Online Learning

SVEA TRAINING MODULES

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Introduction

This module has been designed to introduce teachers to the techniques and skills of developing and delivering online learning. It is intended to demonstrate the many benefits of using modern technology in the teaching process and to provide access to online resources that will help teachers to gain practical experience in the effective support of online learners.

By the end of this module, the learner will be able to:

- Appreciate the impact that the internet is having on educational delivery and what it means for the future support of learners;

- Have a practical understanding of how online courses are designed and delivered through case studies of good practice;

- Plan an appropriate use of online learning in their own areas of teaching as a result of completing a practical exercise that applies the skills and knowledge in the module.

There are five sessions in the module:

Session 1 – Introduction to Online Learning
This session provides an overview of the online environment and a summary of the online resources and functionality available to support learners. It outlines the typical learner experience online, as well as that of the teacher. In completing the session you will be contributing to a reflective discussion on the issues raised with other participants.

Session 2 – Online Learning Design
This session presents a range of resources that are representative of current views on effective learning design in the context of online learning. They also present views on what is regarded as poor practice and to be avoided. In each case participants are invited to respond with their opinions as educational practitioners and to complete a reflective exercise.

Session 3 – Online Learning Resources
This session will consider the typical hardware and software requirements for both teachers and learners in the design and delivery of online learning. It will specify the digital literacies required by both the teachers and the learners for effective online learning to be supported. The session will invite you to carry out an analysis of your own strengths and weaknesses in this area and, where necessary, construct a personal action plan for improvement.

Session 4 – Online Learning Environments

This session will introduce the functionality of an online learning environment: the website that provides access to the online learning resources. It describes commercial learning management systems that have a license fee and also open source systems that do not. It introduces web 2.0 tools and social networking software that can also be used in the design of an online learning environment. You will gain experience in the use of these tools.

Session 5 – Supporting Online Learners

This session will cover the basics of learning materials design and sourcing and the different approaches to tutor support of online learners. It will consider methods of assessment, feedback and quality assurance of online learning.

Session 1 - An Introduction to Online Learning

Introduction

This session provides an overview of the development of personal computing, the internet and the web over the last three decades. It summarises the impact this has had on education and presents the views of a number of practitioners on how conventional educational delivery and teaching practice is likely to change as a result. You are invited to express your own views on the issues raised and to engage in a forum discussion.

The purpose of the session is to introduce contemporary online learning practice and to prepare for the sessions that follow where online learning design, digital literacy, online learner support and other topics will be covered.

Throughout the module you will be asked to respond to the issues discussed with your own opinions and experience. It is hoped that this reflective process will assist you in planning the use of online learning in your area of responsibility.

Learning Outcomes

By the end of this first session, you will be able to:

- Appreciate the importance of the rapid growth of the Internet and how it has facilitated online learning;

- Understand how the Internet is currently being used and how Web 2.0 tools are providing increasing levels of functionality and resources for teachers and learners;

- Draw conclusions about what impact this is having in your area of teaching and what it means in terms of your own skills development as a teacher.

What you have to do

This introductory session sets the scene for the Online Learning module. Your task is to read the materials, watch the videos, and to form your own opinion of the issues raised and the views expressed. You are then invited to share your responses in the session discussion forum on the SVEA platform and to respond to the views of others.

1.1 Computing, the Internet & Web 2.0

There can be no doubt that the everyday use of personal computing has transformed the way we live our lives. Apart from our desktop or laptop computers, there are computers controlling most common devices that we use. Mobile phones are powerful micro-computers with communications capability, central heating systems are computer controlled, televisions and media players are operated through embedded computing capacity, cars have computer-based engine management systems, and so on.

All modern computers can communicate online through the Internet - the global computer communications network. This network is a remarkable collaboration between nations, organisations and commercial companies worldwide that has established a global communications infrastructure that can be used by anyone with the ability to connect to it. Typically, individuals will connect their computers through their home telephone service provider or through the growing availability of wireless network services.

What has made the Internet so influential on the way modern society works is the World Wide Web. The Web facilitates the distribution, sharing and presentation of data in a variety of different ways that has revolutionised the way we communicate and share information. It is now normal for organisations, companies, educational institutions and many individuals to have websites where they promote their services and communicate with customers and colleagues.

There is a further revolution that is going on right now that is transforming the way society operates. Web 2.0 is a term used to describe a growing range of web based tools that allow people to communicate and share information in an entirely new way. Blogs, Instant Messaging, Twitter, Skype and other services mean we can communicate in ways that were not possible before. Facebook, MySpace, Google groups and others facilitate social networking. YouTube, Flickr & Google docs enable widespread sharing of videos, photos, documents and other digital resources.

Many people have Facebook accounts where they share their social activities. Most people, when they need information, will use Google to find that information. All major private and public organisations now allow (and encourage) users to pay for their services online. It is now quite normal for individuals to chat with friends and family internationally with live voice and video communications using Skype.

People who would say that they are not computer experts at all, are now using computers and the internet every day in their social and working lives, probably without thinking how, over the last decade, it has completely changed the way they communicate and do business.

Have a look at the following video. It is an illustration of how people are exploring the potential of the online environment for mutual benefit and enjoyment. Consider how

they are informally developing their skills and abilities. What do you think this might mean for education in the internet age?

Another important message from this is that the development of personal computing, the use of the Internet and the emergence of web 2.0 are not only changing the way we work and socialise, they are changing the economics of social and commercial communications and interactions. Much of what can be done online is at no additional cost to the user. This has huge implications and offers significant potential benefit for education and for learners.

What are your views on all of this? Before we look at other people's ideas on what technology and the internet mean for the future of education, you can post your opinion on the discussion forum of the SVEA platform for this session. Have a look at what others are saying. There's a strong view that education will be transformed over the next decade by the web - do you agree? What will it look like?

The next section explores the educational use of these technologies in more detail.

1.2 Educational Technology

Pen and paper, blackboards and chalk, were the traditional technologies of education in the 19th century. They are still used today - the classroom based teacher/learner educational method has changed little over the last two centuries.

However, although the classroom paradigm has not changed, new technologies have been introduced as they emerged. Radio, TV, sound and video recording were used during the 20th century and photocopying became widely used for the production of notes for learners. When the first desktop computers became available in the 1980s they led to the introduction of IT skills development for both learners and teachers and the start of use of word processing and graphics software for documentation.

