

A web conferencing solution to meet the needs of work based learners

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Introduction

The purpose of this project is to look at the feasibility of using web conferencing technology to deliver live online learning to work based students on the Foundation Degree in Payroll Management, run jointly by the Worcester College of Technology (WCT) and the Institute of Payroll Professionals (IPP).

It is thought that using web conferencing may be a way for us to offer an alternative to traditional face-to-face tutorial and module review sessions, by providing students with the opportunity to attend synchronous live meetings via the internet.

The aims of this project are to:

1. research the various web conferencing products on the market and identify a best-fit solution
2. research the ways live learning can be delivered online with a view to identifying good practice
3. conduct a pilot study with a small group of participants

It is hoped that this project will help to identify ways in which we can deliver more convenient and flexible taught sessions to these learners, and that this will provide the college (and the wider learning community) with a better understanding of how web conferencing technology may be used to effectively deliver learning in general.

Background to the project

Worcester College of Technology and the IPP run a 3 year Foundation Degree in Payroll Management which is delivered to approx 900 learners. Students on this programme are work-based and are geographically spread throughout the country. They currently access the bulk of their study materials online and can participate in asynchronous discussions (via discussion forums) and other activities (using the Moodle VLE).

In addition, students attend one face to face review day (which is largely presentation and classroom activity based) for each of the five modules that they complete every year. Module review days are held at regional locations across the country. Students are allocated a tutor to provide them with further guidance and support who is usually located more locally to them. There are approx 80 of these tutors involved in course delivery and they also need to attend regular briefings, training sessions and meetings. Tutors are also work-based in that they are usually employed in more senior positions within the Payroll industry.

Potential benefits of using web conferencing technology

Due to the geographical spread and time commitments of the learners, most of whom work full time, it is sometimes difficult for them to attend face-to-face teaching events. It can also be costly in terms of travel expenses (with the associated impact of carbon emissions) as well as in terms of the time spent in travelling to various venues. The cost of hiring locations to host multiple regional

events and the associated costs (such as hospitality, and tutor travel expenses, administration) also make web conferencing sound like an attractive prospect.

While it takes time to organise face-to-face events, it takes minutes to schedule an online event and invite participants. Due to the nature of Payroll as a subject area (which can change at a fast pace along with changes to tax, government legislation etc) information often needs to be disseminated quickly to tutors and filtered down to students. This is a perhaps a more unusual but defining aspect of payroll as a subject and makes the use of web conferencing technology seem even more appropriate.

Another potential benefit of using web conferencing to host presentations or seminar events is that they can also be recorded. By providing access to these recordings, those who could not attend events do not have to miss out and the resource can also be used as revision material.

Students and tutors involved on the course are used to regularly accessing online materials and activities via Moodle so we can assume a certain level of competency in using the Internet and basic IT. This makes introducing a new online technology a slightly easier prospect.

Basic needs in terms of online session delivery

Through consulting with course managers and tutors, we identified the basic requirements of what we would want from any potential web conferencing product. The main criteria are listed below:

- Ability to share documents and presentations online
- Audio functionality, with the ability to share microphones and webcams
- Basic whiteboard functionality and the ability to annotate documents
- Text chat facility to allow participants to ask questions
- Ability to share web pages for co-browsing
- Ability to record and playback sessions

In addition, any product should also be:

- Easy to set up remotely (students are off campus so might not be technically able to download and configure software)
- Easy to use intuitive interface from both participant and presenter perspective
- Compatible with popular browsers and Windows and Mac

To fit in with the scope of the project it was thought that a hosted web conferencing product would be the easiest option, as it would not require a great deal of technical support. With most hosted products, remote users are able to access live online sessions via a simple browser link.

Initially it was assumed that as students and staff are familiar with the Moodle VLE, using a product that integrates with this system would be advantageous.

