Videoconferencing in Open Learning

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Abstract: This paper discusses the use of videoconferencing as a tool to enhance collaboration amongst online learners in an open learning context. We present quantitative data from a longitudinal study of naturalistic videoconferencing interactions held via the FM videoconference tool, indicating its global use. The case study presented is analysed according to an instructional framework for collaborative learning in computer-supported learning environments applied on an open learning environment, indicating how videoconferencing can indeed encourage collaborative group work in the study of open content. A variety of communities have used the tool worldwide to connect with colleagues or co-learners in moderated or peer-to-peer events. As only a few of them related their meetings with open educational resources provided in the environment, we wish to give some insights into how further integration of the tool in the environment may increase its use in combination with the material provided.

Keywords: videoconferencing, open learning, collaborative media, social software, FM live communication, OpenLearn, LearningSpace, LabSpace

1 Introduction

Learning can now be realised online formally or informally and knowledge can be transferred virtually in multiple media, which differ from those used in traditional class communication. Online learning can be a lonely experience with no teachers or co-learners physically present. In distance education learners benefit from the use of Internet technology to communicate virtually with their tutors and fellow learners asynchronously, through wikis, forums and email, or synchronously, via videoconferencing, instant messaging and ambient awareness tools. Online collaboration tools cannot only make communication possible, but also enhance the sense of community in formal groups of learners.

Open learning is a recent concept, which allows learners to learn at their own pace, time and location, not being part of a formal course resulting in the award of a degree, with official tutors supporting the studies. While social software can be used to increase collaboration in formal learning, recent research shows that priorities differ regarding collaboration in open and informal learning contexts: “Top of learners' [OpenLearners] wish lists are more testing, assessment and interactive content. The ability to interact with other learners is not as important for many, but a smaller sub-group value the social tools” (Godwin, 2008).

This paper focuses on the hypothesis that videoconferencing can be used as a tool to enhance communication and collaboration amongst open learners. We address the following questions:

- Is videoconferencing used in open learning and who uses it?
- What are the communication patterns in open learning videoconferencing interactions?
- Is videoconferencing used in combination with the study of open educational resources?

We present quantitative and qualitative views of videoconferencing interactions held via the FM live communication tool (http://flashmeeting.com/) in the open learning environment OpenLearn (http://openlearn.open.ac.uk/). We discuss the challenges in the use of videoconferencing in an open learning context, as independent learners study according to their schedule and pace and collaboration with fellow learners is not a priority. In this study, we wish to give some insights into how the tool has been used, in terms of meeting types, user roles and community activity. While over 800 naturalistic virtual meetings have been recorded on our server in less than two years, only a few of them are related to the material of an open content unit provided in the environment. To tackle this challenge, our research goal is to provide suggestions in increasing its use in scenarios of collaboration on the study of open educational resources.

2 Background

Distance education is changing with the introduction of open content and creative commons licences, which allow content to be distributed, reused and remixed without charge (Caswell et al, 2008). The number of higher education institutions providing open content is also increasing, along with the open content, open courseware and open learning initiatives in Europe and America. Collaboration is considered as a key ingredient in open and distance education (Kennedy and Duffy, 2004). Open Educational Resources (OERs) are often integrated with a virtual learning environment, which can also provide a range of collaborative tools for live communication, such as instant messaging and videoconferencing, or for asynchronous communication, such as wikis, forums and video-blogging tools (available as part of initiatives such as OpenLearn, MIT OCW and others).

Learners interact in shared media environments via text, audio and video. As video and sound combined enhances the presence experience (Lombard and Ditton, 1997), videoconferencing has been effectively used in physically distributed workgroups around the world. While face-to-face communication is rich because it includes deictic elements and objects visible to both participants of the communication (Nardi, 2005), videoconferencing can in fact recreate the most essential elements of a meeting (Townsend et al, 2002). Recent studies have shown that videoconferencing can enhance computer-supported group-based learning, which is an important part of contemporary education, focusing on ‘cooperative’ and ‘collaborative’ learning, inspired by collaborative environments similar to original working processes (Strijbos et al, 2003). In social presence theory, an important role of media is to provide valuable ‘cues’ about the presence of others, including facial expressions and other key aspects of presence (Short et al, 1976).