When the Internet and the Web came into being in the 1990s the rapidly growing access to shared academic resources began to be used by teachers and learners. At the same time the implications for distance learning were becoming apparent and the term 'e-learning' was first used. Innovative groups around the world began to develop their own online learning materials and courses. The first commercial online learning environment software products were produced. A number of national and international educational e-learning development initiatives were launched at this time to promote the use of technology in education. An example in the UK was the formation of JISC the organisation responsible for the national academic computer networking infrastructure and with a remit to fund innovative e-learning development projects by institutions.

In the first decade of the second millennium, online learning was becoming integrated into mainstream educational provision and was recognised, even by those teachers not currently involved, as an inevitable component of future delivery. At this time commercial Learning Management System (or Virtual Learning Environment) software

for the delivery of online learning was being purchased, often with government help. Institutions were encouraging teachers to produce digital versions of their courses and to make them available online using these delivery platforms.

The development of Web 2.0 applications during this decade, along with the growth in use of personal technologies, fundamentally changed the direction of e-learning development. The potential of completely new ways of communicating and sharing information and resources, and the realisation of how this would impact on educational delivery, reinforced the growing view that traditional classroom teaching could be supplemented or even replaced by the effective support of learners using online resources. The following video suggests that this is both essential and inevitable. Have a look at it here.

What is your view on the message here? The next video explores further how learning will change through the use of technology. It emphasises the multiple sources of information now instantly available for the learner and how the enthusiasm generated for a subject significantly improves learning. The video also shows how learners have control through their use of technology and that they are able to learn from their failures as well as their successes. You can watch the video here.

How does this align with your views on the impact of technology and the internet on education? Is the transition from '19th century classrooms' to '21st century learning spaces' as fundamental and as beneficial as suggested in these videos? Do you think that instruction from a teacher is more or less effective compared with groupwork learning using internet resources?

This session was designed to inform you of how a range of practitioners view current practice in online learning and where they think the future lies. It was also intended to encourage you to express your own opinions on how online technologies will impact on teaching and learning. The final part of this session invites you to complete a reflective discussion with others.

1.3 Outcomes & Discussion

This session provided an overview of the development of personal computing, the internet and the web over the last three decades. It summarised the impact this has had on education and presented the views of practitioners on how the conventional educational paradigm is likely to change as a result.

The purpose of the session was to introduce contemporary online learning practice and to prepare for the sessions that follow where online learning design, digital literacy, online learner support and other topics will be covered.

During the session you were invited to respond to the issues discussed with your own opinions and experience. It is hoped that this reflective process assisted you to come to your own conclusions about the importance of internet technologies in the future of education.

What are your conclusions now having completed the session? Have you any new ideas of your own about how online technologies can be used in your teaching? You can share your views with others on the discussion forum of the SVEA platform. Later in the module there will be structured exercises for you to express how you plan to develop the use of technology.

Session 2 - Online Learning Design

Introduction

This session presents a range of resources that are representative of current views on effective learning design in the context of online learning. They also present views on what is regarded as poor practice and to be avoided. In each case participants are invited to respond with their opinions as educational practitioners and to join in a discussion about the issues raised.

Learning Outcomes

By the end of this section, you will be able to:

- Appreciate the current views on what represents good and poor online learning design as expressed by a range of practitioners;

- Have the opportunity to comment on the views expressed and to share your opinions with others participating in this module;

- Begin to form a view on how you will approach online learning design using new technologies in your specialism and institution.

What you have to do

This session is designed to take you about 1 hour to complete, although there will be links and resources for you to investigate further should you wish to. There are no formal assessment exercises to complete as, in its basic form, the module is intended for self study. However, there are learning activities for you to complete as these will help you develop your understanding and skills about technology enhanced learning design.

At the end of the exercise you will be invited to complete a reflective exercise about learning design that will allow you to compare your personal views and approach with those views expressed during the session.

2.1 Learning Design and Technology

Opinions on what constitutes good learning design have been discussed throughout the history of education and are usually based on established theories about how learning happens and is most effectively facilitated. A common view is that the basic principles of good learning design do not change, but that developments in the use of technology can improve effective delivery.

Learners need sufficient information for them to understand their subject, sufficient use of that knowledge in a real world situation to develop the requisite practical skills, and sufficient feedback to inform them that the intended learning outcomes have been achieved.

Electronic, computer-based and, most recently, internet technologies have been introduced and have brought benefits for the delivery of learning, but each also has its limitations. The benefits have been mainly in the way learning resources are made available to the learners in more flexible, accessible and, some would say, more engaging ways.

In the following video, Gilly Salmon, Professor of e-Learning at the University of Leicester, UK, talks about how she believed learning design should be approached in the internet age. The presentation explains the essential difference between traditional classroom based learning design and online learning design. It contrasts learning in the physical spaces of the classroom and the library, with the virtual environment of the internet and the need to rethink learning design to effectively exploit its potential. You can watch the video here.

In the second video, David Merrill, Emeritus Professor at Utah State University, USA, outlines the basic principles of instructional design that need to be considered for online learning to be effective. In particular, he emphasises the importance of students applying their new skills and knowledge as part of a 'real world' task. This is particularly relevant to VET and work based learning.

What do you think of these views? They are presented as being applicable to all types of online learning as general principles of good learning design. In your experience are they applicable to VET & adult learning? At this point you may wish to post a comment about this in the discussion forum on the SVEA platform.

2.2 Learning Design Guidance Materials

There is a lot of guidance material available for teachers who want help in re-designing their course materials for delivery online. Such material is being constantly updated as new technologies emerge and it is important for all practitioners to be aware of emerging good practice as it is published.

Here you can find a document that is a good example of this. It is an excerpt from 'Effective Practice in a Digital Age' published by JISC, the support organisation for technology enhanced learning in the UK. It links good pedagogic practice to the effective use of technology and refers to the case studies presented later in this module. There is general agreement that it is important for all teachers involved in online learning design to apply sound pedagogic practice. This is as applicable to VET and adult learning as it is for other learner groups.

There are many other excellent sources of advice and guidance available, and the references provided in such documents identify websites where the leading edge developments in technology enhanced learning can be found. The following two case studies are examples of this and it is suggested you read both of these before completing the self-evaluation survey on learning design that concludes this session.

2.3 Case Study 1: Virtual Learning Environments

Virtual Learning Environments (VLEs), as they are called in the UK (often known as Learning Management Systems (LMSs) elsewhere) are multi-functional online learner support systems that provide access to learning materials and resources, communications with teachers, assessment opportunities and a range of other services. They are available as commercial products, such as Blackboard, and as non-commercial (open source) applications such as Moodle.

