

FINANCE E-LEARNING IN THE VIRTUAL CLASSROOM

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Introduction

The Centre for Executive Development was asked to supply a customised Finance e-Learning solution to a major French global corporate client. The initial module, authored by Matt Davies of the Finance and Accounting Group of Aston Business School, was first delivered asynchronously in 2010 via the client's corporate Virtual Learning Environment, and included a final project assessment piece that participants submitted via email to Matt. The intended audience for the module comprised non-financial managers in various departments within the client organisation, who needed to gain in-depth understanding of accounting and finance concepts used in the client business, and a deeper understanding that would have direct impact on their own working practice. In partnership with the client, Matt created the module using the client's own financial reporting documentation, aligning theoretical principles to the actual hard data of the company's own publicly available accounts.

Once the cohort had successfully completed the e-Learning package, the client raised our awareness of an emerging need for the participants to reinforce and extend knowledge and understanding of some of the fundamental concepts and data contained in the module. Our response to this need was to propose a virtual classroom session that would allow Matt to give an in-depth exposition of the concepts in person, and to ask participants to apply these concepts to real data. The synchronous nature of the session would allow for interactivity and on spot feedback, which we hoped would be instrumental in helping the participants gain a real understanding that they could then immediately apply in their respective roles. Since participants were employees located over a wide geographical area ranging from North America to China, we decided to repeat the session four times, and scheduled them to allow participants in multiple time zones to benefit from information directly related to their jobs and roles.

Design

The virtual classroom sessions were designed to supplement and enhance the original e-learning module. The e-learning package, with interactive quizzes and an e-workbook, was followed up with an action learning project in which each participant was required to address specific accounting and finance issues from the perspective of the client's own accounts and those of key competitors. The purpose of this exercise was to give participants the opportunity to apply the concepts and skills learned during the finance e-learning course.

Evaluation of the 2010 package showed that, based on pre- and post-package test scores, 98% of participants had increased their financial knowledge and understanding. This success prompted us, in partnership with the client, to go one step further to help participants increase their learning impact on their own workplace practice, and so yield greater benefits to the business as a whole. To this end, given the geographically dispersed nature of the participants, and the fact that we were dealing with a cohort located across all main poles of global economic activity (North, Central and South America; Europe, Middle East and North Africa; and Asia Pacific), we created and remotely delivered a virtual classroom shortly following completion and marking of the action learning projects. Solutions to the exercises would thus be provided and discussed during the virtual classroom workshop as a culmination of the course, supporting situated learning in which new concepts and understanding could immediately be applied in the participants' every day working practice.

In order to provide the best interaction possible, we decided to limit virtual classroom size to thirty participants each. Another constraint that guided the design of the virtual programme was the fact that we were dealing with a cohort located in all three of the main poles of global economic activity: North, Central and South America; Europe, Middle East and North Africa; and Asia Pacific. To accommodate this we decided to run the one hour virtual session twice in the same day, once at 9am BST and once again at 5pm BST. Further demand from participants meant that we ran two instances of the session, once in September 2011 and once in October 2011, a total of four virtual workshops in all, each designed for up to 30 participants. The economic and environmental cost savings to the client organisation of this approach compared to face to face intervention are obvious, given the travel and accommodation savings as well as out of office opportunity costs. The virtual classroom sessions took place on 21st September 2011 and 21st October 2011, at 9am and 5pm BST in both cases. In all cases the sessions were one hour in duration.

The sessions were designed collaboratively by a Centre for Executive Development team that included Matt Davies as the faculty subject matter expert, Richard Terry as the networked learning and technology expert and Terry Hodgetts as programme director. The client organisation was closely involved in the process: two scheduled teleconferences conducted with the client's learning and development manager and a senior finance executive ensured the pertinence of the detailed design discussions. We benefitted from positive and constructive advice from the client at all stages in the design and development process.

Participants to the virtual classroom were recruited by the client from the original e-learning cohort as it was a non-compulsory module. We provided the client with a web-form registration process on our web site, which enabled us to track registration of interest and capture email addresses that we could use to send out invitations and reminders to the virtual session. This also provided a register that the client could use to check against their own lists, to assess the proportion of the e-learning cohort who registered and then attended the virtual session.