While videoconferencing may be effectively used in scenarios of distance learning to enhance group collaboration with obvious benefits in enhancing communication and the sense of community between learners, users of open learning media spaces still prefer asynchronous communication. As open learning is an area which has been introduced recently, the concept of collaboration in such scenarios is still in its infancy. In this study, we apply the instructional framework for collaborative learning in computer-supported learning environments (So and Kim, 2005) and adapt it for open learning scenarios.

3 FM Live Communication in OpenLearn

The OpenLearn project was launched in October 2006 by the Open University (OU), UK. OpenLearn provides open educational resources of high quality at undergraduate and post-graduate levels, along with a set of collaborative and sense-making tools, allowing open learners to connect with each other and reflect on the educational material in a virtual learning environment (http://www.open.ac.uk/openlearn/). The project includes two main areas; LearningSpace, offering officially checked OU open content, and LabSpace, an experimental zone where self-motivated learners and educational practitioners can remix and share open content.

The OpenLearn platform is a Moodle-based virtual learning environment running in PHP. FM is one of the three social media tools, which have been initially 'plugged-in' the LabSpace environment, as Moodle blocks scripted in PHP. First, Compendium for knowledge mapping and MSG for text chatting and social presence migrated to LearningSpace, while FM was made available in both spaces in July 2007. The integration of FM in the OpenLearn platform has been based on the hypothesis that videoconferencing may enhance the communication and the group sense between open learners studying the same units.

FM is a desktop multi-party videoconferencing tool, developed gradually for the FlashMeeting project since 2003, under the aegis of the EU Network of Excellence on Professional Learning, Prolearn (http://www.prolearn-project.org/). The system runs in a web page with the Adobe Flash plug-in (version 8 or above) on the web browser, requiring no other installation. Server account holders can book meetings, specifying the date and duration, while the system generates a URL link, which can be clicked to access the meeting. The system features low bandwidth due to its simplex audio (push-to-talk); this means that only one person can use the foreground communication channel and broadcast image and sound at any one time, while other attendees can 'queue' by raising a symbolic hand and wait for their turn, or 'interrupt' the speaker in order to talk (Figure 1).

Figure 1: The FM system: booking page, live and replay

Meeting participants may also use background communication channels, such as the text chat facility, vote, mood indicators and a shared whiteboard. All meetings are set to be recorded and replays can be easily browsed through a timeline, or a list of participant names. All interactions are logged on the server and are available in XML descriptions. Along with the replay, the meeting minutes, including the text chat activity, voting etc., as well as linear meeting visualisations, maps plotting live meeting attendance and replay reuse. At the moment FM is running on a number of servers, connecting communities of researchers, learners, educational professionals and schools. Over 10,000 naturalistic virtual meetings have been recorded on all servers.

Users logged into OpenLearn have access to all links in the FM Live Communication block from within a unit (Figure 2); they can book a meeting and access and edit events they have booked and attended in the past, access the demo area to test their equipment and some basic FM features, enter unit related meetings and view public replays related to a unit or the folksonomy including all syndicated replays. Open learners can thus relate their meetings to OpenLearn units by adding the unit short name in the booking page, while the system adds by default the name of each unit in the keyword section of their booking pages. Help is provided in the QuickStart guide, in the detailed FM unit, as well as in the forum, including postings with different queries and opinions around the use of the tool.

Figure 2: The FM block in OpenLearn

3.1 The FM OpenLearn Server Activity

The FM-OpenLearn server includes over a thousand user accounts. For around 14 months, since the OpenLearn launch in October 2006, the FM server has logged 1,429 meeting bookings, while 808 out of 1093 attended meetings did not include the word 'test' in their title (this does not mean that all 'test' meetings have been filtered out, as users may insert keywords such as 'test' in languages other than English, e.g. 'prova' in Italian).

FM has been integrated during the last six months with the OpenLearn website providing the official OU content, LearningSpace, which counts 10 times the number of hits to its sister website LabSpace, and thus has experienced an increase in bookings. 600 bookings were made during the first nine months in the experimental zone, whereas around 800 bookings were made six months after the integration with LearningSpace. Figure 3 shows 2,290 unique user IPs logged in the live meeting as red dots plotted in a world map, from the October 2006 until the present, i.e. within a 14 month duration. Live meeting attendees are mainly located in Europe and America, with a few attendees in Asia and Australia.

