SMEs & e-learning (SMEELEARN)

e-learning Best Practice Guide

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Abstract

This e-learning Best Practice Guide provides an overview of what is currently considered to be a measured and creative approach to e-learning.

Written in the context of advances in technology it presents the argument that SMEs should engage with e-learning in ways that reflect their current and future perceived needs and objectives.

Contextually, it explores the practical and progressive potential of e-learning to provide opportunities for SMEs and their employees to use technology to underpin their training schedules and to make informed decisions concerning the way in which technology can enhance and support economic growth.

Drawn from many sources, this Best Practice Guide presents the idea that decisions concerning e-learning should show a considered understanding of what it possible within the current e-learning marketplace. Written against a background of informed histories of the recent development of e-learning, this guide reflects current thinking in terms of what is accepted best practice in the field of e-learning.

Using e-learning as a means to enhance employee and company potential this guide creates opportunities to consider a number of pertinent questions including why engage in e-learning, who is it for and what is its perceived outcome? Suggesting an analytical approach to deciding whether e-learning is an appropriate means of delivering training this guide presents a variety of appropriate strategies including opportunities to consider the value of completing a range of needs analysis including the use of SWOT, LNA (A Learner Needs Analysis) and ROI (Return on Investment) profiling.

Recognising the importance of the relationship between SMEs and eDesigners, it promotes awareness of the importance of ensuring that both SMEs and eDesigners are fully conversant of each other's' potential to make a successful contribution to the development and use of e-learning.

Understanding the future implications of e-learning and its relationship with a rapid growth in mobile technology, this guide promotes a greater awareness of how e-learning is likely to change as smart technologies increasingly become the preferred means of accessing information.

Contents

Background

This Guide is one of the outcomes of the EU funded ERASMUS+ project "SMEs & e-learning (SMEELEARN)" that aims to test and transfer e-learning practices that are common in the formal education sector to SMEs in order to address the vocational skills needed to develop and sustain SME growth in Europe.

This involved working closely with SME employees and managers and VET providers. Research has shown that SMEs have limited resources for offering training and what they really require is "informal" training for specific problems they encounter, at a time to suit them. Bespoke training is not usually on offer from traditional training institutions. Therefore e-learning offers a great opportunity. However, there is reluctance on the part of SMEs, and their employees, to engage in this form of learning, despite the many advantages.

The objective of "SMEs& e-learning (SMEELEARN)"Project is to ensure, by way of the creation of an "SME e-learning Portal" (http://www.sme-elearning.eu) that SMEs are aware of the e-learning opportunities available to them, and, more importantly, how these can be used to best advantage to ensure acceptance by the Managers and workforce.

Throughout Europe SMEs are increasingly important to the economic well-being of the EU. It is estimated that they account for 99% of all business with 42% of all turnover.

Meeting the training needs of SME employees is a challenge that requires review; their very survival may depend on an appropriately trained workforce. Established to provide real solutions to the challenge of embedding e-learning in the training practices of SMEs, the SMEELEARN consortium conducted European research leading to the production of this Best Practice Guide to e-learning for SMEs throughout Europe.

The Report includes: a study of the conditions under which SME employees will be more likely to accept and use technology-based learning; recommendations as to what strategies SMEs need to adopt to gain the acceptance of their employees and the development of a "best practice approach" for SMEs when considering including e-learning as part of their training portfolio.

Introduction

The development of this Best Practice Guide is informed by the "SMEs and e-learning" project that has, as its aim, to test and transfer e-learning practices that are common in the formal education sector to SMEs (with up to 30 employees) in order to address the vocational skills needed to develop and sustain SME growth in Europe. This has involved working closely with over 100 SMEs employees and managers and VET providers.

SMEs need to be aware of the e-learning opportunities available to them, and, more importantly, how these can be used to best advantage to ensure acceptance by the Managers and workforce.

Throughout Europe SMEs are increasingly important to the economic well-being of the EU. It is estimated that they account for 99% of all business with 42% of all turnover.

To meet the training needs of SME employees is a challenge that requires review - their very survival may depend on an appropriately trained workforce.

The intention has been to create associative opportunities to embed an e-learning culture within participating organisations, engage the target group in the processes of e-learning by ensuring that training materials are accessible and fit for purpose, and provide a web based Portal that will feature, promote and emphasise the importance of e-learning and blended learning as innovative, accessible and economically viable alternatives to traditional and often costly training practices.

e-learning is considered as one of the global driving factors for the development of education and economy in many countries. The recent developments of e-learning methodologies characterised by the diffusion of MOOCs – Massive Open On-line Courses, cloud based tools and other elements have improved the effectiveness of the courses and reduced costs. However, there are still a number of issues that restrict the use of e-learning throughout Europe.

Anecdotal evidence suggests that there is a significant correlation between the level of IT infrastructures of a country and the adoption of technology-enabled educational tools such as e-learning by institutions or corporations in this country.

Compared to the EU average, in more developed economies (UK) there are higher levels of Internet access whereas in less developed economies lower.

Throughout Europe our survey highlighted that the top three perceived important advantages of e-learning were (i) greater satisfaction in the learning, (ii) job related and (iii) multiple choice -

with the least advantageous being "time flexibility" with the top three perceived important disadvantages of e-learning were (i) need for facilities nearby, (ii) course selection difficulty and (iii) need for skills. As regards e-learning delivery methods around a quarter of respondents wished to undertake courses solely via the Internet, with an around third wanting Internet course assisted by face-to-face support.

The good news from the survey results was that over 65% of respondents felt that the training they received through e-learning would help them perform their job better. This may be considered the springboard and inspiration for further consideration of the current and future state of e-learning and the Best Practice Guide seeks to contribute to a wider understanding of, an improved access to, e-learning as a learning initiative.

e-learning Defined

For the purposes of this Best Practice Guide e-learning is defined as "...learning that is delivered, enabled or mediated using electronic technology digital technology and software applications associated with learning scenarios and interactive activities for the explicit purpose of training, learning or development in organisation's" (CIPD 2014).

It includes the use of products including DVDs and CD-ROMs that do not require access to an internet, broadband or intranet connection. Promoting an inclusive approach to e-learning this definition also includes mobile devices, including mobile phones, to facilitate teaching and learning (JISC). Recognition of individual learning styles and any place/any time accessibility to training contributes to this definition, not precluding the concept that e-learning is not necessarily ideal for all training needs.

In summary, "e-learning can cover a spectrum of activities from the use of technology to support learning as part of a 'blended' approach (a combination of traditional and e-learning approaches), to learning that is delivered entirely online. Whatever the technology, however, learning is the vital element..." (JISC).

Terms and Use

Throughout this Guide a number of key words and phrases will be applied that underpin an understanding of what is meant by e-learning. These terms are self-explanatory; clarification will be given where appropriate. This guide presumes some knowledge of e-learning as a rapidly developing pedagogy that is increasingly reliant on flexible and ever-changing access to new technologies. It can only be considered in this context although it is based on extensive experience and close consideration of what is currently available and how this impacts on the provision of e-learning for SMEs and their employees.

History of e-learning

The development of e-learning has often been under-pinned by the need to find an alternative to teacher led instruction. Consequently, the potential to fully engage with developing technologies has focused on their adaptation to the working environment.

The use of video, voice over, sound and animation has dominated the late 20th and early 21st centuries within the Western world although this has not been reflected in growth across all economies. The idea that e-learning is a high-tech solution to training shortages, especially with regards to fluctuations in employment and pressures on time allocated to training, has seemingly driven the creation of appropriate strategies to provide short-term solutions to the training needs of SMEs and large corporations.

The provision of e-learning has been varied and open to individual interpretation; a situation that has created opportunities to be intensely creative but also to produce materials that replicate the printed page. Arguably, this “book on the screen” approach has limited the potential for e-learning to become an entirely interactive and different approach to learning. The technological means to a practical end, e-learning has struggled to find its place in a training market that is subject to fluctuating economic upturns and downturns although this has not always been the case, especially where large companies are concerned.

Within the public sector, e-learning has received a substantial amount of EU funding to promote, develop and complete research into e-learning as a 24/7 – any time, any place – solution to training in a variety of sectors. With an emphasis on the ‘end-user’ many of these programmes have proved innovative and illustrate the potential to employ e-learning as an accessible form of learning for all – regardless of ability or disability.

Interviewed in 2001 Sheila McGovern, senior research analyst at IDC, said that by 2004, e-learning will grow by 83 per cent, compared to 11 per cent for instructor-led training, and will represent a fifth of the total training market. This includes individual, self-paced training and collaborative learning. McGovern believes that the advantages are clear. "Convenience for a mobile and geographically dispersed workforce is driving e-learning along with huge cost savings as well as

savings in productivity. Employees find continuous education very attractive in the IT and telecoms sector, particularly as there are tighter restrictions on work time," [1]

EU and American Early Years:

The development of e-learning strategies that featured a variety of learning styles formally associated with traditional modes of delivery became the focus for the creation of e-learning courses. Despite the relative slowness of technology and internet connections courses developed around the new millennium experimented with supplementing text with video clips and short gif animations to emphasise the importance of sensory learning. Among the courses created included:

All that Jazz (2000): Using a MLE, this course introduced the concept of integrating sound with small animated gifs and an informative text. Primarily aimed at introducing jazz to an audience who wanted to enhance their understanding of a specific musical genre it included links and opportunities for assessment but focused on providing information in a digital format.

Sign-Net (2004): The course represented a unique and totally new approach to teaching Sign. Designed for use by members of the hearing community, the course used a series of 57 video clips to show the learner exactly how key words and phrases could be used to communicate with the deaf. Filmed in Spanish, Finish and English, Sign-Net developed the concept of using e-learning as a visual learning experience.

Learning to Solve (2005): Provided people with disabilities with the opportunity to develop permanent and dynamic professional skills to help them to successfully face changes in the workplace. Led by Fundacion ONCE (Madrid) TFEI developed e-learning modules in 'Individual Skills Analysis - Strengths and Weaknesses'. 'Learning to Solve' is available in English and Spanish.

Spin-Off Activities: Creativity and e-learning – a Blended Approach

Prior to *YouTube* (2006) the capacity to construct e-learning courses largely relied on dial-up internet connections although these were replaced by the increasing use of broadband access. (By 2008, only 10% of USA Users still accessed the Internet via dial-up.) The difficulties associated with slow connections and variable local, regional, national and international coverage was particularly apparent in these early years.

Prior to the download generation, e-learning developers created applications using managed learning environments and exported the completed programmes through CD-Rom hardware. For the first time e-learning could be individually supplied and accessed using a relatively portable

[1] E-learning set to soar, http://www.computing.co.uk/ctg/news/1825946/e-learning-set-soar 13.02.2001

form of technology. The courses were designed digitally and provided either virtually, as desktop hardware improved, or via CD-Rom. The mobility associated with e-learning courses at this time meant that conceptually, learning was changing, especially through the development on blended learning as a means to bridge the gap between virtual and training-room environments.

Blended learning had the potential to combine a virtual learning experience with personal interaction with a tutor and other participants. The sociality associated with the training or classroom illustrated the strengths of the physical and the remote or technological revolution. Participants could attend training sessions as well being able to complete course materials away from the training-room environment.

The potential to design courses to match individual needs and, more specifically, to empower trainees with a range of disabilities created opportunities for interactive and supported learning. This apparent raising of awareness became associated with an increased understanding of how people learn and it seemed particularly relevant when considering e-learning content. What follows is an overview of this relationship between individual learning styles and the eventual recognition of the role of Emotional Intelligence (EI).

Individual Learning Styles

Associative actions and responses influence the ways that individual students are able to succeed when engaging in e-learning.