The case study here shows a particular implementation of a VLE in a blended learning situation where the online learning augments face-to-face delivery. The intention is for you to form your own opinion about the messages it contains in preparation for the reflective exercise at the end of the session. You can read the entire case study here.

2.4 Case Study 2: e-Portfolios

e-Portfolios are used by learners to record their progress and achievement as they learn. Just as with a paper based portfolio they are used to gather evidence and information in one place that the learner can then use for personal reflection and assessment, as well as evidence when applying for progression to further studies or for employment.

This case study shows how e-portfolios were used by work-based learners. You can read the entire case study here.

What do you think about the use of learner portfolios in vocational education and training? Do your work-based learning programmes use student portfolios to record their achievements?

Session 3 - Online Learning Resources

Introduction

This session will consider the typical hardware and software requirements for both teachers and learners in the design and delivery of online learning. It will specify the digital literacies required by both the teachers and the learners for effective online learning to be supported. The session will invite you to carry out an analysis of your own strengths and weaknesses in this area and, where necessary, construct a personal action plan for improvement.

Learning Outcomes

By the end of this section, you will:

- Be familiar with the hardware and software resources needed to participate in online learning;

- Understand the digital literacy skills required to participate successfully in online learning and how to improve those skills where necessary;

- Specify the actions needed to provide the resources for online delivery in your subject area and the skills needed to use them effectively.

What this will probably mean in practice is that, at the end of the session, you will have confirmed that most of the resources needed are already available to you, and you will have some idea of what you still need and how much it's likely to cost. You also will have reviewed your current computer and internet usage and have made a note of areas where you might need to refresh your skills and others that you might want to explore for the first time because you have identified them as useful and interesting in the support of your teaching and learning.

What you have to do

This is a relatively straightforward session that you will probably complete in about 1 hour. You will be provided with checklists of typical hardware and software resources used to support online learners and will be invited to comment on them in the context of your own area of training. You will then be invited to carry out an analysis of your own resources and skills and to create a personal action plan that will help you address any areas of deficit and prepare for supporting learners online.

In summary you will:

- Consider the typical hardware and software resources needed for effective online learning;

- Complete an inventory of the resources available to you and be in a position to create an action plan to satisfy any additional needs you might have;

- Carry out a personal computing and internet skills analysis and create a personal development plan to satisfy any identified needs;

- Participate throughout in a general discussion about resourcing online learning.

3.1 Hardware for Online Learning

The physical resources required to participate in online learning are the same as those used by anyone who accesses the internet for social or work purposes using a normal desktop PC or laptop computer. A growing number of people have their own computers and an internet connection at home and hence for them there is no additional equipment to buy when starting to learn online.

Similarly, the software required for online learning does not mean additional expense. An internet browser and 'office' applications such as a word processor, spreadsheet and similar programs are all that are normally required. There are free 'open source' versions of these applications available at no cost.

It is true to say that the rapid development of home computing and internet usage now means that most people can engage in online learning with the resources they already have. The same applies to institutions delivering online learning: they can use expensive commercial e-learning software and hardware packages if they wish, but it's not really necessary.

'Hardware' refers to computers and associated equipment. The minimum required for online learning would be:

Hardware	Learners	Teachers
Computer	Any desktop PC or laptop purchased within the last 3 years will be fine for online learners. Laptops are best as they are portable and will have wireless connectivity. This gives the learners maximum flexibility over where they choose to study.	Any desktop PC or laptop purchased within the last 3 years will be fine for a teacher to develop learning materials and support online learners. An institution delivering online learning would normally set up a website for that purpose. It may choose to do this through its own central web server computer with proprietary learning management software, although there are

		zero cost alternatives through web 2.0 services.
Internet Connection	Home connection to the internet will normally be through the phone system using either a dial-up or DSL connection to a service provider. A wireless DSL router is a popular choice with 'always on' connectivity and the ability to have several home computers accessing the internet at the same time. Learners with laptops can access institutional wireless networks when on campus and in wireless hotspots elsewhere.	Teachers would normally connect through the institutional network using an Ethernet connection (though wireless connectivity is becoming more common). Teachers working from home would have a similar system to the learners.
Printer (copier, scanner)	Learners often want to print learning and assessment materials when studying online. Inkjet printers provide excellent quality colour print and are relatively inexpensive. Paper is cheap and available from supermarkets. Ink cartridges are not so cheap but savings can be made by puchasing online.	Teachers are likely to have access to laser printers through the institutional network. These can be expensive, as are the toner cartridges, but shared use reduces the marginal cost. Scanners and copiers are important tools for teachers and multi-functional inkjet printers that combine these facilities are a popular option for use in individual offices/staff rooms.
Headset, microphone, webcam	Online learners are likely to use voice and video communications with teachers and other learners as they study. A headset with an attached microphone enables such communications through the computer using, for example, the 'Skype' online phone service which is free. The addition of a webcam allows video	In addition to voice and video communications, teachers can create sound and video based online learning materials using this equipment and appropriate software. Both the headset and the webcam can be purchased for a few pounds. Most laptops will have the functions built in, although the sound quality is often poor. Using a headset is

	communications.	preferable and less intrusive for other teachers in the same room.
Memory stick	A memory stick that plugs into a USB port on the computer is very convenient portable way for learners to store their files and transfer them between computers. They have replaced 'floppy discs' which are now obsolete and are very cheap. The memory capacity is massive and capable of storing large multi-media files, which is important for online learning.	The convenience of having a small, high capacity portable memory device is also a benefit for the teacher. Teachers often work in multiple locations in the institution as well as at home and it enables the rapid backup and transfer of files. Some institutions pre-load memory sticks with key information and learning materials and hand them out to learners when they start their courses.

It is clearly important for both teachers and learners to have access to the minimum level of equipment needed for participation in online learning. There will be an an opportunity after the next section for you to carry out an inventory of the equipment currently available to you that will identify any items that might still be required. Before that the software requirements for online learning will be considered.

3.2 Software for Online Learning

There are two main types of software application used by online learners and teachers. The first is 'learning environment' software that provides the online functionality needed to support the learning process. This would typically include communications software, learning materials presentation tools and a range of course management tools. The second type would be 'application' software that the learners and the teachers use as part of the learning activities. These would typically include word processing software for teachers to create learning materials and for learners to complete assessment tasks, graphics software to produce diagrams and edit photographs, spreadsheets to manipulate and present numeric data, etc.