Identifying a web conferencing product

The next stage of the project was to research various web conferencing solutions that are available. There are a range of web conferencing products which claim to do very similar things; a quick internet search throws up a dazzling assortment of products, however the main ones are listed in the Wikipedia article below:

http://en.wikipedia.org/wiki/Web_conferencing#Software_and_service_providers

Many web conferencing products are aimed at a business market and are designed for participants to attend live meetings and seminars rather than explicitly to facilitate learning. They also have cost implications which tend to increase the more frequently the product is used and in terms of the number of participants. Many of these companies offer short term free trials of their products, which meant that while we could use a trial versions for the duration of this project, using it after this may prove prohibitively costly.

Most of the features that we were looking for come as standard with web conferencing products and, seeing as we had only limited time to choose a one, it was thought we could narrow this down by looking at what was already being used within the education community. To try and get a feel for this we contacted the West Midlands Regional Support Centre (RSC) for advice and also subscribed to various e-learning community mailing lists. Personally, through my role as an ILT Advisor (ILT- Information Learning Technology), I had attended events hosted using 'Elluminate Live' and 'Dim Dim', so knew these products were being used and had first hand experience in using them from a participant perspective. I also attended an online training day hosted by Staffordshire University entitled 'Effective learning with web-conferencing', which was conducted using Dim Dim. This experience was extremely useful in finding out more about various web conferencing products from the other delegates as well as in learning about good practice in hosting online events from a pedagogical perspective.

As Dim Dim and Elluminate Live appeared to be frequently used in other colleges we decided to test these products along with WebEx (one of the more well known established commercial products) and Microsoft Live Meeting, which we have access to at WCT. Initial testing of these products took place by setting up informal sessions with other members of the college ILT team. Emphasis was placed on how easy the products were to set up, access and use from both a presenter and participant perspective and on how reliable they each were. Although Live Meeting was very easy to access directly from Office applications, we envisaged too many problems with off campus users needing to download configure software. The remaining three hosted products all worked well, were easy to use and offered the main features we were looking for.

For the purpose of this project we chose to proceed with Elluminate Live as this was the most stable in our tests and seemed to be more designed with education in mind. We particularly liked the polling tools and the fact that their online user support seemed very comprehensive. Elluminate provide a configuration room where users can test their connection and configure their audio prior to any live meeting. Elluminate Live also can also be integrated with Moodle using Elluminate Bridge and sessions can be recorded. Unlike WebEx and Dim Dim, it was relatively easy to speak to an

advisor at Elluminate and they provided a named contact person who was on hand throughout the trial to offer support and training. While there would be cost implications in using Elluminate, their 'vOffice' product (at a cost of £350/per annum for one room with a 50 user capacity) would suit our initial needs. They also offer a free service for small groups (3 users) which could potentially be used if extra rooms were needed for tutorial sessions. For the purpose of the pilot project, Elluminate provided us with an extended free trial with an online 'room' available for us to use at any time.

Identifying good practice in online session delivery

Through talking to people within the educational community and in reading some of the advice available online (see the 'Further Reading' section at the end of this report for a list of useful websites), we were able to gain an understanding of good practice for web conferencing. It was recommended that online sessions be kept as simple as possible and where presentations are used they should be fairly short and to the point. Everything should be tested thoroughly beforehand and where possible everyone involved should test their access and configuration prior to any live session.

Session planning needs to be more thorough when putting together an online session and time has to be allowed for participants to set themselves up at the start of the meeting, especially in the early stages of introducing a new technology. Other tips for making web conferencing effective can be found in the PDF document 'Making Web Conferencing Work for You' which was put together to act as a short guide for our teaching staff who may be about to start using the technology.

Much of the literature concerned with web conferencing highlights the importance of the relationship between 'social presence' and student satisfaction. Social presence in this case refers to participant's awareness of each other as individual people or personalities involved in online interactions. It can be achieved through allowing frequent opportunities for communication and collaboration particularly where participants have opportunity to express their opinions, emotions and sense of humour. As participants are effectively meeting up through a computer, this type of interaction needs to be thought about and planned in, for example, through the use of icebreakers, discussion activities and through the asking of relevant questions. It also helps if participants can see each other where possible, either through the use of webcams or by filling out their online profiles where they can upload a picture.