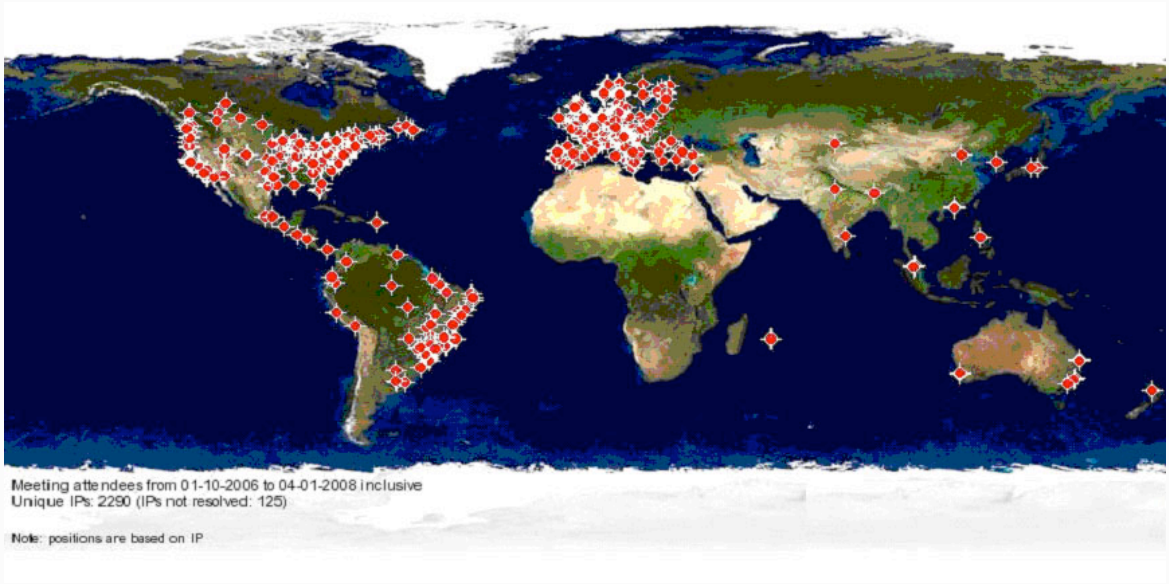

Figure 3: Live meeting attendees in the FM-OpenLearn server from 01/10/06 to 04/01/08

The world map in Figure 4 shows the distribution of the unique IPs of 4,325 replay viewers plotted as blue dots, and the impressive number of 11,202 hits to replays, during the same period. The replay map

counts private and public replay viewers showing the truly global use of FM, with re-users everywhere in the world, including several places in Africa.