The software examples given here are intended to provide a picture of typical applications currently in use and are certainly not exhaustive.

1. Learning Environment Software (covered in more detail in the next section)

Software	Description
Learning Management Systems (Commercial)	These are software applications that provide a comprehensive set of tools for the delivery and management of online learning. They include learning content presentation tools, communications tools, assessment tools and learner management tools. They are designed to provide institutions with a total online learning software package and are commercially available for an annual license fee. A typical example (and one of the current market leaders) is Blackboard. In the UK learning management systems (LMS) are called Virtual Learning Environments (VLE).
Learning Management Systems (Open source)	An alternative to the commercial LMS is a similar package that is made available as 'open source' software. Open source software is freely available with no license fee, so may be an attractive option for institutions. These LMSs have generally the same levels of functionality of the commercial systems but do not have the customer or technical support available to the commercial system users. A typical example (and one of the most widely used) is Moodle. Although there is no customer support there is an active online user community that can provide advice and guidance.
Web 2.0-Based Learning Environments	Online learning environments can be constructed using freely available web 2.0 tools. The individual functional elements of an LMS; online communications, document presentation, information management etc., can be brought together on a single website to deliver the same online learning services. The advantage of this approach is that it can be individually tailored to the needs of particular courses or even modules within courses. Here is an example that was created using Google sites.

2. Application Software

Software	Description
Computer Operating Systems	A computer 'operating system' is the software that automatically runs on a PC when it is turned on and manages its general functionality. It is the user interface for the computer: it provides lists of files stored in memory and application programs that are available for use, it manages the devices that are connected to the computer and communications with the internet, it is the software through which users tell the computer what they want it to do. Microsoft Windows and Mac OS are the leading commercial operating systems. Linux is a widely used open source operating system.
Web Browsers	These are software applications that provide access to websites on the internet and will be used by online learners and teachers to use the learning environment and othe web resources. There are commercial products such as Microsoft Internet Explorer and open source products such as Mozilla Firefox.
Office Software	Office software covers the suite of programmes that are commonly used in for business management purposes and are also widely used in education: word processor for the production of written documents, spreadsheet for recording and analysing numerical data, database for organising and presenting large amounts of information, slide show software for making presentations etc. Microsoft Office is a typical commercial suite of these programmes and Open Office is a free open source version of the same suite.
Media Applications	Online learning is becoming increasingly media rich as computing power increases and communications speeds improve. Graphics, sound and video software is being used by teachers when preparing learning materials, and by learners in their assignment work. Commercial software such as Adobe Creative Suite are likely to be used by teachers, whilst freely available software (bundled with the computer when purchased or open source) are likely to be used by the learners.

Skills and experience in the use of the software involved in online learning are clearly needed for both the teacher and the learner to work effectively. This session will now

continue with two exercises for you to assess how prepared you are for supporting online learning. The first exercise is an inventory of your computing resources and the second is a survey of your computing skills.

3.5 Outcomes & Discussion

This session has invited you to complete a resources and personal skills inventory for the purpose of assessing your preparedness for participating in online learning. The assessment was equally applicable to online learners as it was for an online teacher.

You have had the opportunity to post the outcomes of the exercise on the discussion forums and, through this, to observe the outcomes of others, to ask questions and to comment on the value of the exercise.

It is hoped that the session has been useful as part of the process for preparing for participating in online learning. Here you can find an additional resource that may be of use.

Session 4 - Online Learning Environments

Introduction

This session will introduce the functionality of an online learning environment: the website that provides access to the online learning resources. It describes commercial learning management systems that have a license fee and also open source systems that do not. It introduces web 2.0 tools and social networking software that can also be used in the design of an online learning environment. You will gain experience in the use of these tools.

The session will use Moodle as an example of an online learning environment and its typical functionality. The commercial system Blackboard will also be introduced and an example of learning environments built from web 2.0 tools will be provided. Case studies of the use of web 2.0 tools for online learning conclude the session.

Learning Outcomes

By the end of this section, you will be able to:

- Appreciate the range of software applications available to support online learning and understand how choices are made when designing a learning environment;

- Create a basic online learning environment specification for use in your particular area of delivery.

What you have to do

The resources in this session will introduce you to the three main types of online learning environment in current use. You are invited to work through each of the resources and to participate in the discussions that accompany each one.

At the end of the session you are invited to develop a specification for the learning environment functionality that would be suitable for the support of online learners in your subject area. You are also asked to reflect on your experience and to comment on your views in a reflective exercise.

4.1 An Introduction to Online Learning Environments

As noted elsewhere in this module, an online learning environment is a website that makes learning resources available for students to study online and to communicate with their teachers. Typically, an online learning environment will make learning content available in a variety of formats for the students to engage with. This will include reading materials and images, interactive multimedia materials, online

assessment activities and other resources that the academic staff who designed the course created for the students to achieve their learning objectives.

In addition to learning resources, the learning environment will provide communications functionality so that learners can receive direct support from their teachers and can communicate with each other in their academic work and socially. There will be the ability to upload and download documents, including secure facilities for submitting assessment materials online.

The online learning environment will provide all the administrative functionality needed for institutions to properly manage the delivery of the course, including the registration and monitoring of students, the posting of announcements and general course scheduling, assessment management and reporting etc.

An important feature of learning environment design is usability and accessibility. Ideally the online engagement by both the student and the teacher should be intuitive and straightforward to use. It should require the minimum of navigation for students to access the learning resources and those resources should be designed in a way that makes them accessible by students with disabilities.

This session will describe the three main types of online learning environment: commercial, open source and custom designed, outlining their relative advantages and disadvantages. You will be invited to share your opinion and experiences of using such environments as you progress through the materials.

4.2 Open Source Learning Environments: Moodle

In the following video, that you can access here, you can find an an overview of Moodle, the leading open source online learning environment. It is a good introduction to the functionality of online learning environments and describes it in terms of four key features: storage, communications, collaboration and evaluation. The flexibility and adaptability of each feature is outlined, showing how the whole environment is user configurable.

The video emphasises the open source nature of Moodle and that it is free to use by anyone. There is a very large user base at present globally with, for example, most vocational colleges and a growing number of universities in the UK using the platform. This will be contrasted in Resource 2 of this session which looks at the leading commercial online learning environment provider, Blackboard where institutions pay a license fee.

Having considered the functionality of Moodle, now view the next session to compare it with a commercial alternative. Later in the session you will be invited to comment on the comparative strengths and weaknesses.