> *In the online environment, face-to-face human interaction and its commensurate benefits are absent. Instead, the written word is the communication tool. Because of this difference, students' technological expertise, unmet needs for human contact, lack of self-motivation, or feelings of isolation can deter success in online courses (Hill & Rivera, n.d.).* [2]

It is apparent that: 'Success in online courses is probably a combination of technical, personal, cognitive, motivational, and psychological factors. Computer literacy, reading and writing skills, and effective written communication certainly contribute to online success' (Buchanan, 1999).[3]

In addition 'online students must also supply the motivation to succeed in online classes without face-to-face human interaction. Successful students need to be able to monitor their own learning and progress, garner peer support, exercise good time management skills, and draw on experience to find resources on the Internet (Blocher, De Montes, Willis, & Tucker, 2002; ACSDE, 1999).[4]

How do people learn?

Traditionally, learning strategies concentrated on delivering content within a classroom structure. Initially, this pedagogy was applied to all fields of learning although e-learning had the potential to develop individual learning plans. This approach would allow the end-user to adjust their learning capacity according to what was on offer.

Admittedly, within narrowly defined constraints – early technologies were restrictive in memory storage, internet access and the capacity to read audio and video signals. Users at this point would need patience and the ability to work around problems with transmission, reception and phone-line dial-up connections. The belief that 'Individual learning styles differ, and these individual

[2] Berenson, Boyles & Weaver, *Emotional Intelligence as a Predictor for Success in Online Learning*, International Review of Research in Open and Distance Learning,(RRODL) Vol 9,no 2.(Alberta, 2008) 2
[3] *'Ibid'*
[4] Berenson 3 (RRODL 2008)

differences become even more important in the area of education. Therefore, the real challenge in e-learning is keeping the people it is designed for in mind.' (Canavan, 2004) [5]

Manochehr's research revealed that students' learning styles were statistically significant for knowledge performance:

> *For the instructor-based learning class (traditional), the learning style was irrelevant, but for the web-based learning class (e-learning), learning style was significantly important.*
>
> *The results showed that students with learning styles Assimilator (these learn best through lecture, papers and analogies) and Converger (these learn best through laboratories, field work and observations) did better with the e-learning method. This mean that those learners that like to learn through thinking and watching and thinking and doing would learn better with e-learning.*
>
> *In addition, with learning styles Accommodator (these learn best through simulations and case study) and Diverger (these learn best through brainstorming and logs) received better results with traditional instructor-based learning.* [6]

These results emphasised the importance of identifying individual learning styles and suggested that these should be considered if e-learning was to be adopted as a training pedagogy.

Further research focuses more on students' preferences for the learning environment identifying 6 different learning styles that Grasha & Reichmann (1996) defined as:

Description of Style [7]

> **1: Competitive:** Students who learn material in order to perform better than the others in the class. Believe they must compete with other students in a course for the rewards that are offered. Like to be the centre for attention and to receive recognition for their accomplishments in class.
>
> **2: Collaborative:** Typical of students who feel they can learn by sharing ideas and talents. They co-operate with the teacher and like to work with others.
>
> **3: Avoidant:** Not enthusiastic about learning content and attending class. Do not participate with students and teachers in classroom. They are uninterested and overwhelmed by what goes on in class.

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[5] Canavan, J. (2004) *'Personalized e-learning through learning style aware adaptive systems'*, Published dissertation, University of Dublin in *The Influence of Learning Styles on Learners in E-Learning Environments: An Empirical Study,* Naser-Nick Manochehr CHEER Volume 18 (2006) 10-14

[6] *The Influence of Learning Styles on Learners in E-Learning Environments: An Empirical Study*, Naser-Nick Manochehr CHEER Volume 18 (2006) 13

[7] *Grasha & Reichmann's Student Learning Styles* (Grasha 1996) quoted in *Learning Styles in Distance Education Students Learning to Program* Kit Logan and Pete Thomas (Open University, UK 2002)

4: Participant: Good citizens in class. Enjoy going to class and take part in as much of the course activities as possible. Typically eager to do as much of the required and optional course requirements as they can.

5: Dependent: Show little intellectual curiosity and who learn only what is required. View teacher and peers as sources of structure and support and look to authority figures for specific guidelines on what to do.

6: Independent: Students who like to think for themselves and are confident in their learning abilities. Prefer to learn the content that they feel is important and would prefer to work alone on course projects than with other students.

Introduction to Emotional Intelligence (EI)

We define EI (Emotional Intelligence) as the ability, capacity or skill to identify, assess, and control the emotions of one's self, of others, and of groups. Emotions whether we realise it or not, regulate and guide our daily life. By identifying emotions you will be able to determine how they influence your work and life, in a positive or negative way.

"Emotion is the language of a person's internal state of being, normally based in or tied to their internal (physical) and external (social) sensory feeling". EI gives us the tools to identify and change those emotions, feelings, and thoughts, in order to take advantage of them.

Peter Salovey and John D. Mayer defined emotional intelligence as, "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (1990).[8] Based on theories explored during the 1970s and 1980s they sought to measure and quantify *Emotional Intelligence* through the development of the Mayer-Salovey-Caruso Emotional Intelligence Test. Often referred to as MSCEITTM it is the only scientifically validated, ability-based test of EI in use although work by Reuven Bar-On led to the creation of the Emotional Quotient Inventory (EQ-i®), which uses a self-assessment model to identify the traits that allow a person to succeed and those that stand in the way of progress.

But what is meant by *Emotional Intelligence?* In general terms there are several definitions including 'the capacity for recognising our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and our relationships' *(Emotional Intelligence: Why It Can Matter More Than IQ, Dan Goleman)* and *'Emotional Intelligence* describes an ability, capacity, or skill to perceive, assess, and manage the emotions of one's self, of others, and of groups.' And although the theory of *Emotional Intelligence* may also be simply summarised 'as the ability to identify, understand and manage moods and feelings -in both ourselves and in other people ' *(The Rules of EQ Robert Yeung Marshall Cavendish 2006)* the practice of implementing *Emotional Intelligence* into working practices in schools, colleges, offices, factories and other places of work is complicated. What began almost 30 years .ago as an exploration of how we relate to each other has become a model for dealing with people on a daily basis, building a means of managing teams for commercial and educational success.

The big question is: how can it work in practice and what are the benefits of developing strategies that may have previously remained with the sphere of good practice by Human Resource

[8] Mayer, J. D., Salovey, P., & Caruso, D. R. (2000). Models of emotional intelligence. In R. J. Sternberg (Ed.). Handbook of Intelligence (pp. 396-420). Cambridge, England: Cambridge University Press.

Departments? If commercial enterprise, infrastructure and personnel management, as well as teaching and learning methodologies, were successfully managed before the development of *Emotional Intelligence,* what difference does implementing *Emotional Intelligence* strategies make to the aims, objectives and outputs of an organisation? And if, as many suggest, that it does make a difference to the success of an organisation, how can it be accurately measured and quantified against increases in production, sales or educational achievement. After all, it may just be one of many contributory factors leading to success so how can it be isolated and its contribution assessed?

Based on extensive research directly connected to studying how we relate to each other in the workplace, *Emotional Intelligence* seeks to establish a methodology that can be closely associated with individual and organisational success. However, as a relatively new theory of interaction there are many aspects of *Emotional Intelligence* that are still subject to review, research, justification and definition. Just like any 'new' field of research, each expert has their own particular definition of what is meant by *Emotional Intelligence* and how it can make a difference in how we work with others and realise individual and organisational aspirations. For instance: a writer in a UK National newspaper recently reported that 'It seems employers should consider the emotional strengths of potential employees because someone with a high IQ and all the qualifications might not be best for the job.' *(Mira Katbamna Monday April 16, 200 7 The Guardian)* Recognising that *Emotional Intelligence* isn't necessarily linked to academic success or IQ is just one of the elements under discussion, prompting a response that may question the validity of employing men and women based purely on their previous academic success rather than on their ability to work with others, inspire, motivate and manage teams of people from diverse backgrounds and with variable qualifications.

Furthermore, questions have been raised directly related to placing too much emphasis on the concept of Emotional Intelligence in relation to other methodologies that prevail in the workplace and training situations. In a series of debates various contributors have considered whether Emotional Intelligence and its associated skills can be 'faked.' In other words, an employee may show all the attributes of listening to others, being highly sensitive to their own needs and the needs of others while using these skills to manipulate work colleague's emotions to gain success and recognition or to intimidate others. This has been shown to be particularly difficult within the field of Leadership and Emotional Intelligence as a highly successful leader may not be a good role model when it comes to Emotional Intelligence.

For example, there is a danger that a charismatic leader may in reality 'Devalue the efforts of others and make people in lower levels feel confused, frustrated and disrespected.' (Julian Rizzello, Principal Development Consultant and Course Director in the Centre for Strategic Leadership) Conversely, identifying five multiple intelligences of leadership: cognitive intelligence; emotional intelligence; spiritual intelligence; moral intelligence and behavioural intelligence, Professor Gill, founder and Director of the Research Centre for Leadership Studies has recognised that 'Emotional Intelligence - the ability to understand the needs and feelings of oneself and others - as making a key difference in leadership.'(The British Society of Psychologists) Furthermore, Professor Gill has stated that ' an effective leader is one who is able to define and

communicate their vision and mission, create a culture of positive shared values , develop and implement intelligent strategies whilst ensuring that people are kept motivated and empowered.' (The British Society of Psychologists)

Whatever the arguments, an increased awareness of the concept of Emotional Intelligence and the implementation of specific strategies in the workplace and as an integrated element in training and education can fundamentally influence the way in which individuals relate to one another. Whether this can improve identified outcomes or increase motivation on a long term basis remains to be seen but in the first instance an understanding of the complexities of *Emotional Intelligence* is a major factor in developing a positive approach to individual and organisational development.

Why e-learning?

A recent survey indicates that 'over a million small businesses and charities still lack basic digital skills and the perceived benefits of being digital remain. For example, 25 per cent of all organisations surveyed believe digital is 'irrelevant' to them.' [Lloyds UK 2015] Clearly this influences the capability of SMEs to engage in e-learning although 'even if an organisation does not believe they need to be online, many of their customers already are.' [Lloyds UK 2015]

Following consideration of Individual Learning Styles and Emotional Intelligence in the previous section, The History of e-learning it is worth noting that certain individual learning styles may benefit from e-learning. For example: Students who learn best through lecture, papers and analogies (Assimilators) and those who learn best through laboratories, field work and observations (Convergers) like to learn through thinking and watching and thinking and doing would learn better with e-learning.

One may also presume that Independent Learners who like to think for themselves and are confident in their learning abilities, preferring to learn the content that they feel is important and prefer to work alone on course projects than with other students would also benefit from e-learning.

These thoughts are not necessarily prescriptive but contribute to deciding whether learners can identify with accessing e-learning as a source of training and personal development. Furthermore, as many learners have indicated a preference for a combination of remote (e-learning) and training room based learning – a combination that is referred to a Blended Learning- it is appropriate that this may widen the options for learners who classify themselves as:

Participant: Good citizens in class. Enjoy going to class and take part in as much of the course activities as possible. Typically eager to do as much of the required and optional course requirements as they can.

Collaborative: Typical of students who feel they can learn by sharing ideas and talents. They co-operate with the teacher and like to work with others.

What makes it different? Who benefits most? (Costs/benefits/use)

e-learning is considered as one of the global driving factors for the development of education and economy in many countries. The recent developments of e-learning methodologies characterised by the diffusion of MOOCs, Open Educational Contents, cloud based tools and other elements

have improved the effectiveness of the courses and reduced costs. [9] Anecdotal evidence suggests that there is a significant correlation between the level of IT infrastructures of a country and the adoption of technology-enabled educational tools such as e-learning by institutions or corporations. [10]

These elements contribute to the development of, and access to, e-learning courses, suggesting that the link between IT infrastructure and educational tools will contribute to the effectiveness of adopting an e-learning strategy. The ability to access, promote and achieve a greater density of e-learning provision seems to rely on technologically enabled methodologies although e-learning can not only take place remotely but also in a tutor-led training environment:

> *e-learning can cover a spectrum of activities from the use of technology to support learning as part of a 'blended' approach (a combination of traditional and e-learning approaches), to learning that is delivered entirely online. Whatever the technology, however, learning is the vital element... (JISC)*

This unique blend of approaches should lead to a variety of pedagogies being adopted and, consequently, numerous opportunities to ensure that training within e-learning meets the needs, expectations and aspirations of employers and employees. Additionally, this may also be applied to individual participants who wish to pursue courses for the purposes of self-improvement or personal advancement.