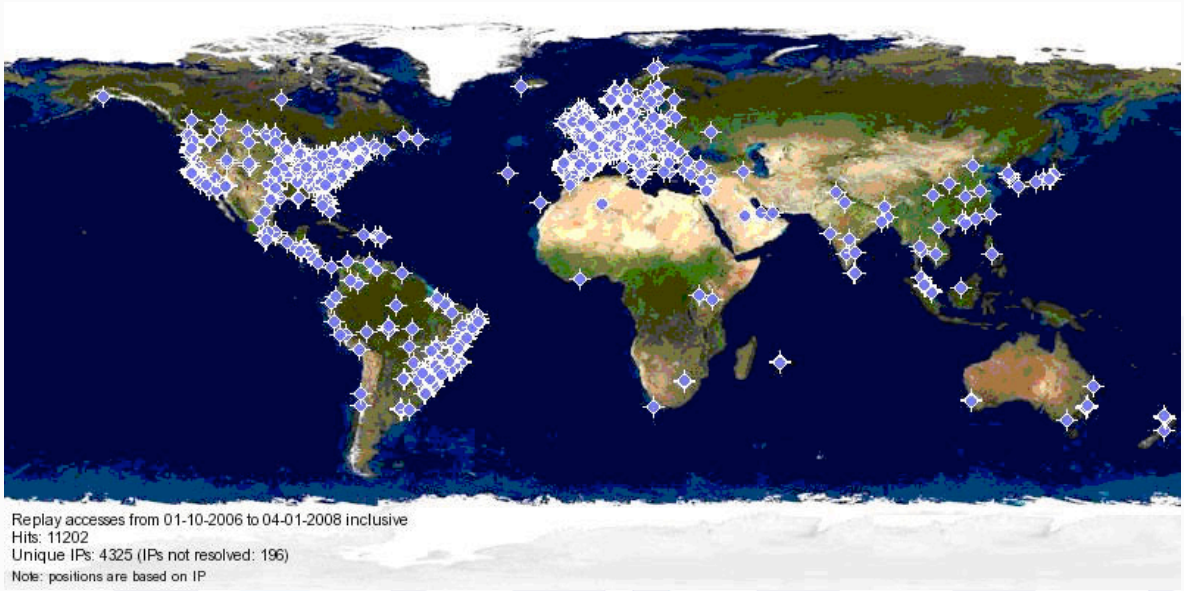

Figure 4: Replay viewers in the FM-OpenLearn server from 01/10/06 to 04/01/08

Replay viewers may have either watched a private replay produced by their group, or an event that is publicly accessible. Open learners have the option of 'syndicating' their events, i.e. making them public and sharing them with the world in a publicly accessible webpage. At the moment there are over 80 events in the public FM folksonomy, with live attendees and replay viewers from all over the world and in a variety of languages. A few communities tend to syndicate most of their meetings, in this way creating new objects to learn, open to anyone who wishes to watch them. The culture of syndicating meetings is promoted as part of the open content production. In the FM OpenLearn folksonomy, there are examples of public meetings with hundreds of reuse hits each (Figure 5).

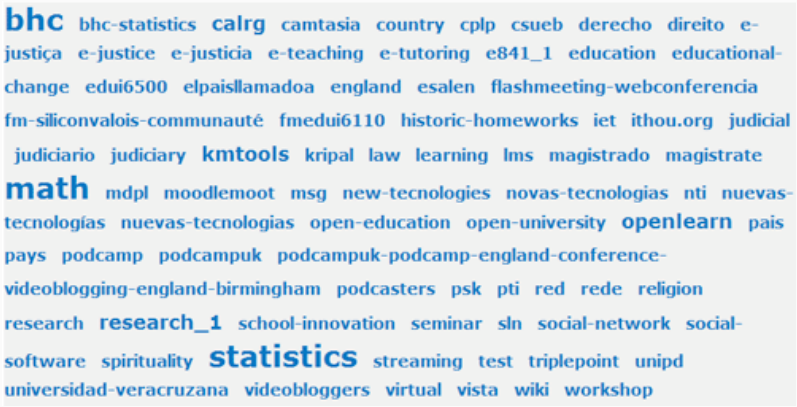

Figure 5: The folksonomy of syndicated meetings in OpenLearn

The options of editing and syndicating after the meeting is finished seem to be encouraging for the 'shy' users:

> I like the idea of syndicating meetings but only if they're worth sharing. *(FM user, FM forum posting)*

> Once logged in, icons in 'My Events' allow the possibility of editing sessions and post-

production syndication (I think). Suddenly the likelihood of going public is a future probability. *(FM user, FM forum posting)*

3.2 Open Learning Videoconference Events

The FM system has been used in a variety of ways in previous servers (Scott et al, 2007). Here, we present a summary of the ways it has been used in OpenLearn. We show an example of each meeting 'type' observed and discuss its shape, interaction patterns and user roles. In this study, we have classified the most frequently occurring meeting types according to the attendee participation in the broadcast and chat in three major categories: moderated, peer-to-peer and web-cast events.

Polar area diagrams (Figures 6 to 9) were automatically generated indicating attendee participation in the meeting and revealing characteristics, which may be used to identify different meeting types. On the bottom right hand side of each diagram, a key shows the participant names. Meeting attendees have been anonymised for the purpose of this study. As audio communication in FM is one way, it is simple to record who spoke and for how long. The diagrams on the left hand side show the broadcast dominance, representing participants with different colours. The circle diameter indicates the turns taken, while its circumference indicates the total duration of turns for each meeting attendee. Attendees who have not spoken do not appear in the shape. All text messages are recorded on the server. The diagrams on the right hand side present the chat dominance for each attendee. The circle diameter shows the messages sent, while its circumference shows the characters typed.