4.3 Commercial Learning Environments: Blackboard

Blackboard is one of the market leaders in commercial online learning environments. It has developed over many years and offers substantial functionality that may be customised to suit the individual institution and user. This video provides a detailed view of the way in which the software can be set up to suit a particular course, teacher and type of student. You will see that virtually any configuration can be selected for course delivery, course management, tutor/student communications and many other features.

It can be seen that there is a great deal of commonality between the functionality of Blackboard and Moodle as online learning environments. It may not be obvious, therefore, why a commercial product with a license fee would be chosen in favour of an open source equivalent with no fee. The answer relates to the overall cost of use as an institution. The commercial products come with technical and development support which the open source products do not. Hence there will be management, maintenance and development costs associated with Moodle that may not be required with Blackboard. A full operational costing therefore needs to be carried out as part of the decision making process.

A third alternative approach to online delivery involves the use of web 2.0 tools and cloud computing. This will be considered next and you will then be invited to comment on the alternatives.

4.4 Web 2.0 Learning Environments

The website that you can see here is a learning environment created using Web 2.0 tools. It is based on 'Google sites' a free web building and hosting service, and provides functionality by embedding various web 2.0 applications (sometimes called 'gadgets' or 'widgets'). The learning environment is nothing like as comprehensive in its mix of functions, but it has the advantage of being built specifically for the subject being studied.
In the previous section you saw the extensive choice of functionality that the commercial product Blackboard offers its users. This range, coupled with the ability to customise to suit individual institutional needs, is attractive to corporate management. However, the web 2.0 approach allows learning environments to be built at course level rather than institution level and to select only the functions that are needed. This makes them small, easy to host and manage, and adaptable to changing need.

The website above provides the same basic functionality as Moodle and a similar site navigation arrangement for users. The real difference, however, is that such online environments can be built by teachers who, whilst they certainly need to be experienced PC users, do not need professional ICT support. This opens up the option for individual course leaders to create their own course learning environments at minimal cost and with complete local control.

You are now invited to comment on the information provided here. The first two resources describe the environments that are being used in most institutions currently. The third option is what the research community are considering as the possible future scenario for online learning delivery. What is your opinion on what you have seen? You can share your views in the discussion forum of the SVEA Platform.

4.4.1 Creating a Specification for a Web 2.0 Learning Environment

Introduction

The design considerations for a web 2.0 learning environment are quite different to those for the commercial and open source applications that were examined earlier in this module. Whilst those applications, particularly large learning management systems like Blackboard, effectively replicate the functionality of an entire institution online, the focus of web 2.0 learning environments is primarily at course or even module level.

As a consequence, writing the specification for a web 2.0 learning environment is a similar process to that for planning conventional course delivery. The process begins with a clear definition of the intended learning outcomes and the learning activities that are going to assist the learners in successfully achieving those outcomes. Having defined the learning outcomes and activities, the teacher is then in a position to: specify the online resources that will be needed to deliver the knowledge and skills involved, to communicate with and support the learners, to evaluate and record the learning outcomes, and to manage and report on the whole process in accordance with the academic quality assurance requirements.

Pedagogic Considerations

The flexibility available when building web 2.0 learning environments means that the pedagogic approach adopted for the delivery of the learning and the support of the learners can now determine the support infrastructure, rather than the other way round. This was the essence of the views expressed in sessions 1 & 2 of this module. It is perhaps more important than ever for teachers to begin the course design process with a consideration of the most appropriate teaching method, having now been released from the constraints of the classroom. Such considerations can include:

- Inquiry-based/discovery learning: the use of the internet to search for answers to questions, to harvest knowledge resources, for students to develop independent learning skills;

- Social learning: the use of social networking sites to communicate, share experiences and information, to share learning resources and effective learning processes;

- Socratic learning: the teacher as a co-learner, inviting learners to contribute their own solution to problems or interpretation of complex issues.

All of these are particularly relevant to VET and adult learners as they are well positioned to bring previous experience and existing skills to discussions and learning activities.

The Learning Environment Specification Process

An online learning environment is a *human activity system* and needs to accommodate the particular characteristics that such systems exhibit. This largely revolves around understanding the stakeholders, the stakeholders objectives and the stakeholders needs. It also needs to consider the control and communications capacity of the system and its ability to self manage. Pragmatically, it should also include the interaction with the systems social and work environment and the prevailing system working culture.

Stakeholder	Stakeholder Objectives	Stakeholder Needs
Learner	To gain skills and knowledge	To access learning resources, to be provided with guidance and support, to receive feedback on progress and achievement
Teacher	To manage the learning process and assist the learners achieve their goals	To make a range of learning resources available online, to communicate with learners, to assess learner progress and provide feedback,
Institution	To deliver a portfolio of quality assured online courses	To have teachers trained in the design and delivery of online courses, to have a support infrastructure that provides online access to all learning resources, to meet academic quality requirements
Employer	To have a workforce with the skills required to meet the needs of the business	To have training provision that integrates with daily work patterns, to maximise skills attainment whilst minimising impact on production

Other stakeholders may need to be included and their objectives and requirements identified (professional bodies, funding bodies, academic quality organisations, etc). The 'top level' stakeholder categories above may also need to be broken down into sub-categories where, for example, the institutional stakeholders are broadened to include senior managers, librarians, technical support staff, etc.

Having identified all the system stakeholders and their needs, the design of an online learning environment that meets those needs can begin.

Online Learning Environment Design

The main components of an online learning environment are:

- Learning resource management and presentation tools: tools for the presentation of documents, videos, images, etc. Typical web 2.0 tools for this purpose include Google docs (documents), YouTube (videos), Picasa (images), Slideshare (presentations);

- Communications tools: synchronous voice and video communications is available through Skype, asynchronous communications is available through discussion forums, chat tools and instant messaging such as those provided by Blogger, Chatango and IM;

- Collaboration and document sharing tools: Wiki applications such as pbworks are used for the collaborative development and sharing of documents and other resources

The principal criterion for choosing a particular web 2.0 tool is that it performs the required function, can be embedded in the learning environment platform and that it comes from a stable and trustworthy provider.

Web 2.0 Learning Environment Specification Exercise

This exercise invites you to use the information provided in this module to create a learning environment specification for the online delivery of a course or module in your area of teaching and learning. A suggested format for the specification is as follows:

1. A brief description of the course/module, the learning objectives and outcomes, the intended learners and the expected location of the learning activity (at home, at work, at an institution, a mix of these);

2. A table identifying the stakeholders, their objectives and needs;

3. A summary statement of the pedagogic approach and learning design that would be most appropriate for achieving the learning outcomes;

4. A proposal for the mix of resource management, communications and collaboration tools that would facilitate this pedagogic plan and meet the needs of the learners and their intended outcomes.