To provide an effective platform in which to run a synchronous virtual classroom, we made use of Aston's Elluminate Live! Tool (now branded as Blackboard™ Collaborate), part of the suite of course tools available through Blackboard™. Elluminate contains a well-established feature set that can be tailored to suit the requirements of most virtual classroom sessions. The Centre already had experience of other uses of this technology, especially in the context of promotional webinars and remote lectures, but this was the first opportunity to devise a more complex virtual classroom structure for a web event, and make it both pedagogically compelling and valid in terms of the original learning outcomes.

We decided that because each session would potentially involve more than eight participants, and in order to keep the technical requirements to a bare minimum, we would deliver the session using audio for presenter and moderator only, with a text channel open to all participants through the chat window. This would allow for questions, comments and responses from participants, but would also allow them to informally use a 'back channel' to the main presentation if they wanted to explore issues further with their peers.

We took advice from a number of sources, and found the JISC publication on designing for participant engagement particularly helpful. We prototyped the structure on paper, and Matt was careful to outline the specific pedagogic goals of the various sections. Once these requirements were clearly articulated and agreed, Richard was able to match specific features within Elluminate to meet them. In particular, Matt was keen to make use of the quiz feature, as he felt that this would engage participants more fully in the section based around unpacking of the key concepts. The quiz feature enables a session presenter to release questions to participants in a controlled manner, and easily monitor all of the responses. This allows the presenter to be aware of the total number of responses as they come in. The tool also allowed us to reveal the answers to each quiz to all of the participants, including the proportions of correct answers and the most popular incorrect answers, which again provided useful markers for discussion if necessary.

The second half of the session was focussed around a series of slides, each of which led to a short question and response using the chat window. This again was designed to encourage engagement of the participants in co-creating the knowledge and understanding by applying the concepts learned immediately to the context of their organisation, and reinforce the learning that had been gained during the project stage of the programme.

We held a dry-run session as a proof of concept for the structure and the various features that we were making use of. This also helped us gauge the overall timing of the session and led to a number of minor tweaks to the presentation and our delivery plan.

The aims of the session were to provide opportunities for participants to develop skills and confidence in interpreting key financial ratios against appropriate benchmarks and to emphasise the client organisation's definitions of these ratios. This was designed to reinforce participant understanding of key accounting and financial concepts and be in a position to apply this to real world client and competitor scenarios.

We also wanted to provide as much opportunity as possible for participants to engage in discursive interaction during the session's duration, in the form of answering and raising questions and issues, and commenting on the applicability of the concepts to their own professional practice. To satisfy these aims we therefore set the following agenda for the session:

- Definitions of key financial ratios
- Interpretation of the client's key financial ratios
- The client's definition of Return on Capital Employed
- Summary/conclusions.

The content of the session was derived from key areas of the e-learning course, focussing in particular on key financial ratios and their application to the specific accounting practices of the client organisation. This information was supplemented with a section that focussed on key financial ratios within the publicly available accounts of the client and its main competitor organisations. In order to maximise understanding of these areas, the content was structured in the following way:

- A series of ten quizzes and feedback on key financial ratios
- An analysis of the client's historical ratios
- A series of comparative analyses and questions about the client and competitor ratios for the last financial year
- An analysis of the client's working definition of Return on Capital Employed.

Matt as session presenter introduced the agenda in the form of an uploaded slide set, and then worked gradually through the content. Milestone markers throughout the content allowed us to control the time allocated to each section, and to stay on schedule. As each concept was introduced and analysed, a question was put to the participants inviting response either through a quiz tool or through the chat window, depending on the section. The presenter could also ask ad hoc questions, respond to unscripted questions or invite discussion throughout the session.

Delivery

Participants were each emailed two reminder invitations prior to the session, containing the link to the session they were to join and also links to more information on how to use Elluminate. This latter was important to anticipate and therefore minimise any technical difficulties reported during the session itself. We delivered the sessions remotely through each participant's web browser. Richard Terry set up and moderated each session, introducing the presenter Matt Davies in each case.

The session was set up with a one hour window prior to the published start time to allow for uploading of the presentation and for welcoming participants. Richard welcomed each participant individually through the chat window, and urged them to check their audio settings, and then started each session with a short two minute audio introduction, running through the Elluminate features required in the session. Richard then introduced Matt, who gave a short introduction with video, before returning to audio-only delivery for the remainder of the session.

During the presentation, Matt worked his way through the slides, controlling and varying the pace according to context and the amount and nature of feedback from the participants. He initiated quizzes and prompted Richard to launch the Elluminate quiz manager, allowing quizzes to be handed out and results to be collected and published visibly in the virtual classroom.