> *Research compiled by e-Learning Industry indicate that e-learning has the potential to increase retention of information by up to 60%; nearly 25% of employees leave jobs because there is not enough room for training or development, whilst companies who offer e-learning are able to generate 26% more revenue per employee. (e-Learning Industry, 2014)* [11]

> *Most students in online education in Spain have a medium or high level of training. In fact, users with a medium or high education duplicate those with basic schooling. Therefore, the more education the individual has, the more this person will use the online training. The same is true and applies in other EU Member States: users with a high level of education tend to use more online training, so that we could deduce that e-learning methods are mainly used for complementary postgraduate studies. That is also reflected in the fact that 75% of users of e-learning are older than 25 years.* [12]

[9] EUROPEAN-WIDE E-LEARNING RECOGNITION REVIEW REPORT – EXECUTIVE SUMMARY, *SMEs & e-LEARNING (SMEELEARN) PROJECT* September 2015.
[10] *'Ibid'*
[11] SMEELEARN - e-Learning Recognition Review Report (Sept15) - page 107
[12] SMEELEARN - e-Learning Recognition Review Report (Sept15) – page 113

Who is e-learning for?

It is apparent that e-learning may prove an appropriate solution to meet SME training requirement. The decision to engage in e-learning largely depends on whether it meets the perceived objects of an organisation.

Needs Analysis

The completion of a SWOT e-learning Analysis will contribute to any initial consideration of the needs and objectives of engaging in e-learning activities. This first SWOT should be completed on behalf of an SME and is primarily intended for completion at senior manager level.

Matters to Consider:

Strengths: What would an SME gain from engaging in e-learning activities? This could include saving time, making the most efficient use of training budgets,

Weaknesses: These could include: cost, relevance, loss of independence in how training is developed, relevance of content to SME perceived development, lack of technological expertise

Opportunities: These could focus on**:** Personal and SME growth, creative approach to learning, accessing new and shared best practice, to manage e-learning to promote innovation.

Training Needs: Including innovative ways to access learning, directed outcomes and value for money provision.

SME Company e-learning needs analysis	
Strengths	Weaknesses
Opportunities	Training Needs

Completion should be followed by a period of reflection on the perceived needs and objectives highlighted by the resulting data. If completed by more than one manager, it may provide an opportunity to compare and contrast similarities and differences within an organisation and promote further discussion as to the value of e-learning as a training mechanism.

Needs Analysis for SME Employees

The completion of a SWOT e-learning Analysis will contribute to any initial consideration of the needs and objectives of engaging in e-learning activities. This SWOT should be completed by SME employees who wish to engage in e-learning to further their knowledge, understanding and access to learning in the workplace. Largely self-explanatory, the most practical means of completion may be through asking a series of questions. These could include:

Strengths; How could I benefit from taking an e-learning course?

Weaknesses: What would prevent me from completing or accessing e-learning?

Opportunities: How would e-learning help to develop my knowledge base?

Training Needs: What are my training needs and could they be met through e-learning?

SME Employee e-learning needs analysis	
Strengths	Weaknesses
Opportunities	Training Needs

Completion should be followed by a period of reflection on the perceived needs and objectives highlighted by the resulting data. If completed by more than one employee, it may provide an opportunity to compare and contrast similarities and differences prompting further discussion as to the value of e-learning as a training mechanism. Additionally, it may be used to discuss the availability of e-learning courses and their suitability with line managers or other employees.

Note: *A SWOT analysis may be completed more than once and could form part of a regular review of learning needs and expectations. It is not intended to be an exercise whose results are not subject to changing circumstances. This applies equally to whether a SWOT is completed on behalf of an SME or by an employee considering e-learning as a means of gaining further knowledge.*

Learner Needs Analysis

Is e-learning right for you?

A number of further exercises may be completed before committing your company and employees to engaging in e-learning.

Learner Needs Analysis (LNA)

The LNA simply provides an opportunity to reflect on what skills you will need to succeed, what skills you already have, and what skills you need to develop. [13]

> *A Learning Needs Analysis (LNA) is a review of learning and development requirements that is designed to support individual, team and organisational development. It is a recognised developmental tool that evaluates an employee's skills, knowledge and behaviours in order to meet the organisational demands together with an assessment of any current or anticipated gaps in learning. The aim of the exercise is therefore to bridge any highlighted gaps through adopting various methods of support and development.* [14]

> *What is a Needs Analysis? Needs analysis is an element of designing (or reviewing) a curriculum. Its purpose is to establish key learning outcomes and requirements in the design and delivery of a course or learning activity. The needs relate to the characteristics, concerns and potential constraints of the students (or any other relevant stakeholders). The analysis seeks to match possible or proposed techniques and materials to these needs and thus identify whether the design is appropriate to the intended goals.* [15]

Good course design should separate ends from means. "We are constantly making the mistake of specifying the means of doing something rather than the results we want. This can only limit our ability to find better solutions to real problems." (Gilb, 1988) [16]

> *It is fairly well accepted that e-learning developments that are valuable and sustainable in the longer term are those based on the use of small-scale, incremental, non-revolutionary technologies. (Ehrmann 2000)* [17]

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[13] http://www.reading.ac.uk/graduateschool/skillstrainingprogramme/gs-assess-training-needs.aspx
[14] http://www.ucl.ac.uk/hr/od/resources/learning%20NeedsAnalysisFramework.pdf
[15] Warwick University: Learning and Development Centre 2011
[16] Gilb, T. and Finzi, S. (1988) Principles of Software Engineering, Addison Wesley
[17] Ehrmann, Stephen C., *Technology and Revolution in Education: Ending the Cycle of Failure*, Liberal Education, Fall, 2000 pp. 40-49.

Profiling

Simple documentation templates can be created for recording and developing user needs statements from an interview or focus group. Questions and discussion might be used to gather information on the student group. [In this example, the term "student" may be equally applied to learner or SME employee.]

1. Students' availability or preference of study environments
2. Student characteristics: entry qualifications, employment aspirations, language, disability, etc.
3. Current student problems or concerns
4. Refining an existing methods or provision
5. Establishing what students see as appropriate or helpful activities

Recording such information systematically over time helps develop a culture of considering student needs and experiences as well as gauging successes of a new course or method. [18]

e-learning for all

The concept that e-learning may apply to all fields of learning and is suitable for all users is a misnomer. The possibility that e-learning is accessible, intercultural and open to all is not necessarily applicable as different groups have varying needs and expectations. This concept was challenged in the introduction to *Learning to Solve* (Fundación ONCE 2005) when ONCE considered the concept of universal accessibility, which sought to achieve communication, via e-learning, between the blind and the deaf or offer the same quality of education in distance learning. As Fundación ONCE recognised, the complexity of achieving this objective relied on a clear understanding of the need for targeted learning as, for example, the blind student requires a text whereas others may need specific graphic environments. (Fundación ONCE 2005)

As technologies have become more advanced, it is apparent that the need for universal accessibility remains at the centre of any developmental undertaking. The needs of each individual should always be at the centre of any e-learning course that is developed. It is not enough to say that e-learning is accessible to all if the specific needs of each user are not taken into account. Risking e-segregation, it is equally important to recognise the strap-line adopted by a college in Birmingham, UK: 'All different, All Equal'.

If technology and e-learning are open to adaptability, then it should be apparent that the content should match individual needs. An SME that employs a variety of skilled employees is likely to recognise their individual needs and preferred learning styles. This adaptability is more complex and has financial implications but e-learning should match the aims, objectives, aspirations and expectations of learners and providers. The idea that "one style fits all" will restrict the chances of success. Risks need to be taken although not without careful consideration of the strengths and weaknesses of how the training is to be delivered.

[18] Warwick University: Learning and Development Centre 2007

Before committing an organisation and its employees to engaging with e-learning it is also important to recognise that:

> *Online students must also supply the motivation to succeed in online classes without face-to-face human interaction. Successful students need to be able to monitor their own learning and progress, garner peer support, exercise good time management skills, and draw on experience to find resources on the Internet (Blocher, De Montes, Willis, & Tucker, 2002; ACSDE, 1999).*[19]

Asking the right questions:

Learning Needs Analysis (LNA) Form[20]					
Task/Skill/ Knowledge	Expectations of SME	Identified gaps in learning/ understanding	Previous Experience and training	How will this be achieved	How is it going to be evaluated

Matters to Consider

Task/Skill: What task or skill does the employee need to know to carry out their role effectively? Has the employee any knowledge on the subject? This could range from having an understanding of a particular policy, to more complex issues that require training, coaching etc.

Expectations of the manager/organisation: What is necessary for the employee to know in order to make the team/organisation function effectively? Does it meet with organisational objectives? Is it a realistic and achievable goal?

[19] Berenson 3 (RRODL 2008)
[20] UCL HR

Previous experience/training: What does the employee already know? How long ago was their previous experience or training on a particular matter? Is it still relevant? Have there been changes in legislation, procedure, culture etc.

Identified Gaps in learning/understanding: Does the employee recognise those gaps? What is required in order to reach competence in that skill/task?

How will this be achieved: Could there be alternative ways of learning than to send on a course?

How is it going to be evaluated: What processes are in place to ensure that it has been achieved, how is it going to be measured, what are the timescales?

ROI (Return on Investment)

In the final analysis, e-learning is dependent on costs and the only way to establish whether it is right for your organisation is to complete a Return on Investment (ROI) exercise. There are many ROI models but are all fundamentally the same and while recognising the traditional difficulties of calculating return on investment (ROI), e-learning provides a strong case for improving these processes, with clear lines to costs and benefits:

What to consider when calculating ROI:

Costs of e-learning

- Technology – IT systems and applications, infrastructure
- Key Personnel – Content administrators, content designers
- Content – Courses and tools

Benefits of e-learning

- Material costs – No physical course content or hard materials
- Trainer cost savings
- Savings on training logistics, location and travel costs [21]

[21] Key trends for e-learning in 2016, 4th August, 2015 http://www.btexpedite.com/blog/managed-services/key-trends-for-e-learning-in-2016/

What makes e-learning different?

Clearly, e-learning is different from other forms of training providing opportunities to personalise its accessibility and manage how, when and where the e-learning experience may take place. It also requires a degree of commitment and personal commitment for it to work well and should not be imposed upon reluctant participants. Decisions need to be measured and considered in an employee-employer relationship, something that provides the focus for subsequent sections of this guide. Meanwhile, a review of what has been achieved so far may be completed by simply considering this concluding list:

Check List for SMEs considering e-learning:

- Why e-learning?
- Who is it for?
- Have you completed a Learner Needs Analysis (LNA)?
- Has a SWOT analysis been completed and analysed?
- Has a Return on Investment exercise (ROI) been completed?
- How will it be delivered – e-learning platform – blended or remote strategies?
- What is the perceived outcome?

What makes a good e-learning course?

Good communication is the basis for the promotion and continued development of e-learning. A long term commitment to ensuring that SMEs and employees maintain and grow their place both economically and socially creates opportunities to share and comment on the very best practice within e-learning. Constantly in a state of flux, approaches to e-learning should emphasise the needs and aspirations of all those concerned. Individually developed courses may provide the answer but what makes a good e-learning course? Sectors, employers, employees and cultures all have areas that they would wish to develop, enhance or avoid. Skills in specific of interest may not meet the perceived needs of an SME or their employees.