On completion of this exercise you are invited to share your experience and the outcomes of your specification exercise on the SVEA Platform.

4.5 Online Learning Environment Reflective Exercise

This session has introduced you to the three main types of online learning environment that are currently in use: the commercial learning management system, the open source learning management system and web 2.0 based online learning environments.

You have been encouraged to share your thoughts as you worked through the session and hopefully, this has helped you form an opinion about how online learning can be facilitated effectively for you as a learner, and for you as a teacher planning to support online learners of your own.

To complete the session you are now invited to reflect on your existing experience of online learning environments and on the information about recent developments that has been presented here.

Session 5 - Supporting Online Learners

Introduction

This session will cover the basics of learning materials design and sourcing, and also the different approaches to tutor support of online learners. It will consider methods of assessment, feedback and quality assurance of online learning. The key resources used in the session are drawn from an existing online teacher training course in Wales which addresses the issues around learner support in a very effective way.

The session begins with a discussion about the different modes of online learning and the correspondingly different learner support packages that need to be put in place to optimally support them. The term 'blended learning' refers to a mix of online, distance and face-to-face learning and the needs of each are outlined. The session then goes on to cover a range of practical tips for the support of online learners drawn from the experience of practitioners who have successfully delivered blended learning.

The session concludes with a consideration of formalised learner support planning and the use of Service Level Agreements to specify the levels of support that will be provided. The final activity will be a reflective exercise on learning support planning.

Learning Outcomes

By the end of this section, you will be able to:

- Appreciate the different mixes of online learner support ranging from those designed for independent self-study, to those with a significant tutor input;

- Understand the design decisions that need to be made when planning a particular blended learning mix and type of teacher support.

What you have to do

It is expected that you will read through the learning resources, will complete the practical exercises and will contribute to the discussion forums. By the end of this last session in the module you will have covered a number of different aspects of online learning and will have formed your initial conclusions about the applicability to your area of teaching.

At the end of the module there are some additional resources for those wishing to develop their knowledge further, and there is a final structured design exercise for those wishing to develop their practical design experience.

5.1 Blended Learning

The following excerpt from 'moodle*4teachers'* covers the subject of 'blended learning' where there is a combination of online learning with classroom delivery. It explains the different mixes that are in common use ranging from fully face to face teaching at one end of the spectrum, to fully online distance learning at the other. The subject is presented in a practical way and indicates the decision-making processes that lead to an optimal mix for a particular type of learner. The emphasis, once again, is on good learning design and reiterates the message from Session 2 of this module that learning design should be based on sound pedagogic practice and an understanding of learner needs.

The 'moodle*4teachers'* online course was created by Coleg Sir Gâr in Wales, UK, and the excerpt and also in the next section makes a number of references to local agencies and resources. However, the general principles it covers will be relevant to all regions and learning designers.

You can open moodle4teachers here. To log in, enter the username *svea* and the password *svea*.

As the account above suggests, Blended Learning is a bit like choosing ingredients for a recipe, the ingredients are already there, you just need to think about the strength of the mix. What does that mean for your area of responsibility? Is there practical work in your subject area that would effectively determine the online/face-to-face mix? You may wish to join in a discussion about this in the forum of the SVEA Platform.

5.2 Practical Tips for Learner Support

This second excerpt from 'moodle4teachers' covers some of the fundamental design issues to be considered when creating learning content for online delivery. It emphasises the essential focus on the learner and how best to support them by applying good practice in content design. The resource is just part of a much more extensive online learning course for teachers and makes the point that content is only one part of the learner support package. It demonstrates how content is packaged together with learning activities that develop understanding and practical skills. It also refers to formative and summative assessment and, where the online course is supported by a teacher, the importance of structured feedback.

You can view the excerpt here. To log in, enter the username *svea* and the password *svea*.

A lot of practical advices can be found here. It is recommended that you follow up some of the useful links and develop your picture of the options available in course design.

5.3 Planning Learner Support

When designing online learning it is important to focus on the needs of the learner and to provide an appropriate level of support so they can achieve their learning goals.

The support can be provided in more than one way. The resource on blended learning in this module illustrated the different mixes of online learning that are made available. Similarly, there are different mixes of learner support that can be provided and, again, there is a spectrum ranging from fully teacher supported learning to independent self study.

In general the online learning resources will be designed differently depending on the degree of teacher support planned. With teacher support, the pedagogic process is largely controlled by the teacher, as in a normal classroom. Without teacher support, the pedagogic process needs to be built into the learning materials. At a relatively elementary level this might be instructional, whereas at a more advanced level it might be in the form of guidance for the learner to engage with a range of materials.

Either way, whether teacher supported, independent learning or some mix of the two, the process must provide the learner with feedback on their progress towards their learning goals. Teacher feedback based on the outcomes of learning activity would normally be provided in the classroom, and the same applies online. However, feedback for the independent learner must take some other form.

Specifying learner support: a Service Level Agreement

A common complaint from online learners is about poor or inconsistent teacher support. Where teacher support is a key component of the learning design then a *Service Level Agreement (SLA)* that specifies the type of support that the learner will receive is a help for both the teacher and the learners in planning their work.

An SLA would typically include:

Service	Service Level
Response to queries	3 working days
Assessment feedback	2 weeks. Quality of feedback will be part of the course evaluation process
Forum responses	Every day (or not possible on a particular day, a message posted to say so)
email responses	2 working days
telephone availability	Scheduled availability during the working week to be posted on website

Some teachers have expressed the view that such an agreement is inappropriate for a professional academic. What is your opinion? Do you have any experience of service level agreements?

Reflective task: successful independent learning

We engage in independent learning all the time; we call it informal learning. This task is for you to reflect on your own experience of self-study and to *comment on how you judge when you have achieved your learning goal*, and *where the evidence for that came from*.

Normally such learning results in you knowing something you didn't know before, or being able to do something you couldn't do before. Think of a recent learning activity that took up to half a day to complete (maybe finding out about something using Google or learning how to use a new piece of equipment). When and how did you decide that the learning was complete? You can post your experience on the discussion forum of the SVEA Platform. Do you have any comments about how you might design materials for independent learners in your subject area?

5.4 Module Outcomes & Discussion

Summary

This session concludes the Online Learning module. The objective of the module was to provide you with an introduction to online learning, the technologies it uses to support learners, the different approaches to learning design and a range of examples of how others have developed and delivered online courses.