At each stage in the process, participants were offered opportunities to engage in discussion with the presenter, and to ask questions or comment on the conceptual information presented. The quizzes gave the participants the opportunity to test their knowledge and understanding in the immediate context of the presentation, and the chat window was used to invite their comments, questions and responses to the topics under discussion, passing the locus of control to the participants. The session was planned so that there were many iterations of 'present and respond' as well as opportunities for more free flow questioning and discussion.

A total of 45 participants took part in four virtual sessions, at an average of just over 11 per session: Session 1 – 8 participants, Session 2 – 11 participants, Session 3 – 18 participants , Session 4 – 8 participants.

All attendees were employees of the client organisation, and were from the following geographical locations: Iraq, China, Germany, Greece, Vietnam, Kenya, India, Malaysia, Philippines, France, Canada, USA, and UAE.

Technical requirements for the session were minimal: a web browser on an internet-enabled PC, capable of running Java applets. This latter component (Elluminate is downloaded as a Java run-time environment application) created the only technical difficulties, in that two participants were initially unable to log on because of a connection timeout. This is a known issue for Elluminate, related to firewall settings, and for which they provide a workaround on their web site. In the event only one participant was prevented from joining the session because of this issue.

The only other difficulty encountered was that Matt was disturbed in his office despite posting a reminder on his door and informing colleagues. Fortunately, this did not throw him off his stride, though it does suggest that dedicated space set up for the running of virtual sessions might be ideal.

Evaluation

Participants voiced their positive feedback immediately after the presentation, with comments such as "thank you it was amazing", and a number of participants were keen to pursue certain concepts with Matt in detail after the session, suggesting that a second session might have been potentially beneficial. The client organisation also reported a positive response to the sessions. They also conducted their own more detailed evaluation of the impact and communicated a summary of their findings to us.

Quantitative evaluation data showed that over 80% of the participants had fully completed the e-learning course prior to attending the virtual classroom. This had implications for how much of the content they would be able to engage with and apply. Participants were invited to rate the virtual classroom on a five point scale, with 5 being the highest score. The scores for the individual elements within the categories of program content, facilitation and classroom environment were each well above 4, indicating a very positive impact and valuable experience for most of the participants. The only element where a score of less than 4 was recorded was 'Possibility for Active Participation',

which scored 3.81. This latter score suggests that participants are willing and ready to engage in further activities of an interactive nature, and we will be exploring ways of satisfying this demand in future interventions. Examples of this might be the use of the breakout room and whiteboard features within Elluminate to allow participants more control over the process of analysis and synthesis during the session.

The qualitative evaluative comments of participants have been perhaps even more valuable to us in terms of improving future sessions and helping us gauge the impact of the intervention. Participants were invited to respond to four evaluation questions in their own words. Participants reported particularly liking the emphasis on the link between financial concepts and their daily responsibilities, and the fact that they could readily apply these concepts. They also enjoyed the participation and interaction with the facilitator. Less satisfactory attributes were the time allocated – participants reported that they would have liked a longer session to address the issues in more detail, and more time to answer the quizzes as few participants spoke English as a first language. Participants reported gaining key insights into financial information and, importantly, the impact this had on their daily working practice. Intentions for follow-up activities included discussing financial ratios with the finance team, applying the concepts to the current year's accounting data and other forms of immediate application.

Conclusion

The evaluation data shows that there have been a number of positive outcomes from the virtual classroom session. Participants seemed to enjoy the format of the session, especially the opportunity to interact in real time with each other and the presenter, questioning and commenting on the content of the presentation. In fact some participants expressed a wish for more interaction in future sessions. A number of key learning outcomes were flagged up by participants, particularly with regard to a deeper and improved understanding of a number of important financial concepts. There is a real sense that the participants are applying what they have learned in meaningful and significant ways within the context of their working environment and day to day practice. From our point of view as the session designers this last outcome is both gratifying and a real proof of concept.

In terms of the overall programme structure, and when considered alongside the e-Learning module, we feel that the virtual classroom intervention has provided a valuable added factor in creating a distance learning opportunity for the client organisation. This experience has prompted us to seek to improve our delivery of virtual classroom sessions, and explore some of the more interactive pedagogical modes, such as using breakout rooms to encourage participants to engage more fully and reflect on the impact of their learning. We hope to write a more complete analysis of the sessions, which will help us to create future interventions for the same client, and which we also envisage allowing us to extend this capability into similar programmes with other clients.

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Example used with Centre for Executive Development Clients