Many SMEs would have completed needs and objectives analysis before further consideration of what the contributory factors are that make up a good e-learning experience. These processes are important and may need revisiting as decisions concerning the use of e-learning are made. The fundamental next question is what makes a good e-learning course? Clearly, this will depend on what the perceived needs are but experience suggests that it will be made up of a variety of contributory factors as outlined in the following paragraphs. They may not be applicable to all but provide a good starting point for further discussion with managers, employees and eDesigners and are drawn from what is often deemed as best practice within the e-learning industry.

What makes a good e-learning course?

Detailed Analysis	Interactive Content	Enjoyable and fun Activities
Structured Content	Assessment Opportunities	Achievable Milestones

Visually Stimulating	Real-Life Case Studies	Audio Input
24/7 Accessibility	Blended Learning	Training Room Based

Reporting Facilities	Certification	National Accreditation

Time to think - unpressured Learning environment	Cost Effective	A Rewarding Experience

With so much to choose from, how is it possible to make a decision as to whether an organisation should choose e-learning as its preferred learning model? Reflecting current needs and trends within the sector that the SME is engaged in, decisions will be primarily influenced by costs and perceived outcomes. The eLearner should not be excluded from this process but, in reality, it is often an SME manager who makes the final decision. It is important to recognise the difference that this makes to whether the eLearner is successfully engaged in the learning process or remains as the trainee who is metaphorically "sent" on an e-learning course. What follows is intended to raise awareness of some of the common contributory factors that influence good e-learning, while recognising that time and the economy often outweigh a studied and careful assessment of whether e-learning provides the style of learning that is required.

It is worth re-emphasising that 'good e-learning is based on sound pedagogy. It embraces technology as a means of communicating ideas, adding interest and creating engagement. It tracks learners' progress and responds to their needs and as a whole it is in a state of constant evolution.' (Creative Education 2013) Furthermore, that as 'scenarios are a great way to make online training more engaging' SMEs are able to place e-learning and their training needs in a practical context. As one eDesigner comments: 'Instead of just reading, learners must read with the intent to understand and at times place themselves into the particular situation, giving participants information to make decisions. Basically, scenarios turn information into practical application.'[22]

Virtual Interaction and the digital divide

The "digital divide" may be interpreted in terms of generational use and although one should not generalise, it is apparent that younger employees of large organisations are more likely to consider e-learning as the preferred means of accessing training and information. Social media, including *Facebook*, *Twitter* and *LinkedIn* are often viewed as the preferred means of communication and SMEs, sole traders and larger organisations are becoming adept at sharing, trading and training via these technological hubs. Within these areas, e-learning and SMEs continue to develop a working relationship although there seems to be a gap between what is predicted, proposed and aimed for and what is happening in practice.

The choices available are complex and often difficult to achieve but once a decision has been made to engage in e-learning it is important to recognise the importance of recognising what makes a good e-learning course. In an attempt to formulate an effective approach SMEs often engage an eDesigner to create appropriate content. This may not be available to all – costs can

[22] http://e-learningbrothers.com/author/brother-andrew/page/2/

be prohibitive – but it is worth considering the differences between good e-learning and ineffectual design.

What follows is a reflective section considering the concepts that may contribute to a stimulating and reward e-learning experience. Read in conjunction with the rest of this Best Practice Guide and, more specifically, with the section entitled e-learning for Developers, it provides an overview of the contributory factors in relation to e-learning design and content. It is not intended as a prescriptive solution but as a means of emphasising the importance of interactivity, visuality and achieving a successful outcome.

The e – is in the learning

1. The e – is in the learning, otherwise, it would be eTraining. e-learning should be achievable, not a "chore" consider different learning styles, adaptable but also include short-term, situation-based tasks to stimulate learning.
2. e-learning should be a repeatable experience but not "virtual piano practice". It should promote and not discourage further learning. Good e-learning should be viewed with nostalgia ('I'd like to do that again!') not with fear. ('I'll never do that again!)
3. Good e-learning is always about the end-user and should encourage individual creativity, problem solving through simulation and stimulate change.
4. For the learner and the organisation e-learning outcomes should be accessible, traceable, measurable, encourage further learning and, ideally, rewarding and life enhancing.
5. A bored learner is a non-learner. Memorable Visuality:
6. e-learning isn't an extension of working life; too demanding and it will reduce productivity. It shouldn't be seen as a means to extend the working week and it needs time to work its eMagic! Good e-learning recognises the need for reflection and allow time for organic processing. e-learning is not an imposition but a positive decision making, life enhancing choice.
7. A tired eLearner is a non-learner
8. Good e-learning should be timed, logged and recognised, just as face2face learning. It isn't about attendance of even time spent but e-learning is all about sustainable outcomes.
9. All learners like blended face-2-face training because most learners are sociable people. A day spent working, training, sharing, talking, laughing moaning, socialising to maintain a work/life balance often disappears with e-learning. Even the best e-learning program cannot be good for everyone and is unlikely to work if it is imposed on a reluctant workforce. Productivity drops if learners are unable to share their experiences. That is why "e-learning Get Together Days" are so important. It is not enough just to provide an assimilation 'this is how you access the program session' because meeting and sharing – with 'break-out sessions' enhance learning.
10. So, how do you promote e-learning? Blended is Best! Less is More and finally that e-learning is not for the techno-phobic!

Helping the eDesigner [23]

When you prepare a brochure, sales leaflet or a company website you control the content. So, why should it be any different when you commission an e-learning course? After all, it's just another form of print production and in the long run you are just as responsible for the content as you are for more traditional design commissions. So, here's a check list:

Task		Defining Objectives	Completed
WORK PROGRAMME: Ensure that you have negotiated a clear work programme with your designer BEFORE you start!		Including: 1. Start and Finish Dates. 2. Predicted Cost. 3. Deadlines for submission of content. 4. Intermediate milestones so that you can check on progress. (Face2Face meetings help 'humanise' the process!) 5. Opportunities to view and review content. 6. Feed-back opportunities and time span for final revision of content.	
1.	Provide text for inclusion	No more than 175 words per page using a minimum of 12 point in a CLEAR font. (If you've negotiated a good deal with your designer, 4 pages or screen shots beautifully laid out AND accessible are much better than ONE so crammed that it needs a microscope to read it!)	
2.	Provide graphics for inclusion.	Company Logo and location pictures such as your office, building, view of workshop if the e-learning course requires them. Graphics should be provided as Jpeg or other applications as advised.	
3.	Provide contact details.	As preferred whether it is an email contact or a Help Desk number/email when the e-learning course is ready for an end-user.	
4	Provide samples of corporate colours.	These can be in print format as the designer can capture the exact colour by using a scanner	
5.	Viewing and Reviewing Draft Copies.	Make sure that you are able to 'proof read' your e-learning course at all stages of construction. Ask for access just as you would if you were working with a printer before going 'to print'.	

[23] Joe Bilby, *Is My Tie Straight?* e-learning Course (2002)

6.	Feed Back Opportunities	Ensure that you have the ability to feedback your thoughts as the construction takes place.	

BRIGHT IDEA! Get your team to be involved in reviewing and suggesting revisions. It's a rather hackneyed expression BUT 'ownership' works! And, it's worth remembering that another pair of eyes may spot the GLARING mistake that you've missed!

WHAT IF: Your designer won't show you any of their previous work? If you're suspicious about their level of expertise just politely 'walk away'. (Definitely don't sign anything until you're sure that they know what they're doing!)

E-learning for Developers

An eDesigner engaged in developing e-learning courses will have a range of expectations and resources that will influence how course materials are created. The intention of this guide is not to create tension between SMEs and eDesigners but to emphasise the importance of the SME – eDesigner relationship. Further information can be found at an eDesigners' preferred sources although materials and links included in the Appendix to this guide may prove of value including The Ultimate e-learning Course Design Checklist [24]

The Developer-Employer-Employee relationship

> *Learning is a deeply personal act that is facilitated when learning experiences are relevant, reliable, and engaging. During those early days of e-learning, we learned the hard way that simply building a learning system that could be accessed over the Internet did not guarantee that people would have much need for, or interest in, the courses and programs, regardless of the provider. We learned that shoveling courseware online did not provide anyone—faculty, students, or administrators—with an online experience that was much more than tedious electronic page-turning. Sometimes we learned the hard way that "doing learning unto others" could quickly demotivate and disengage the very people we had hoped to serve.* [25]

Learning not Training:

> *Training: an instructor-led, content-based intervention, leading to desired changes in behavior.*
>
> *Learning: a self-directed, work-based process, leading to increased adaptive capacity.* [26]

Placing an emphasis on the difference between Training and Learning will help to decide the form that e-learning should take. If the client or their employees are engaged in accessing and providing training, the outcome will be different from if they wish to provide a learning experience as defined above. Training and learning can be inter-changeable but by recognising what is required will define how courses are delivered.

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[24] http://e-learningindustry.com/the-ultimate-e-learning-course-design-checklist
[25] Wagner, E *Delivering on the Promise of e-learning,* Adobe Systems inc, 2006
[26] Martyn Sloman, *Beyond e-learning the role of technology in learning in the organisation* Chartered Institute of Personnel and Development 2005

e-learning enables, evaluates and empowers. Online learning programs that exploit high-speed cable connections allow everyone to acquire essential knowledge at a pace and time that fits their working or personal schedules. [27]

Learner Needs Analysis (LNA)

The LNA simply provides an opportunity to reflect on what skills you will need to succeed, what skills you already have, and what skills you need to develop. [28]

> *A Learning Needs Analysis (LNA) is a review of learning and development requirements that is designed to support individual, team and organisational development. It is a recognised developmental tool that evaluates an employee's skills, knowledge and behaviours in order to meet the organisational demands together with an assessment of any current or anticipated gaps in learning. The aim of the exercise is therefore to bridge any highlighted gaps through adopting various methods of support and development.* [29]

> *What is a Needs Analysis? Needs analysis is an element of designing (or reviewing) a curriculum. Its purpose is to establish key learning outcomes and requirements in the design and delivery of a course or learning activity. The needs relate to the characteristics, concerns and potential constraints of the students (or any other relevant stakeholders). The analysis seeks to match possible or proposed techniques and materials to these needs and thus identify whether the design is appropriate to the intended goals.* [30]

Good course design should separate ends from means. "We are constantly making the mistake of specifying the means of doing something rather than the results we want. This can only limit our ability to find better solutions to real problems." (Gilb, 1988) [31]

> *It is fairly well accepted that e-learning developments that are valuable and sustainable in the longer term are those based on the use of small-scale, incremental, non-revolutionary technologies. (Ehrmann 2000)* [32]

Profiling

Simple documentation templates can be created for recording and developing user needs statements from an interview or focus group. Questions and discussion might be used to gather information on the student group. [In this example, the term "student" may be equally applied to learner or SME employee.]

1. Students' availability or preference of study environments

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[27] Rosemary T. Skordouli, *E-Learning Foreign Languages: A Proposed Model for a Greek Institute*, Learning Solutions Magazine, 20th June 2005
[28] http://www.reading.ac.uk/graduateschool/skillstrainingprogramme/gs-assess-training-needs.aspx
[29] http://www.ucl.ac.uk/hr/od/resources/learning%20NeedsAnalysisFramework.pdf
[30] Warwick University: Learning and Development Centre 2011
[31] Gilb, T. and Finzi, S. (1988) Principles of Software Engineering, Addison Wesley
[32] Ehrmann, Stephen C., *Technology and Revolution in Education: Ending the Cycle of Failure*, Liberal Education, Fall, 2000 pp. 40-49.