Reflection

The Online Learning module showed how, whilst the basic learning processes remain the same regardless of the delivery method, the effectiveness of the method chosen can significantly affect the outcome. Online learning is often seen as a way of facilitating distance learning, but in fact it has great advantages for campus based learners also. Online learning offers a great deal of choice and flexibility for the individual learner and allows them to manage the manner in which they engage with the learning materials.

The materials provided here have included a number of sources for further investigation and the case studies will also extend the information provided. An important factor to consider is that the information about effective practice with online learning is inevitably going to change as technology improves and new functionality becomes available. All practitioners will need to continuously monitor their use of technology as it changes and adopt accordingly.

The technology enhanced learning community of practice maintains a convincing argument that, just as web 2.0 and the internet generally are impacting on all other

aspects of society in a positive way, so it will with education. This module was designed to introduce teachers to that community of practice.

Session 6 - Case Studies

The following case studies are examples of effective practice that relate to the five sessions in this module. Links are included in each case if you want to find further examples.

These case studies were published by JISC in their guidance document *Effective Practice in a Digital Age*.

Case Study 1 – Virtual Learning Environments

Case Study 2 – E-Portfolios

Case Study 3 – Digital Audio

Case Study 4 – Wikis

Case Study 5 – Mobile Devices

Case Study 6 – Podcasts

Case Study 7 – Web 2.0

Case Study 8 – Digital Video

Case Study 9 – Blogs

Case Study 10 – Virtual Worlds

Session 7 - Online Learning Design Exercise

This design exercise is an opportunity for you to gain experience in the development of an online course in your area of expertise and interest. This exercise invites you to consider how your particular teaching responsibilities might translate to online delivery.

1. Select a topic from your normal teaching activities that would take a learner about 10 hours to complete.

2. Design a sequence of 1 hour learning sessions similar to those presented here, that would lead to the achievement of the learning objectives.

3. Gather learning resources from the web (videos, images, documents) that could be used to deliver session 1.

4. Reflect on the effectiveness of the exercise and comment on how such resources could be presented both online for distance learners and also their use in face-to-face teaching.

If you wish you can share the outcomes on the discussion forum of the SVEA Platform.

7.1 Building a Web 2.0 Learning Environment

An online learning environment is basically a website with a particular mix of functionality. To build a web 2.0 online learning environment, therefore, the first thing you need is a website hosting and building service. There are a number available and some are better and more appropriate for educational use than others. An ideal service is one that is free to use, does not display logos or adverts on the web pages, is hosted by a trusted provider with a sound business profile, allows user control of website and page design, and also provides a set of non-technical site building and editing tools. Such providers do exist. One is Google Sites.

This learning activity will introduce you to Google Sites and help you get started in building a web 2.0 online learning environment.

Step 1: Creating the Website

Go to www.sites.google.com where the following screen will invite you to create your website. (You sign in with your Google Account which, if you haven't already got one, you can create here).

Having signed in, you are then invited to name your new site and to choose a template for the site and page structure. If you want to define the structure yourself (which you probably would), select the Blank Template and think of a suitable name for your site. In this example, the name sveaLearning has been chosen.
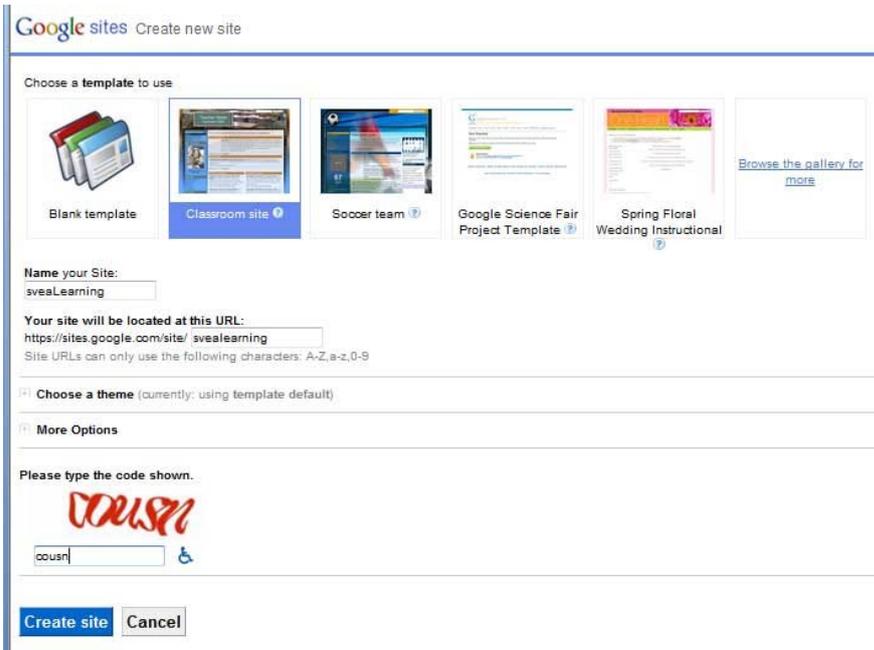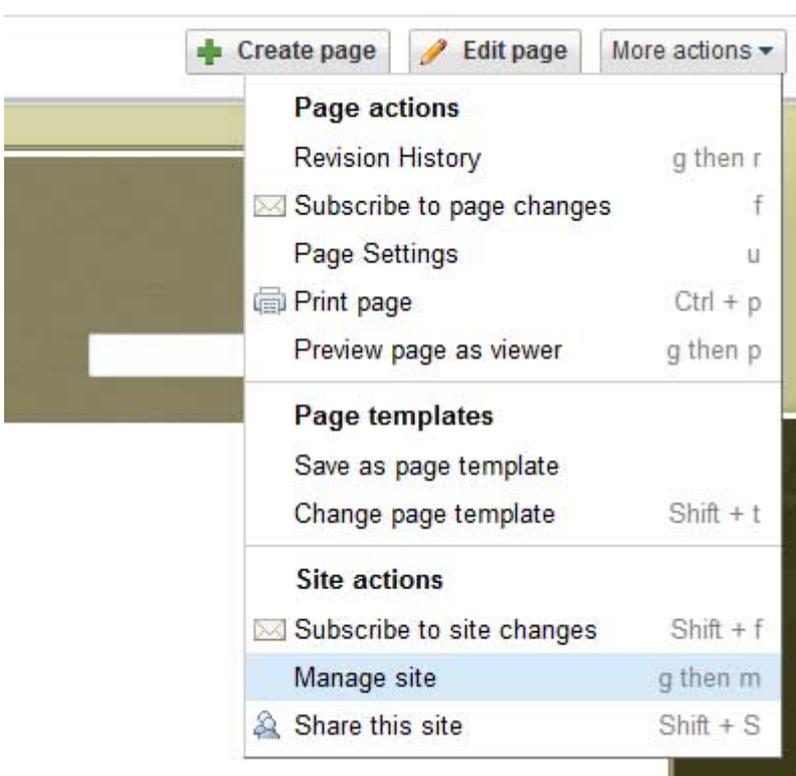