The user dominance shown in the generated diagrams reveals some general user roles. More dominant users can be considered as 'moderators' or 'leaders' who facilitate the communication amongst the community members (Sudweeks and Simoff, 2005). Others can be viewed as 'lurkers' (Lee et al, 2006), who although indicating their presence, do not contribute anything to the community. The interaction patterns we discuss depend on the type of event and the user roles. Moderators usually show active participation. Technical facilitators may take a leading role in technical sessions, but generally take a background role and support usage through the text based chat channel during classes. Peer-peer learners may use both channels equally, while lurkers are just present at meetings without actively participating in any communication channel.

Moderated events

A number of moderated events are held in the FM-OpenLearn server by several communities. Teachers in a variety of online courses, from statistics to foreign languages use FM as the main tool to conduct their virtual lectures in a formal learning context. A typical example of a series of public meetings in maths and statistics (Figure 6) shows that the teacher (in red), as the moderator, is dominating the broadcast channel, while the students communicate via the text chat facility asking questions related to the material taught. Examples from a series of foreign language teaching lectures by seven different tutors show different broadcast patterns. The nature of this module is for practicing narrative and dialogue skills along with pronunciation. Thus, the participation of the students is more active in the broadcast channel, and the teacher (in orange) is the most active participant in the broadcast without dominating it completely (Figure 7). Virtual seminars are also moderated events sharing similar characteristics to virtual lectures, but may be held in an informal learning context.

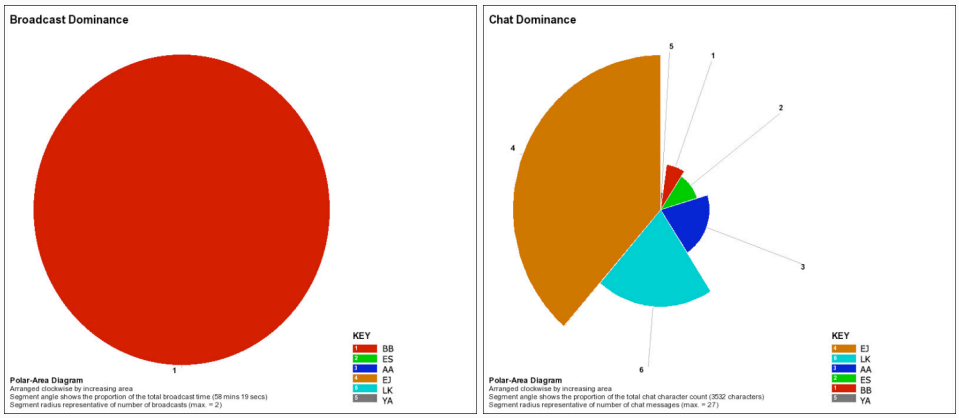

Figure 6: A virtual lecture in maths where the teacher dominates the broadcast and students are active in the chat

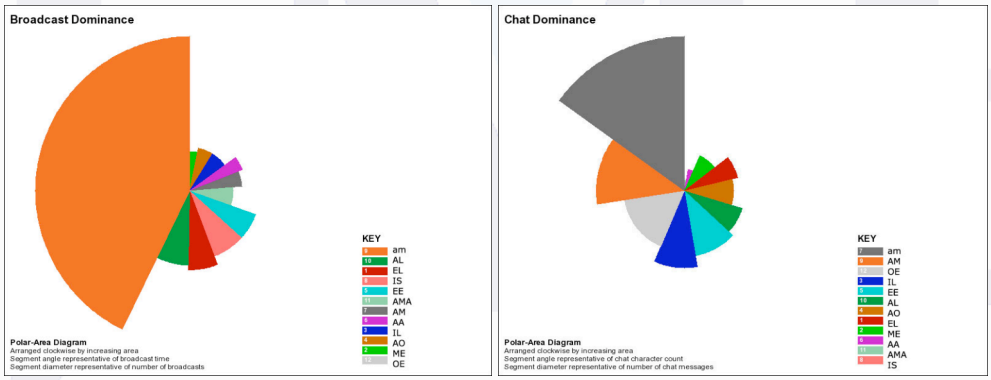

Figure 7: A virtual lecture in foreign language teaching where the teacher dominates the broadcast and students are active in both the broadcast and chat channels

Peer-to-peer events

Several communities use the FM tool to conduct peer-to-peer meetings. Peer-to-peer events are usually held by self-motivated students who participate in the same online course or independent learners who are part of a community of practice, trying out social networking tools. These meetings show an equal distribution of the chat and broadcast channels amongst most participants. Some may be more dominant than others, but no one figure dominates more than half of the duration of these meetings (Figure 8).