2. Student characteristics: entry qualifications, employment aspirations, language, disability, etc.
3. Current student problems or concerns
4. Refining an existing methods or provision
5. Establishing what students see as appropriate or helpful activities

Recording such information systematically over time helps develop a culture of considering student needs and experiences as well as gauging successes of a new course or method. [33]

Needs and Objectives

> *A needs analysis for a new method or course is likely to include a review of overall teaching strategies. e-learning facilitates a whole range of teaching and learning activities. However, a learning activity does not take place in isolation to the teaching and study environments, assessment tasks, tools used and so forth. It is therefore important to ensure that all components of the curriculum, including any uses of e-learning methods or materials, are properly integrated and the purpose of a particular component is then clear to the student.* [34]

Reflecting on the need to recognise the importance of the relationship between provider and learner Robin Mason comments on 'the importance of interactivity in the learning process, the changing role of the teacher from sage to guide…and the move towards resource-based rather than packaged learning.' Of particular relevance to the idea of e-learning, and more specifically blended learning, is her belief in a what she terms as a Wrap Round Model where

> *The course content consists of tailor made materials (study guide, activities and discussion) wrapped around existing materials (textbooks, CD-ROM resources or tutorials) and representing around 50% study time. The remaining 50% is comprised of online interactions and discussions, including real time online events and screen sharing with increasing audio/video components.*[35]

Additionally, this may become combined with elements of an Integrated Model where:

> *The heart of the course involves collaborative activities, learning resources and joint assignments. These take place online through discussion, accessing and processing information and carrying out tasks. The course contents are fluid and dynamic as they are largely determined by the individual and group activity. In a sense, the integrated model dissolves the distinction between content and support, and is dependent on the creation of a learning community.* [36]

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[33] Warwick University: Learning and Development Centre 2007
[34] Warwick University, 2007
[35] Mason, R. (1998) *Models for online courses*. ALT Magazine online at: http://www.usdla.org/html/journal/JUL01_Issue/article02.html
[36] Mason, R. (1998) *Models for online courses*.

It is generally accepted among all agents involved in the development of an e-learning programme that its success in a business environment depends on two critical aspects:

- *The development or adaptation of the technological platform.*
- *The quality of the contents, which must be directly related to the real training needs of the customers.* [37]

For SMEs, most frequent services required are e-learning training courses with tutorials and evaluation services. As the investment required in order to develop personalized platforms and courses is too high for SMEs (taking into account that most SMEs have less than 10 employees), the most common solution adopted is the purchase of e-learning courses. The content is standardised and the employees are treated individually, like the other participants on the course. [38]

These requirements are often based on economic decisions. The desire to save money or to view e-learning as an economic short-cut to success can present opportunities to manage training in ways that are not necessarily in the best interests of all parties. This is particularly apparent if the divisions between training and learning are not clearly defined. If e-learning is to be successful, it should be developed in conjunction with other programmes that are designed to support the personal and economic needs of the company. Proactive SMEs will have completed Learner Needs Analysis and have a clear awareness of what they require. This should, not, however, be taken for granted and it is worthwhile asking a series of questions directed at potential clients before designing an e-learning application.

Interesting and Appropriate

- Who is it for?
- Has a Learner Needs Analysis (LNA) been completed?
- How will it be delivered – e-learning platform – blended or remote strategies?
- What is the perceived outcome?
- Has a SWOT analysis been completed and analysed?

Why e-learning?

Has a Return on Investment exercise (ROI) been completed?

Depending on the answers, you may wish to conduct your own analysis of the outcomes of the client's needs and objectives and reasons for wanting to develop an e-learning course.

[37] SMEELEARN - e-Learning Recognition Review Report (Sept15) – page 114
[38] SMEELEARN - e-Learning Recognition Review Report (Sept15) – page 113-114

Accessible to all

As technologies have become more advanced, it is apparent that the need for universal accessibility remains at the centre of any developmental undertaking. The needs of each individual should always be at the centre of any e-learning course that is developed. It is not enough to say that e-learning is accessible to all if the specific needs of each user are not taken into account. Risking e-segregation, it is equally important to recognise the strap-line adopted by a college in Birmingham, UK: 'All different, All Equal'.

If technology and e-learning are open to adaptability, then it should be apparent that the content should match individual needs. An SME that employs a variety of skilled employees is likely to recognise their individual needs and preferred learning styles. This adaptability is more complex and has financial implications but e-learning should match the aims, objectives, aspirations and expectations of learners and providers. The idea that "one style fits all" will restrict the chances of success. Risks need to be taken although not without careful consideration of the strengths and weaknesses of how the training is to be delivered.

For example, research indicates that 10% of in the UK are living with dyslexia, a condition that associated with abnormalities in the parts of the brain responsible for visual (seeing words) and auditory (sounds in words) processing.[39] Dyslexia does not imply low intelligence or poor educational potential and it may promote creativity in interesting and varied ways, particularly within the field of visual interpretation.

> *Art History and Visual Culture are both subjects that traditionally attract comparatively large numbers of students affected by specific learning difficulties such as dyslexia. Many of the students adapt well to the forms of assessment used on courses, which range from written coursework to oral presentations and slide examinations. All of these forms of assessment draw on skills of visual analysis, an area in which many dyslexic students excel.* [40] *[nb: It has been suggested (West, 1997; Turner and Wooden, 2003) that dyslexics may be stronger at visualisation spatial awareness, creativity and lateral thinking.* [41]*]*

Inclusive Material

User-Control: The dyslexic elearner should be able to interact with and change web pages to suit his needs. The pages should be constructed with this type of adaptability in mind. One example of built-in user-control would include an option to change the color of text and background color. Some dyslexics cannot read black text on a white background. Color-blind students may not be able to see red/pink and green combinations or red/black combinations of text and background.

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[39] http://www.skillsrocket.com/6/information/77/dyslexia/
[40] Gabriele Neher, Supporting dyslexic students on the web, The University of Nottingham , http://www.nottingham.ac.uk/pesl/resources/e-learning/supportx101/
[41] West , T.G., (1997), In the Mind's Eye: Visual Thinkers, Gifted People with Dyslexia and Other Learning Difficulties, Computer Images, and the Ironies of Creativity. Prometheus Books, New York.

Color and Contrast: If the website is to be accessible by the reading-disabled, the user must be provided a choice of color for background, text, and images. The use of color in combination with simple, economical headings applied to various sections (pages, paragraphs, and categories) offer logical guidance to the text for a person with a reading difficulty.

Web Safe Colors Contrast is also important and should be used with wisdom to separate the elements of a page. The background should be one solid color. Avoid busy, bright patterns, images, and textures. Keep in mind that not all browsers will display the chosen background color, so you may not want to rely on background for your only means of contrast. Dark text on a pale background is best. Choose from the 256 "web safe" colors to ensure visibility on most browsers.

Readable Fonts and Font Size: Use fonts that are "sans serif" for instance Arial (Helvetica) or Comic Sans. While Comic Sans doesn't give a very professional look to the text, it's known to be especially readable. Other good font choices include Georgia, Tahoma, Trebuchet MS, and Verdana. Font size should not dip below 12pt or 14pt. [42]

Image-sound-content for developers

While it is apparent that e-learning courses should address a variety of learning styles and prove fit-for-purpose. The decision to ensure that courses meet the needs and objectives of all, should reflect a belief that learning should be interactive and recognise that the more engaging the experience and the more intentional the results, the greater is the likelihood that learning will occur. From a learning-oriented perspective, when technology can help strengthen learner motivation, focus attention, make a learning moment more memorable, or demonstrate the relevancy of learning to performance, the greater is the likelihood that technology will have a direct positive effect on learning. (Wagner, 2005) [43]

The techniques applied to dyslexic learners could also be used to strengthen e-learning design, for example, by adopting a multisensory approach that could include introducing the same item(s) in different ways, using different senses, to reinforce the learning. Ideally auditory, visual and hands-on approaches should all be used: Visual techniques include colour coding, diagrams: Auditory strategies include CDs, voice recorders, oral work. 44

In considering further ideas and the desire to make an e-learning experience a reflective experience, the use of scenarios eDesigners suggest that:

Scenarios provide learners the opportunity to:

- apply knowledge and practice skills relevant to the situation they face
- analyze, identify issues, solve problems and formulate strategies

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[42] Varda Epstein, http://thee-learningsite.com/2010/12/e-learning-with-dyslexia-top-ten-tips-for-teachers/

[43] Wagner, E. D. (2005). *Enabling mobile learning*. EDUCAUSE Review**.** Vol 40. No.3 May/June 2005. Quoted in *Delivering on the Promise of e-learning,* Adobe Systems inc, 2006.

[44] Melanie Jameson, *Offending E-learning and Dyslexia: The Good Practice Guide*, Adult Dyslexia Organisation, 2007

- learn by completing structured learning activities which resemble the challenges they are likely to face in the real world [45]

Elements of Effective Scenarios

Here are some elements that designers should consider when creating effective scenarios:

- involves mentally processing and connecting the content presented to the question/task
- models "real-life" thinking processes that the learner has to be able to perform
- presents issue(s) related to the learning outcomes
- is sufficiently complete, complex and focused
- presents a situation, problem, or issue
- appears to be realistic
- events are in a logical order
- content is accurate, relevant, and appropriate

In support of more engaging e-learning

In conclusion: All successful models of e-learning share a number of similarities**:**

- Each perspective is shaped by some degree of technology mediation, and is looking for a way to transcend distance.
- Each perspective assumes some degree of self-regulation/independence on the part of the learner.
- Each perspective acknowledges the value of facilitation by an instructor, agent, or guide.

When each individual model for e-learning creation is influenced by the heuristics for creating rich digital experiences offered…, the likelihood of improving the experience of extending cognitive performance is greatly improved. [46]

[45] http://e-learningbrothers.com/8-effective-scenario-ideas-for-instructional-designers/
[46] *Delivering on the Promise of e-learning,* Adobe Systems inc, 2006

Sharing and Promoting Best Practice

Although sharing and promoting best practice may be considered a subjective exercise, it is apparent that it can also contribute to an objective outcome. While it is not the intention of this Best Practice Guide to promote one provider over another, it is worth reflecting on the previous sections that considered what makes a good e-learning experience and reconsider some of the issues that may have been raised when the various forms of analysis were completed.

The needs and objectives of each SME are, by definition, highly individualistic and rely heavily on available technology. Promoting equal opportunities for all is a worthy and ultimately profitable experience but it is important to view all aspects of e-learning as a personalised interpretation of what is available. Certainly, this section can only reflect a general consensus of opinion as to what may be considered as best practice.

It would be easier to develop arguments around what isn't best practice but this section seeks to promote e-learning as a positive experience within the confines of what is currently available. It may, of course, provide opportunities to develop a potential wish-list of what would make the ideal e-learning experience but that will contribute to "7. Constantly Evolving – e-learning into the future."

Overview of the general attitude to e-learning in Italy

There is a clear need to increase the quality of the e-learning offer supporting the development of the technological infrastructure and the networks. The main critical factors are the fragmentation of the different initiatives, the waste of public resources and the lack of a common evaluation system. There is no communication between e-learning providers and the best practices are not so visible and shared. Another critical point is the perception of e-learning as a non-functional system for innovation and development of the organisations and work processes. This is because e-learning, in Italy, is not yet work-based or project-based, but is based on traditional contents.