Preparation and Planning for online session delivery

Further testing of Elluminate took place by setting up informal sessions with members of the college ILT team. This allowed us to familiarise ourselves with the interface and the various features of the software such as polling and using multiple web cams. We also tried testing the software from various computers both on and off campus to try and any identify potential issues or irregularities. In terms of terminology it is important to note that when using Elluminate, and for the purposes of this report, online meeting spaces are referred to as 'rooms', presenters are known as 'moderators' and students or delegates as 'participants'.

A lot of the online support relating to web conferencing advised using headsets rather than separate computer speakers and microphones in order to avoid potential issues with audio feedback and

echo. A small amount of basic PC headsets were provided to participants in order that we could supply everyone taking part in the project with one, should it be required.

As tutors and students on the Payroll programme are familiar with accessing course related information through Moodle, a supporting Moodle course was created. This was to provide one place where participants involved in the trial could find all of the information they would need, such as set up instructions, guides and handouts. A link to the Elluminate test page was added so that participants could test their computer set up before the live session. This test page also took them through using the built in audio wizard to configure their headphone and microphone sound. Participants also had the option to familiarise themselves with the interface by trying it out or watching instructional video clips. The Moodle page also contained help and guidance on who they could contact for more information, along with a survey to be made available to participants after the live session in order to collect feedback. A screenshot of this Moodle page can be seen in the Appendix (Fig 1).

Pilot Session Plan

After much deliberation it was decided to conduct the initial pilot sessions with a selection of work-based tutors, as it would be this group who would be required to not only participate in online events, but eventually run their own online teaching and support sessions with students. We also selected this group as further testing of live session delivery was needed in order to make teaching staff feel comfortable using the technology. It was felt this would be easier to conduct with tutors as participants rather than expecting students to act as guinea pigs, especially as there is the potential for so much to go wrong in these early stages.

Two live hour sessions were planned with approx. 10 participants in each. Within the live sessions we would attempt to give a presentation on the topic of 'Operations Management'. As we had experienced some bandwidth issues when using desktop sharing, we decided to keep things simple and use the standard whiteboard, audio and text chat facilities along with a moderator web cam.

The first 20 minutes of the session was to be led by the project manager and included time to test that the participants were set up correctly and that they knew how the interface worked e.g. how to use the chat room, how to 'raise their hand' if they needed help, how to switch on their microphone to talk. Participants would then complete a few short icebreaker activities; one in which they would be asked to annotate a map of the UK with their location (using the whiteboard tools) and one where we would discuss the potential benefits of using web conferencing using the chat and whiteboard.

The next 40 minutes would be led by the two course managers (who are also teachers on the payroll programme) where they would run through the presentation while allowing frequent opportunities for Q and A. We planned that for the presentation we would turn off participant's microphones in

order to allow the presenter to talk through the subject matter uninterrupted and only turn on their microphones in the Q and A sections.

Participants engagement in the live session

While we tried to prepare the participants with as much information as possible beforehand, there were a few issues that were not anticipated in terms of accessing the online room. One user was using the Google chrome browser which was not compatible with Elluminate, however switching to the Internet Explorer browser resolved this issue. Three participants experienced access issues relating to firewalls at their workplaces. Elluminate provide a step by step Proxy setup guide, which helps users get around these issues and we managed to send this out to them at the last minute, which again resolved their access issues. One participant also experienced a problem with Java downloading in an unexpected way which caused some confusion. Most participants however, were able to access the room quickly and painlessly.

