, quickly and easily.

d) Companies will have more efficient and trained staff with up-to-date and applicable knowledge.

e) Greater efficiency and productivity means increased profits.

Healthcare training

Continuous medical training is deemed compulsory for all healthcare professionals, to ensure knowledge, skills and competencies are not only maintained but also regularly updated and upgraded. Training is important for most professions but especially in healthcare it can mean the difference between life and death.

The current medical training system has many unresolved problems and issues such as the high cost of establishing and maintaining physical training centers, difficulty in meeting changing demands due to demographics and ever changing trends in disease, medical technologies and drugs. In the busy world of healthcare, finding time to train staff can prove to be difficult. Their roles are often invaluable and it can be

hard to find a convenient time to take them out of their work environment for training purposes.

Online learning brings important benefits to healthcare professionals including the ability to receive training at any time, from anywhere, on any device, and on the go - reducing lost time and less productivity. In medical training meaning derives from interaction - videos can be used to impart basic knowledge and face-to-face time can be reserved for more engaging activities. Refresher courses can be taken at any time by learners, and learning can be easily monitored.

Do More with Less Using Online Training

As medical technology and pharmaceutical companies continue to launch new equipment and products aimed at improving patient care and treating illnesses, effective training for any new device or drug is essential for physicians, nurses, clinicians, and technicians . When it comes to online device and drug training, a blended learning environment that includes online training makes a great deal of sense for the industry. E-learning can complement or even replace in-person training in many cases. The benefits of e-learning are numerous:

a) **Cost:** Training is decreased as a company expense.

b) **Speed:** Customers can begin to use products faster without waiting for a training representative.

c) **Feedback:** Customers can provide feedback on training immediately.

d) **Compliance & tracking:** For risk management and audit purposes, organizations can maintain records of everyone who has completed training.