The research carried out by ISFOL highlighted the need to improve two main points: to collect and capitalize the experiences, knowledge and competences developed in e-learning projects and improve the quality of the services and resources. [47]

[47] E-Learning e Innovazione, Isfol 2008 - http://isfoloa.isfol.it/bitstream/123456789/97/1/Isfol_Convegno_e-learning_innovazione.pdf

Research suggests that the Italian e-learning market was still at the initial stages in comparison with other more developed markets such as, for example, USA or North Europe. Despite this situation, the companies considered e-learning useful to:

- *Reduce costs;*
- *Improve the training flexibility;*
- *Improve the involvement of participants;*
- *Personalise the training;*
- *Reuse and update continuously the contents.* [48]

Sufficient computerisation of Slovak SMEs as well as predominance of younger population in the Slovak business community is a good basis for increasing the use of e-learning as a form of education. Slovak SMEs recognize that in order to increase their competitiveness and achieve more growth the education is an indispensable precondition. They are also fully aware that in terms of time efficiency, cost savings and overall flexibility, e-learning is the ideal choice compared to full-time form of education. [49]

When comparing the three main types of education (traditional – presence based, combined, e-learning), combined form continues to gain the best score among employees. In addition to frequently stated fear of losing personal contact between trainers and participants of the course, the lack of motivation or lack of information on the use of the system are other perceived disadvantages of e-learning. [50]

E-learning & Spanish companies

In Spain, continuing training is widely implemented by companies. For 80% of Spanish firms it is a strategic decision related to policy. However, the size of the company determines the duration of training actions, as well as the development of specific training plans personalized for each employee. [51]

In accordance with the Spanish Confederation of Business organizations (CEOE), concerning the benefits and barriers, whilst flexibility and the adaptability for the employees are seen as big benefits, the barriers are related to technological investments as well as the uncertainty about the most convenient technologies to use. [52]

Overview of the e-learning situation in Greece

Anecdotal evidence suggests that e-learning market in Greece for the year 2015 corresponds to around 8-10% in relation to the total education programmes offered in the country. E-learning in

[48] SMEELEARN - e-Learning Recognition Review Report (Sept15) – page 127
[49] SMEELEARN - e-Learning Recognition Review Report (Sept15) – page 148
[50] SMEELEARN - e-Learning Recognition Review Report (Sept15) – page 148
[51] SMEELEARN - e-Learning Recognition Review Report (Sept15) – page 113
[52] SMEELEARN - e-Learning Recognition Review Report (Sept15) - page 114

Greece is mostly provided by the Hellenic Open University (HOU) in Patras. The HOU´s mission is to provide distance education at both undergraduate and postgraduate level, and to achieve this it works to develop and implement appropriate learning materials and methods of teaching. [53]

Based on the aforementioned statistical data one should conclude that the e-learning market in Greece is rather underdeveloped. The deep economic crisis and the current situation in Greece could partly justify this fact. Despite this however, a set of actions need also to be undertaken. This set of actions should correspond to increased sophistication and adopt an intergovernance perspective, in order to build and effectively implement highly demanding education and training policy reforms, and to deliver both on a short-term and a long-term basis. Such an approach will allow these reforms to bring results, as it regards the learning outputs, in the next three-year period, with measurable up-skilling of human resources, through focused and advanced actions. An example of actions in line with this proposal include the development of various models for the design of web-based electronic train systems (ETS) for Greek SMEs. [54]

The best work needs to be shared and promoted. The creation of e-learning materials is complex and yet the outcomes often seem simple. It is important to share best practices that promote an interactive but fit-for-purpose approach to eDesign. So much depends upon the accessibility of technology although the production of smartphone movies with some text can prove inspirational. The idea that e-learning needs to be a large scale operation is a misnomer. Many end-users learn quickly and often a 3 minute exercise is all that is required to successfully reinforce a concept or revision note. A variety of resources are available, exploring the potential of e-learning that challenges and speeds up the learning process as the following review of *3-Minute E-Learning: Rapid Learning and Applications* (Jimenez) suggests:

> *This book is about implementing e-Learning that push learners for rapid application while on the job. It answers: how to focus content development for rapid applications and problem solving, reduce costs at down to 30%, and increase speed of develop 300% faster. Furthermore, it provides managers, instructional designers, developers and SMEs a new methodology to rapidly develop and deploy e-Learning. This book includes solutions to: how to create a new instructional process to identify "application points"; how to design 3-Minute snippets, vignettes, nuggets; how to push the value of e-Learning by enabling performance support; how to use 3-Minute e-Learning to boost the performance of LMSs; how to create development budgets; how to implement a production plan to implement 3-Minute e-Learning; how to interview and guide SMEs to develop rapidly content; how to use 3-Minute e-Learning to focus on performance metrics driven e-Learning.* [55]

[53] SMEELEARN - e-Learning Recognition Review Report (Sept15) – page 154
[54] SMEELEARN - e-Learning Recognition Review Report (Sept15) – page 160
[55] Ray Jimenez, *3-Minute E-Learning : Rapid Learning and Applications, Amazingly Lower Cost and Faster Speed of Delivery* Vignettes for Training, Inc; 2006

Decisions concerning e-learning rely on end-user economics. The smartphone is just one means of rolling-out e-learning methodologies that meet the demands, needs and expectations of a new generation of eLearners:

Your smartphone is insanely powerful for the size of it. It has a tiny display, a powerful CPU and GPU, motion sensors, location awareness, it is personalised and portable. Video on smartphones is already mainstream. So what about 360, spherical or immersive video? [56]

eDesign becomes an imperative as smartphone use is different from desktop or tablet access as this recent article aimed at eDesigners indicates

> *Tablet devices are typically employed in what's called a "lean-back experience." This is when a learner uses the gadget while sitting, relaxing, and taking time to consume the e-learning content or media before them.*
>
> *Smartphones are used for more of an "on-the-go experience." This means the user of the device is busy, often interrupted, active, and only has short snippets of time available to view the information at hand.* [57]

It follows that these differences may be exploited in full by recognising these differences:

> *Tablets: A More Immersive Learning Experience: present e-learning in a way that is very similar to desktop learning.*
>
> *Smartphones: Well-Suited for Performance Support: People using their smartphones are usually more pressed for time, so it makes sense to chunk e-learning for these devices into very small lessons or modules, and to gear the content more toward performance support. The goal should be to help learners get the information they need in the moment, versus engaging them in something more lengthy and intensive on their tiny phone screens.* [58]

Further developments in using mobile technology include the use of Twitter as a means of updating end-users on current and relevant news items linked to their studies with one study concluding that: 'Twitter is good for sharing, collaboration, brainstorming, problem solving, and creating within the context of our moment-to-moment experiences (Dunlap & Lowenthal 2009) [59]

Further research indicates that as 'Twitter is primarily a social networking tool… it will allow the individual to discuss their emerging ideas rapidly with others to assist in their construction of knowledge and understanding.' [60]

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[56] Matt Jenner, *99p Virtual Reality and the implications for video in HE*, UCL e-learning, 16 November 2015
[57] Nicole Legault, *Considerations for Designing E-Learning for Tablets vs. Smartphones* (2015)
[58] Legault, *Tablets vs. Smartphones* (2015)
[59] Dunlap, J.C. & Lowenthal, P.R. (2009). Tweeting the Night Away: Using Twitter to Enhance Social Presence. *Journal of Information Systems Education, 20*(2), 129-135.
[60] Ramsden, A., 2009. *Using micro-blogging (Twitter) in your teaching and learning: an introductory guide.* Discussion Paper. Bath, UK. University of Bath.

Meanwhile, successful e-learning also depends on the eDesigner and their ability to produce stimulating work, neatly explored in this promotional book-blurb from Cammy Bean:

> *Don't create boring e-learning! The Accidental Instructional Designer covers nearly every aspect of the e-learning design process, including understanding instructional design, creating scenarios, building interactivity, designing visuals, and working with SMEs. The Accidental Instructional Designer is perfect for the learning professional or instructional designer who is just getting started with e-learning or the more experienced practitioner looking for new ideas. In addition to sharing proven techniques and strategies, this book covers best practices and what to avoid when designing an e-learning program, presents e-learning in action through various case studies, and shows how you can go from being an accidental instructional designer to an intentional one.* [61]

Costs for SMEs may be restrictive but there are other options available as this publisher's copy for *101 Tips for Do-It-Yourself e-learning* relates:

> *The book is intended for those who need practical guidelines in finding solutions and implementing e-learning with low or no budgets at all. The book provides e-learning developers, designers, leaders and champions tips on how to make new rules in design and implementation and produce engaging learning, innovative approaches and at the least costs possible.* [62]

These elements contribute to sharing and promoting best practice and should ensure a positive approach to what is possible and highlight some of the problems associated with eDesign.

[61] Cammy Bean, *The Accidental Instructional Designer: Learning Design for the Digital Age*, ASTD; (June 16, 2014)
[62] Ray Jimenez, *DIYEL 101 Tips for Do-It-Yourself e-learning*, Monogatari (2009)

All about MOOCs

MOOC is a Massive Open Online Course provided by universities and other educational institutions providing opportunities to access short online courses. Promoting greater accessibility to higher education MOOCs are designed to remove the barriers to higher education through the provision of online courses that are free and accessible to all.

As one UK provider, the University of Sheffield, comments:

> *We have joined an international community of partners on FutureLearn, the first UK-led massive open online course (MOOC) learning platform. Developed by the Open University and consolidating over 40 years' experience and expertise in online and distance education, the platform allows us to deliver high-quality academic content over the web, opening our learning, teaching and research to a global community of learners.* [63]

The range of subjects is impressive. From E-learning and Digital Cultures (University of Edinburgh) [64] to Fundamentals of Music Theory (Reid School of Music, Edinburgh) and Jazz Improvisation (Berklee College of Music with Gary Burton) [65] these courses represent an opportunity to create and participate in e-learning without a huge financial commitment.

Although each course has its own requirements, a commonality of approach underpins MOOCs, as this example from The University of Edinburgh indicates:

> *The range and variety of courses and their availability is vast. The reasons for applying these criteria to SMEs are varied but there are opportunities to use MOOCs in ways that will support SME growth through professional development. Donald Clark emphasises the role that MOOCs could play regarding SMEs, identifying two areas (among many) of particular interest:*

- **External resources in blended learning:** Internal courses can be expensive to build and deliver and now that there are hundreds of 'free' MOOCs out there it makes sense to use and integrate them into your training. This is especially true of business, finance and IT, where MOOCs can be seen by corporates as part of a sophisticated off- and online blend. The blended MOOC is a real option for corporates, where they have the resources to deliver other components internally with face-to-face, tutor support and so on, to balance out the purely online nature of the MOOC.

[63] http://www.sheffield.ac.uk/moocs/about [accessed 07.12.2015]
[64] https://www.coursera.org/course/edc [07.12.2015]
[65] https://www.class-central.com/mooc/521/coursera-jazz-improvisation [accessed 07.12.2015]

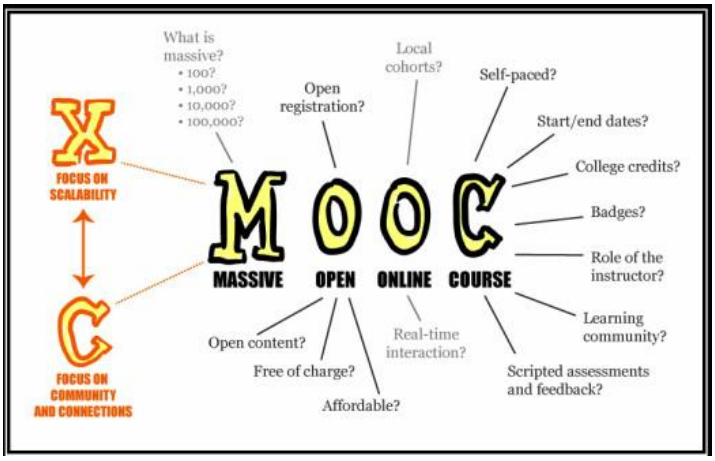
- **Flipped Classroom:** This model is a more specific example of blended learning, where the MOOC becomes that which you study at home for the knowledge and exposition and the internal training gets you to practice and adapt that knowledge, within your organisation. This gives you free external training and internal relevance and competitive edge. One can easily see a cohort of people within an organisation starting a MOOC and moving forward together with mutual support to achieve real learning. [66]

These elements may contribute to the further use and development of MOOCs by SMEs although courses are readily available to support further learning including *The Computing Technology Inside Your Smartphone* (Cornell University) that explores 'the fundamental computing technology inside smartphones and the advanced techniques that make them run so fast' [67]to *"How to use Twitter?"* including how to create a Twitter account for business.[68]

There is still work to be done and information needs to be shared as this example shows:

> *'Dr Jen Ross from the University of Edinburgh, introduced Massive Open Online Courses (MOOCs) to the Scottish Parliament, through a series of events, a web resource, and an invitation to participate in a MOOC. One of the key things to emerge from these activities was an interest in the potential for MOOCs to support professional and personal development.' [69]*

Meanwhile, probably the best way to decide if MOOCs are for you is to join a course and try it for yourself, remembering to consider the following diagram before signing up:



[70]

[66] Donald Clark, *10 big reasons for rise of corporate MOOCs,* Tuesday, December 10, 2013, http://donaldclarkplanb.blogspot.co.uk/2013/12/10-big-reasons-for-rise-of-corporate.html
[67] Cornell University, https://www.edx.org/course/computing-technology-inside-smartphone-cornellx-engri1210x#!
[68] http://www.salford.ac.uk/business-school/business-management-courses/mooc-search-social-media-marketing-international-business/how-to-use-twitter
[69] http://scotlandfutureforum.org/moocs.html
[70] MOOC poster, Mathieu Plourde. CC-BY, http://scotparlmoocs.weebly.com/

Constantly Evolving – e-learning into the future

The nature of e-learning indicates that it will continue to evolve and need to reflect increased accessibility to match technological development. The needs and changes in consumer use and economic well-being are difficult to predict although there are many economic, social, educational, cultural and technological experts who are in the business of identifying and relying on future ventures. This section can only bring together a small number of indicators and is intended to illustrate the potential of ensuring that SMEs and eDesigners are in a position to recognise the importance of the relationship between e-learning, available technology and perceived changes in how the end-user accesses information and what this may mean for SMEs that wish to engage their workforce in e-learning as a means of keeping up to date with developing trends in their industry.