As each participant arrived in the session they were welcomed by the moderator who checked they could hear the audio and comfortably use their microphone. Fortunately it turned out that most participants had tested their set up beforehand and had already configured their microphone and speaker. Each participant was given the opportunity to talk to the group using their microphone (if they had one configured) and to use the chat and whiteboard facilities. Everyone seemed to enjoy the interaction, there was lots of laughter and jokes and lots of positive feedback which was expressed virtually using the built in smiley emoticons and applause icon. It's important to point out that the participants had met before at face to face events so were perhaps less intimidated by talking to the group.

There seemed to be a few issues with audio cutting out when more than two people were speaking at once and it also became confusing knowing who it was talking. For the rest of the session we decided to enable only the moderatos microphone and participants could then raise their hand (using the built in 'raise hand' icon) if they wanted to speak. This worked well as you could see who was talking and everyone had the opportunity to talk in turn. All participants said they enjoyed the session and managed to follow the thread of what was going on. They were very keen to ask questions and the Q and A format worked very well. A screenshot of one of the live presentation sessions which also shows the Elluminate Live interface can be seen in the Appendix (Fig 2).

Participant Feedback

Feedback was collected at the end of each live session through a short discussion and through an online survey on Moodle. Participants expressed that generally they experienced few technical issues and all were able to talk using their microphones and participate in chat quite comfortably. The sound quality the participants experienced was sometimes variable, although not to the extent where those speaking could not be heard. When asked if they would like to participate in a online session in the future 83% of participants responding 'Yes', with the remaining responding 'Maybe'. This was a very encouraging response, although the tutors were rather less keen in when asked if they would like to deliver their own face to face sessions; 50% responded 'Yes' or 'Maybe' to this question. Tutors who are more geographically isolated (one tutor is based in Inverness) seemed

more in favour of this new method of delivery. Most respondents thought online sessions would work better with small groups and thought that it could possibly be used as an alternative to face-to-face tutorial sessions. Some tutors expressed concern that the technology could replace face-to-face sessions and felt they did not want to lose out on human interaction elements of this type of contact.

Moderators engagement and feedback

Moderators initially found it challenging when presented with this new medium and the difficulties inherent in delivering learning without elements of visual communication. There were additional challenges in learning how to use the software and concerns over the possibility of interruption and interference due to technical issues. Moderators found it distracting when trying to present information using the whiteboard with conversations taking place in the chat room at the same time. Using a Q and A format helped as participants were instructed to ask questions and discuss issues at designated intervals and to raise their hands in order to talk. Some participants who did not have the ability to use microphones used the text chat facility; in this case it helped if the moderator then read out the text to the group. Moderators felt the need to frequently ask for feedback from the group in order to check that everyone was following. This was achieved by simply asking everyone to raise their hand or select an emoticon. It is difficult to avoid feeling as if 'you are talking into thin air' and it was difficult for moderators to manage silences when participants might need thinking time as this felt uncomfortable.

Loosing the feedback aspects of visual communication was one of the hardest things to negotiate around and did make it difficult to just present information for much more than a few minutes at a time. The need for frequent interaction and feedback opportunities meant that the later half of the first session was a bit rushed due to the time constraints.

Effort was made to create a nice informal atmosphere and the Q and A sessions had the feel of a radio phone in show with the microphone being passed to callers. This approach seemed to work very well. Moderators found they needed to keep fairly tight control of the session to avoid loss of focus. Instructions given to participants had to be very clear to avoid confusion and moderators had to explain clearly what they were doing now and next.

Lessons learned and project conclusions

Overall this pilot project was seen as largely successful in introducing a new technology to course managers, teaching staff and tutors involved in delivering the Payroll Foundation Degree. We found that as the sessions were carefully planned and opportunities were created for participant testing before the live session, we did not experience too many of the technical issues which can blight live online session delivery.

It is planned in the future to at least use the technology to deliver some tutorial sessions especially for those tutors and students in more geographically isolated locations. It will also be a useful tool for disseminating information to tutors and will be used for staff meetings. Whether or not large

scale presentations will be hosted through web conferencing remains to be seen as there was less enthusiasm for this.