Having created the basic website, a blank Home Page will be displayed with the website name in the Banner above:

Step 2: Formatting the Site

The general appearance of the site can be determined by selecting one of the 'Themes' available for the purpose. To do this click on the 'More Actions' button at the top left of the screen:


And then on 'Manage site'. This will open a window with a list of management options to the left. Select 'Themes' at the bottom of the list and a page of appearance options will be displayed. In this example the theme 'Leather Panel' has been chosen. When you have selected your theme, save the changes (button at top left) and return to the site (link at top left). You will now see your formatted site.

Step 3: Adding Content

Page content is added by using the page edit function. Click on the 'Edit page' button at the top left of the screen. The edit tool bar will appear above the page and you will be able to use it to edit the title of the page and add content to the main body of the page in the same way you would with a word processor (just click and begin typing). When you have finished and clicked on 'Save', the page with new content will be displayed.
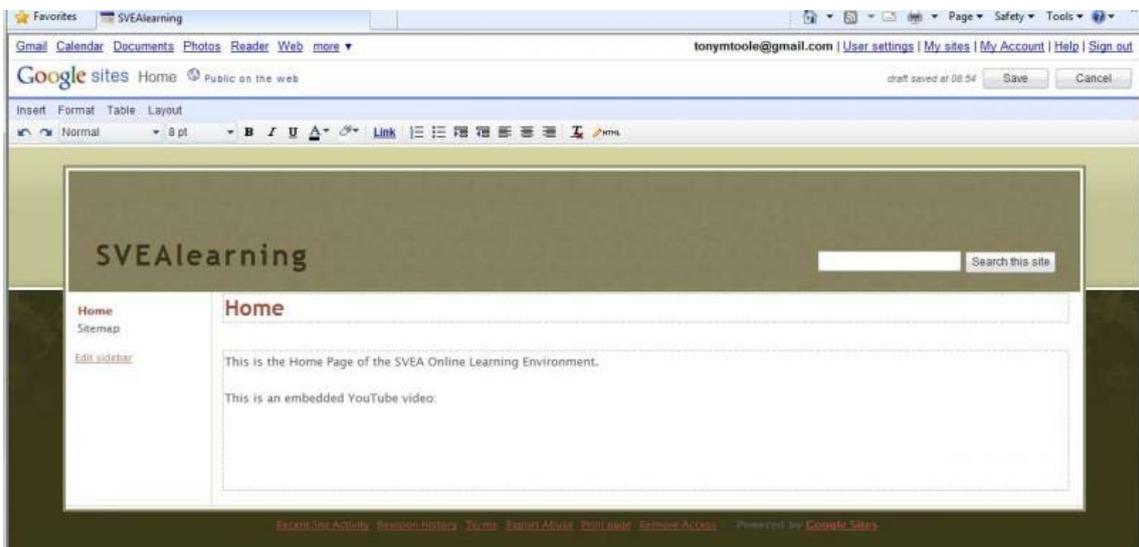
Step 4: Adding Web 2.0 Content

Adding basic Web 2.0 content to the page is achieved using the 'Insert' function in the editor. For example, to add a YouTube video, click on 'Insert' and then 'Video' and, using the YouTube option, select the YouTube video address you wish to display.
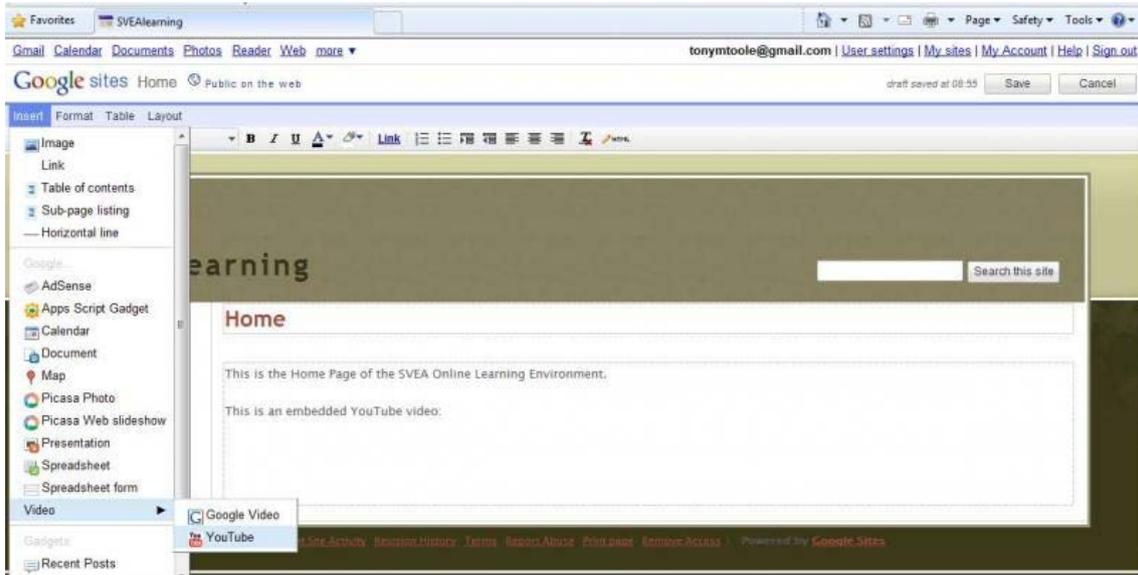
When you save the edited version, the video will appear and will play in the page when activated.

Summary and Further Development

This basic introduction has shown how easy it is to create a basic website using Google Sites that can contain text, graphics and multi-media content. There is a lot more to be learned of course: creating new pages, editing the sidebar to set up the site navigation, adding other web 2.0 features such as wikis and blogs etc. However, you will see that it has the potential for any teacher (or learner, for that matter) so assemble all that is needed to create an online learning environment for the delivery of their courses.