Fear of Innovation

The creative industries are capable of producing the very latest and innovative e-learning solutions for the 21st century. The technologies are faster, more accessible and increasingly sophisticated with an end-user who is extremely adaptable and ready to learn. But whether these attributes are fully exploited by developers and SMEs still relies on a willingness and commitment to supporting the very latest approaches to accessing, storing and managing information. Potential users have grown up digital – from the cradle to teenager and to young adult – and expect an innovative approach to e-learning. Decisions regarding future learning strategies are always in a state of flux but there is a need to ensure that e-learning creates opportunities for innovation. This requires a proactive relationship between e-learning developers and SMEs. While knowledge of current market trends is essential it is also important to recognise and use a predicative approach to future potential.

Viewed objectively, this may seem a subjective and futuristic attempt to ensure that e-learning meets the needs of the end-user but it is imperative that all avenues are explored as the workforce becomes increasing mobile and interactive in their expectations. For example, within the EU the potential to work in any of its 28 member states brings with it the possibility of economic growth and inter-continental communication. Linguistically this may prove problematic but this, in itself, can lead to the development of innovative language solutions. The current position regarding language acquisition is variable and although multi-lingual courses are available they are difficult to identify as accredited or access. It may not even be appropriate to continue to call this type of learning; e-learning as this could inhibit its accessibility.

Cloud Computing, SMEs and e-Learning

A recent study considered the way digitisation is driving the evolution of British businesses of all sizes and the status of digital business in the UK. Although the study noted that larger businesses were leading the field in comparison to SMEs it provided a "snapshot" of the current position. The research noted that 98% have a company website; 88% make extensive use of online banking; 44% spend more than half of their marketing budget online and 41% have adapted their websites for tablets and smartphones. [Brunel/Applegate 2015]

It is apparent that the expansion of digital accessibility, especially with regards to cloud computing and the adaption of websites for tablets and smartphones provides an opportunity for further growth in the field of e-learning. Employee familiarity with these new technologies can facilitate an advance in e-learning although there is still some reluctance to fully exploit its potential.

Suggesting that e-learning may provide the solution to the spiralling cost of face-2-face training has often been hailed as a way of budgeting towards success but are SMEs making the most of their computing expertise and the potential to exploit the latest developments in digital technologies?

The complexities of e-learning have traditionally been managed by a number of stand-alone Managed Learning Environments (MLEs), Virtual Learning Environments (VLEs) or Learning Management Systems (LMS). In the EU, open access platforms including Moodle offer a self-build solution that tends to circumvent the role of the Instructional Designer. This mismatch of expertise and content knowledge has been equalled by an apparent reluctance to fully engage with the potential to ensure that e-learning meets the visual, textual and audio-visual learning styles of a new generation of users. The future for SMEs and their only chance of survival is to engage in training a workforce for the 21st century, using 21st century technologies.

e-learning for the Future

Research indicates that how people learn and, more specifically how learners adapt to technology is driving an e-learning revolution. Why remain within the traditional boundaries of e-learning when it is possible to exploit and explore the creative potential of apps and 3D interaction as a learning pedagogy?

It is apparent that the expansion of digital accessibility, especially with regards to cloud computing and the adaption of websites for tablets and smartphones provides an opportunity for further growth in the field of e-learning. Employee familiarity with these new technologies can facilitate an advance in e-learning although there is still some reluctance to fully exploit its potential. Why should e-learning remain a 2D version of a multi-dimensional world?

The development of this concept should focus on the creation of new e-learning materials specifically aimed at the 18-30 generation who have grown up with the very latest concepts and as users of mobile, tablet and app technologies: the end-users who are already familiar with social media as a means of interaction and are readily able to adapt to the digital future as a source of

e-learning. This may encourage the development of methodologies that focus on the needs and individual learning styles of the digital generation.

According to a recent study the inclusion of Gamification - the practice of applying game mechanics to non-game contexts, or situations; Micro-learning - to deliver content to learners in small, very specific targeted bursts usually completed in less than 4 minutes, and Simulation/role playing will foster a more dynamic approach to e-learning. (docebo: The Changing Face of Learning)

'A tech-savvy, 'mobile' generation demand learning tools that they can relate to although some companies experience a generation gap as the younger employee demographic is more likely to become early adopters of digital learning tools.' (Whyte, May 20, 2015) This gap needs to be addressed by 'understanding the employee/learner demographic now and in five years' time' (Whyte 2015) and through the development of an innovative, creative, stimulating and accessible to all platforms but more specifically for tablets and mobile devices to create opportunities to ensure that e-learning fundamentally changes the way future generations learn. We have the technology and the expertise - it's time we used it creatively to develop an innovative approach to e-learning.

The Augmented Future of e-learning

The way in which we use technology to enhance our daily lives seems bound to a two dimensional screen. e-learners are always up to date in terms of the way in which we consume information; but what if you were able to display digital artifacts on the world around us? What if the "one size fits all" digital learning courses could be tailored to an individual? [71]

> *In a nutshell, augmented reality (or AR) is about superimposing a computer-generated image, sound or video on to a live view of the world. This can take a number of forms – with a web cam on the computer or even on your smartphone. There's no doubt about it, augmented reality is cool. But when it comes to using in the classroom, which applications go beyond the purely superficial geekery, to techniques that are actually useful in promoting learning?* [72]

> *Gamification is the buzz word in e-learning at the moment, but of course, you don't want to gamify e-learning for the sake of it. In this post, you'll explore the principles underpinning good gaming design for e-learning, and set out an eight point checklist to help you create better, gamified learning.*[73]

These extracts give an indication of how technological developments have the potential to change the ways people engage with e-learning in the future. From Augmented Reality to Gamification, technology certainly has the capacity to have a profound influence on how people learn. But is it technology, for technology's sake?

[71] http://e-learningindustry.com/augmented-future-e-learning-augmented-reality-e-learning [09.11.20156]
[72] 5 Ways to Use Augmented Reality in the Classroom (Creative Education) 13th Feb 2012
[73] Li Whybrow, Consultant Designer at haifisch http://e-learningindustry.com/gaming-design-for-e-learning [accessed 06.11.2015]

Clark and Mayer were among the first to seriously research the use of media in e-learning and have come up with empirically tested conclusions, often repeated by others, which suggest that many common practices in e-learning design are, in fact, wrong. They actually result in harming rather than helping the learning process. They call for simpler, less gimmicky use of media. Animation and audio do NOT necessarily lead to better learning and may, in fact, degrade the learning experience. [74]

The idea that e-learning may have a negative impact of how people learn is of interest here, although technologies and their users and how a new generation of learners engage with e-learning is extremely difficult to predict. It is apparent that e-designers have the capability to produce learning materials that will have a profound impact of future learning expectations.

e-learning and accessibility

Structurally, e-learning in the 21st century should include: less text, be graphically interactive, feature sound and animation clips but above all be App-exploitable and Achievable! This view is supported by research that indicates a prolonged shift in the ways that people access information. For instance; 'the UK is heading for smartphone saturation quite quickly, with 80% penetration due by next January, and 90% - pretty much the finish point - some time between mid-2016 and the end of 2017. [75] This shift in end-user access will also impact on how e-learning is perceived and delivered. This view is enhanced by the growth of other forms of accessible technology. Recent research suggests that:

Tablet use is also on the rise with half the country's population expected to own one before New Year as density of mobile devices hit an all time high The report found that by the end of this year 51% of Britons will own a tablet, up from just 3.5% just five years ago, which ranks the UK the seventh highest in the world. By 2018 two-thirds of Britons will own a smartphone and be an avid tablet user, according to new research. By 2018, 65% of Britons will own or have regular access to a tablet device, which will rank sixth behind Hong Kong, Singapore, Netherlands, Denmark and Switzerland. The rise of the tablet is mirrored in the smartphone world with 55% of the UK population expected to own one by the end of this year, rising to 69% by 2018. The report also found that by 2018 the number of internet users across the 47 countries it monitors globally will break the 2 billion barrier for the first time. [76]

Future developments are clearly tied into technological expertise and recognition that e-learning will change accordingly. The future relationship between SMEs and e-learning is dependent on accepting that new methodologies will be required to ensure that e-learning remains sustainable and relevant to future employees. Just how this is managed will have a real impact on how e-learning is provided into the next decade.

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[74] Donald Clark, Mayer & Clark – 10 brilliant design rules for e-learning http://donaldclarkplanb.blogspot.co.uk/2013/01/mayer-clark-10-brilliant-design-rules.html
[75] Charles Arthur, The death of the featurephone in the UK - and what's next? The Guardian: 30th April 2014
[76] Mark Sweney,The Guardian, 23rd November 2015

APPENDIX 1: SME Company Needs Analysis

SME Company e-learning needs analysis	
Strengths	Weaknesses
Opportunities	Training Needs

APPENDIX 2: SME Employee Needs Analysis

SME Employee e-learning needs analysis	
Strengths	Weaknesses
Opportunities	Training Needs

APPENDIX 3: Learning Needs Analysis (LNA) Form

Learning Needs Analysis (LNA) Form[77]					
Task/Skill/ Knowledge	Expectations of SME	Identified gaps in learning/ understanding	Previous Experience and training	How will this be achieved	How is it going to be evaluated

[77] UCL HR

APPENDIX 4: What makes a good e-learning course?

What makes a good e-learning course?

Detailed Analysis	Interactive Content	Enjoyable and fun Activities
Structured Content	Assessment Opportunities	Achievable Milestones

Visually Stimulating	Real-Life Case Studies	Audio Input
24/7 Accessibility	Blended Learning	Training Room Based

Reporting Facilities	Certification	National Accreditation
Time to think - unpressured Learning environment	Cost Effective	A Rewarding Experience

APPENDIX 5: Helping the eDesigner - Check List

Task		Defining Objectives	Completed
WORK PROGRAMME: Ensure that you have negotiated a clear work programme with your designer BEFORE you start!		Including: 1. Start and Finish Dates. 2. Predicted Cost. 3. Deadlines for submission of content. 4. Intermediate milestones so that you can check on progress. (Face2Face meetings help 'humanise' the process!) 5. Opportunities to view and review content. 6. Feed-back opportunities and time span for final revision of content.	
1.	Provide text for inclusion	No more than 175 words per page using a minimum of 12 point in a CLEAR font. (If you've negotiated a good deal with your designer, 4 pages or screen shots beautifully laid out AND accessible are much better than ONE so crammed that it needs a microscope to read it!)	
2.	Provide graphics for inclusion.	Company Logo and location pictures such as your office, building, view of workshop if the e-learning course requires them. Graphics should be provided as Jpeg or other applications as advised.	
3.	Provide contact details.	As preferred whether it is an email contact or a Help Desk number/email when the e-learning course is ready for an end-user.	
4	Provide samples of corporate colours.	These can be in print format as the designer can capture the exact colour by using a scanner	
5.	Viewing and Reviewing Draft Copies.	Make sure that you are able to 'proof read' your e-learning course at all stages of construction. Ask for access just as you would if you were working with a printer before going 'to print'.	
6.	Feed Back Opportunities	Ensure that you have the ability to 'feed-back' your thoughts as the construction takes place.	