Efforts were made to make the sessions fun and enjoyable by creating an informal tone to the event and by allowing lots of opportunities for feedback and participant contribution throughout. It helped that participants had met each other beforehand, and, if this is not the case, we would need to plan in more icebreaker and introductory type activities as it is important for participants to feel comfortable with each other.

Moderating an online teaching session as opposed to a face to face event is challenging and requires practice so that moderators can develop an online style and the ability to feel confident and comfortable delivering learning in a new medium. In the future, more creativity may be required in terms of creating collaborative learning activities that can be delivered online. Providing opportunities for feedback and frequently checking participants' understanding is far more essential when visual communication elements are removed and extra time should be allowed for this when planning online sessions.

Further reading:

West Midland RSC Synchronous Webcasting Tools:

http://wiki.rscwmsystems.org.uk/index.php/Synchronous_webcasting_tools

Making Web Conferences Exciting: <http://www.towardsmaturity.org/article/2009/06/22/making-web-conferences-exciting/>

Elluminate Live good practice guide: <http://www.jisc.ac.uk/illuminateguidance>

Kolabora Web Conferencing Tools: http://www.kolabora.com/news_radars/web_conferencing.htm

Pointers for Successful Webcasting: <http://www.davidleeking.com/2006/04/30/pointers-for-successful-webcasting/>


LearnCentral online learning community: <http://www.learncentral.org/>

How to create a live online learning event : <http://newsletter.alt.ac.uk/ovsn7pmtanz>

Appendix:


1 Web Conferencing

Web Conferencing Participant Feedback:
? Web Conferencing Feedback



The tool we are using is called 'Elluminate' which is widely used in education. In Elluminate you attend virtual meetings in 'rooms' where there is a 'moderator' who runs the session and 'participants' who attend.

It is best to use a computer 'headset' when participating in these sessions (if you don't have one, you will only be able to hear the session).



Web conferencing offers many cost, time saving and educational benefits but there is a learning curve in terms of adjusting to a new mode of delivery as well as in learning how to use the technology. We have tried to make this later stage of the process as easy as possible and you should find it relatively painless if you read through the instructions below.

Click link below to enter the room at 2pm Thur 20th March:

<https://sas.illuminate.com/site/external/jwsdetect/meeting.jnlp?sid=2008032&password=M.CD62A619F1B5FB0DE021777B36D197>





BEFORE ATTENDING A SCHEDULED SESSION Please test your computer:

You will need to make sure your computer is set up in order to use Elluminate. We recommend that you visit this webpage **prior to your first meeting** <http://www.illuminate.com/support/> and follow the **3 step process**:





1. **The first step** checks your that your computer and network is configured properly. You will need to download some **Java** software which will usually download by itself and is quite safe*. **Look out** for a yellow security bar at the top of your page which may prevent the software from downloading automatically.
2. **The second stage** lets you configure your headset (speakers and microphone) and take a look at what an Elluminate room looks like. Again, **look out** for a yellow security bar at the top of your page which may prevent the software from downloading automatically.
3. **The third stage** online orientation is well worth going through if you have time as it will familiarise you with the various features on screen.

* Occasionally the software does not download automatically but asks you to save a small launch file (.jnlp) to your computer. If you have no other option than to save the file, save it to your desktop and double click the icon from there.

There are also some **guides** below that may help you:

-  [Participant Guide](#)
-  [Setting up your mic and speakers](#)
-  [Setting up mic and speakers for MAC](#)
-  [Can't get microphone to work???](#)

Moderator Information (for people running your own Elluminate sessions)

-  [V Office Moderator Guide](#)
-  [Polling tool](#)
-  [The Whiteboard](#)
-  [Other Elluminate guides](#)

At Learn Central you can set up your own room for 3 which you can then use with 2 other participants. To do this you just need to register for an account.


 [Learn Central Elluminate vRoom \(free for 3 participants\)](#)

Figure 1: Screenshot of supporting Moodle course (information that is just for Moderators is greyed out)

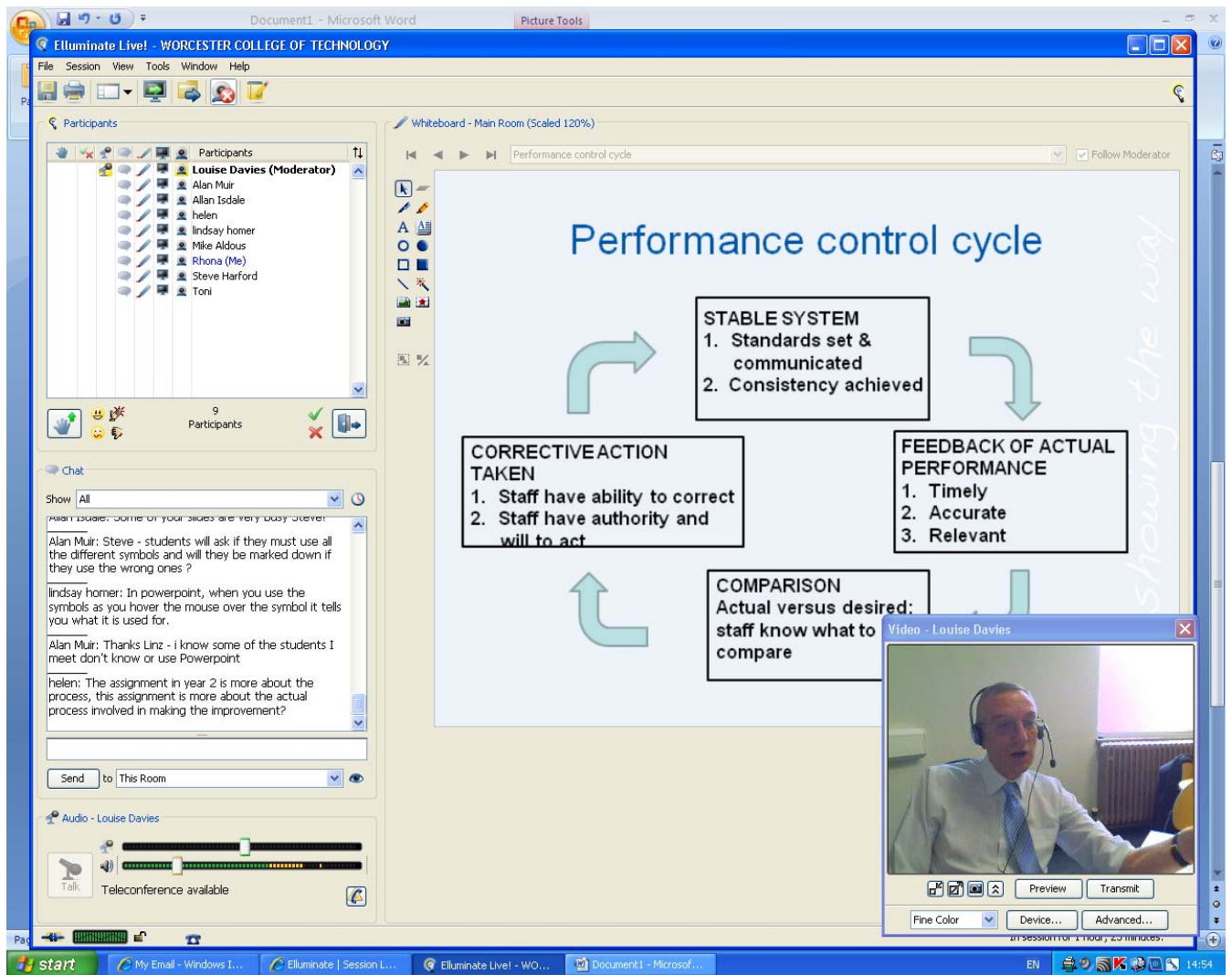


Figure 2: Screenshot of the Eliminate interface from participant's perspective in one of the live online sessions