APPENDIX 6: Promoting Best Practice in Design

Although e-learning presents an always evolving learning landscape what follows provide a snapshot promoting best practice. Representing only the "tip of e-learning best practice information" each example seeks to enhance awareness of the potential for e-learning as an educational means to an end. Drawn from numerous online and survey interviews, these extracts are intended to promote further discussion and enhance an independent approach to e-learning.

When interviewed, **Connie Malamed**, author of **Visual Design Solutions: Principles and Creative Inspiration for Learning Professionals** provided the following information when asked:

What are the most important 4-5 tips someone needs to know in order to achieve a better educational outcome?

That's a tough question, but I'll take a stab at it. Here's my list of how to achieve better educational outcomes.

1. Think of yourself as a problem solver in addition to a learning experience designer.
2. Think broadly and consider solutions that don't involve courses.
3. When designing formal learning, spend time with the audience to understand what they need and align it with what the organization needs. Make it super relevant.
4. During design, keep in mind that people can only process 3-4 bits of information at one time. Avoid overwhelming people with a firehouse of information.
5. Less is more.

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Alex Katsomitros interview on e-learning with Dr Peter Norvig, Director of Research at Google Inc, Borderless Report October 2013

- **What are the drawbacks of online teaching and learning - for universities and students?**

For the student, you miss the personal interaction with the professor, and you get a different interaction with classmates - you interact with them in discussion forums, not in person. Universities should see it as one more tool. Universities have physical libraries and online libraries, and both serve students in different ways; similarly they can benefit from physical courses and online courses.

- **Does online delivery require completely different skills in academics?**

Different, not completely different. I've had practice teaching through writing short essays, writing books, lecturing in a small class, having a discussion-oriented class, holding office hours, lecturing in a big class, lecturing in class and having that broadcast to remote students, and putting

together an online course. These different modes share some skills and require some unique skills as well. The main difference is in the amount of real-time interaction with students.

- **For which subject disciplines is online learning best suited? Would there be differences in the online delivery of sciences vs the humanities?**

Yes. An important part of learning is practice. For math and related fields, it is easy to automatically generate new problems for students to solve: a program can teach multiplication and ask one student "how much is 24 * 37" and another "how much is 3 * 4" -- the questions are tailored to the student's skill level and the program can compute the correct answer. But we don't have programs that can automatically do that in poetry or political science. Similarly, evaluation of online learning is easy when the answers are multiple choice or fill-in-the-blank, and are harder when the answer is a two-page essay.

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Examples of the use of e-learning:

TRIO (technology, research, innovation and orientation) is the web learning system of the Tuscany Region. It makes available to citizens and public and private organizations a catalogue of more than 1,700 teaching resources and free courses. It offers also free tutoring services, assistance and services dedicated to collaborative learning, all accessible remotely by the Internet. TRIO was born in 1998, as tele-training project financed by Tuscany Region through the Social European Fund (FSE).

TRIO is located in all the Tuscany provinces with a network of learning centres where users can bear to take courses. Within the learning centres there are workstations equipped with PC and Internet access for free and tutors who provide assistance to those who want to take TRIO courses. The TRIO system is open to all. It offers a wide usability, both at a national and international level, thanks to its multilingual courses. The TRIO system is based on an open source web learning platform that allows reducing operating costs, ensuring a training offer in line with European standards in the field of elearning completely free for the final user. [i]

Company *SOLEA* operates a restaurant in the central Slovakia and its manager took part in the survey and in-depth interviews on the use of e-learning as educational tool in enterprises realised within the project SMEELEARN. When asked what he understands under the term elearning and what forms of education he connects it with, he replied: "Step by step interactive online courses or webinars." The main reasons that led to the use of e-learning in his facilities were the efficiency of know-how transfer in terms of geographical reach and possibility of multiple use of already generated content. Although he says having no problems to obtain the information about e-learning tools because of sufficient international resources, he admits that information on local – Slovak level is rather limited. As further advantages of e-learning as a form of employee education he considers the time flexibility and price advantage over other, traditional forms of education. The company plans to use e-learning to train its employees also in the future, especially in the

area of soft skills. The company also believes that e-learning has the prospect of wider use in the SME sector in Slovakia.

Company *HolidayRaj* operates tourist facility in the north of Slovakia and its owner was involved in the survey and in-depth interviews on the use of e-Learning as an educational tool in enterprises in the project SMEELEARN. When asked what types of training she imagines the most often under the term e-learning, she replied as follows: "Learning using information technology that includes self-study, where the student can choose what information is needed and when he wants to acquire it." The main reasons, which led to the use of e-Learning has been especially the need of training and acquiring of new information and skills.

The company hasn't experienced any problems in obtaining information about available e-learning tools. These were drawn mainly from bidding emails sent by e-learning providers. The main advantages of e-learning as a form of staff education are according to the owner price advantage over other forms and flexibility in time and place of education. Since some employees cannot or do not want to travel for training, e-learning is an ideal choice, as they can spend on it as much time as they need and take the course at the places and in times that suit them best. The company plans to use e-learning in the future specifically in the areas of skills needed in the tourism sector, business skills in general and also presentation skills. The company believes that e-learning has the prospect of wider use in the Slovak SME sector. [ii]

In 2009 the Laboratory of Applied Economic and Social Policy (LAESP) was officially established as part of the Department of Economics by faculty members of the University of Ioannina. LAESP is self-funded and initiated in order to carry out research and development activity in all diverse aspects of applied economics and social policy issues.

Since 2010 LAESP has been offering a series of nearly 100 courses to public under an asynchronous e-learning platform. Depending on the market needs LAESP aims to provide equal opportunities to everyone. The laboratories' clientele is primarily focused on SMEs providing the opportunity for further training of their executives and employees. The courses are privately paid by the employers or the trainees. The vast majority of the trainees participating in the e-learning courses offered by LAESP are employed or self-employed (80%) while a substantial number of trainees are unemployed (20%) looking to expand their skills in their current professions or looking to take the first step towards new careers. Approximately the same number of men and women are educated each year in LAESP. Integrated Learning is an effective learning solution because it allows individual learners and training managers to tie learning solutions to business objectives and it has the ability to assess the skills of individuals, track progress, increase retention, and manage training across the entire company, thereby offering a better return on the investment of time and money.

LAESP Integrated Learning consists of five components:

1. **ASSESS**. It initiates the learning process by helping students and companies to identify their objectives, determine what type of training is required to meet those goals, and choose the right solutions to maximize their training investment.

2. **LEARN**. It offers solutions that combine both classroom learning and e-learning, e.g. Online Live Learning, Online ANYTIME Learning, etc.
3. **REINFORCE**. It provides reinforcement tools to increase retention of the course material and advance the learning process, e.g. learning guides, e-courseware, learning kits, online reference books, exam preparation, virtual and learning labs.
4. **SUPPORT**. It provides support services that are designed in such a way so as to give personal attention to every customer, e.g. ongoing account executive consultation, technical help desk support and training administration.
5. **VALIDATE**. It offers the trainees the opportunity to monitor their progress in the process of achieving their desired goals, e.g. course evaluations, assessments, post-class surveys, certification exam testing and learning transcripts.

Supporting SMEs

Numerous initiatives are proposed and funded to support SMEs in the field of online learning. One such initiative was announced in July 2015: New online tool will help entrepreneurs and SMEs to learn about standards and get involved in standardization

Brussels, 3 July 2015 - CEN and CENELEC, in close cooperation with Small Business Standards (SBS), have developed an interactive educational tool that will enable entrepreneurs and people who work for small and medium-sized enterprises (SMEs) to learn about standards and standardization in a way that corresponds with their own needs. The 'CEN-CENELEC e-Learning Tool for SMEs' is available in 23 languages, and can be accessed (free of charge) via the CEN-CENELEC website.

Some 99% of all businesses in Europe are small and medium-sized enterprises (SMEs) with less than 250 full-time employees. These companies provide around two-thirds of all private-sector jobs and account for more than half of the value created by businesses. However, while many SMEs do participate in standardization activities, they are not always well-represented in the Technical Bodies of the European Standardization Organizations. In some cases, SMEs might not be fully aware of the various ways in which standards are relevant for their business, and how they could benefit from getting involved in the development of standards at national, European and international levels.

CEN and CENELEC have committed themselves to supporting the participation of SMEs in standardization, which is also a key objective of the EU Regulation on European Standardization (1025/2012). Together with their national members, they have developed a range of tools and means to make it easier for SMEs to learn about standardization, to access and apply standards, and to get involved in standardization activities.

In 2012, CEN and CENELEC launched the 'SME Toolbox of Solutions' on the CEN-CENELEC website. The purpose of this Toolbox is to make it easier for SMEs to access information about standards, and find out how they can get involved in standardization activities. More than 90% of CEN and CENELEC's national members have also published special web pages (in their own languages) that are specifically tailored to the needs of SMEs. Building on the success of the Toolbox, CEN and CENELEC decided to develop an interactive educational tool that will enable

entrepreneurs and people who work for SMEs to learn about standards and standardization in a way that corresponds with their own needs.

The 'CEN-CENELEC e-Learning Tool for SMEs' has been developed by CEN and CENELEC in close cooperation with Small Business Standards (SBS). This interactive online tool is now available in 23 different languages via the CEN-CENELEC website. The tool contains 6 separate modules which address the following aspects:

- What are standards and what do they mean for your company?
- By whom and how are standards developed?
- Why should you use standards?
- What can you gain from participation in the development of standards?
- How do you find a specific standard and how could it be applied?
- How could you influence the content of a standard?

In addition, there is also information about specific examples or 'case studies' that show the benefits of using standards and participating in standardization activities.

The 'CEN-CENELEC e-Learning Tool for SMEs' not only provides an interactive environment for entrepreneurs, managers and employees to learn about standards and standardization. It also offers individual users the possibility to test their knowledge and even obtain a Certificate of Achievement (free of charge) to show how much they have learned.

Elena Santiago Cid, Director General of CEN and CENELEC, said: "I hope that the new 'e-Learning Tool for SMEs' will enable entrepreneurs and people who work for SMEs to learn about the benefits of using standards, and that it will also encourage them to get actively involved. By participating in standardization activities, SMEs can help to shape the content of new standards that could affect their business. They can also learn about best practices and gain access to information and knowledge regarding the latest technological, regulatory and market developments, which will help them to succeed and grow."

Notes:

The CEN-CENELEC e-Learning Tool for SMEs *is available in 23 languages and can be accessed via the CEN-CENELEC website: www.cencenelec.eu/sme/eLearning*

More information about how CEN and CENELEC support SMEs, including the SME Toolbox of Solutions, the SME Standardization Toolkit (SMEST 2), and the network of SME Helpdesks (which are provided by the National Members of CEN and CENELEC), can also be found on the CEN-CENELEC website: www.cencenelec.eu/sme

Small Business Standards (SBS) *is a European non-profit association (aisbl) established with the support of the European Commission to represent European SMEs in the standard making process at European and international levels. Moreover, it aims at raising SME awareness about the benefits of standards and at encouraging them to get involved in the standardization process. For more information visit http://www.cencenelec.eu/News/Press_Releases/Pages/PR-2015-05.aspx*

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