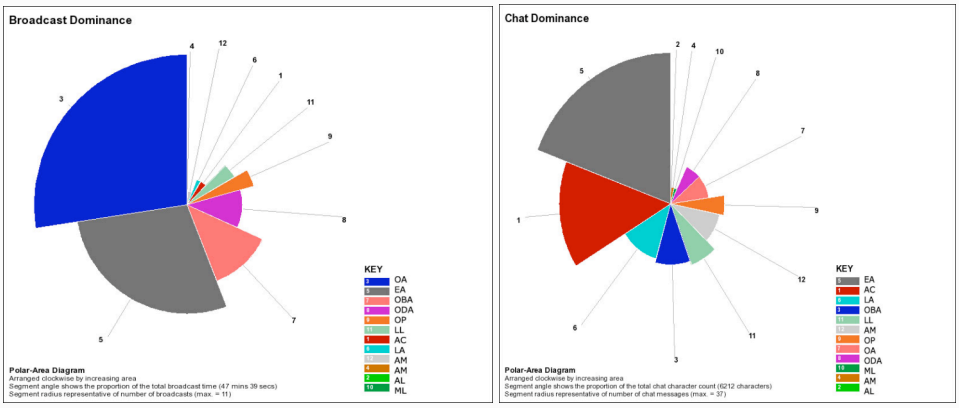

Figure 8: A peer-to-peer event, with even participation in the broadcast and chat channels

Web-casts

Several users record their physical lectures or workshops via FM and share them with the world. The shape in this case is quite banal, with one user dominating the broadcast channel, and very little or no chat activity. Lurkers may be present in the live meeting, as the purpose of this videoconference event is to take advantage of the replay facility of the system. In Figure 9, one participant is dominating both communication channels ('CALGR' in green), while a lurker (DM) is also present. There is no interaction between attendees, as the main participant is presenting to an audience.

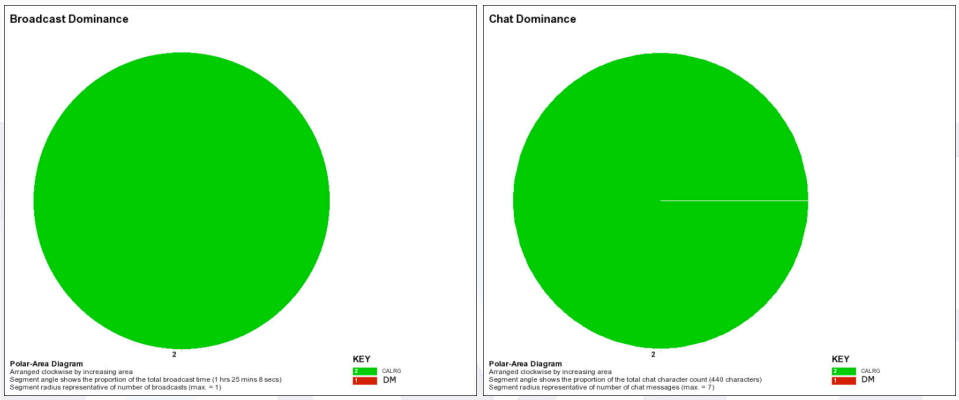

Figure 9: A web-cast, with one participant dominating both broadcast and chat

4 Synchronous Communication for OpenLearn Content

4.1 A Framework of Analysis

Collaboration is a key aspect of online learning. Following Vygotsky, a person's cognitive development depends on their relationship with the social environment (1978). In constructivist theories, "knowledge is individually constructed and socially re-constructed by learners based on their interpretations of experiences in the world" (Jonassen, 1999). Thus, knowledge can be effectively transferred in naturalistic situations and negotiated through social interaction. Computer mediated communication tools for learning make it possible to interact with a learning resource and to communicate with fellow learners in shared learning spaces. In open learning, acquiring knowledge through social interaction is not straightforward, as there are no official tutors and maybe no students studying at the same time. In this perspective, the task of applying a theoretical framework for instructional design methodologies and situations is challenging.

In this paper, we examine whether videoconferencing as a cooperation and collaboration tool may enhance the learning experience of an open educational resource through social interaction. We follow the framework suggested in So and Kim (2005) for selecting instructional methods that engage learners in social interaction and adapt it to an open learning context. So far, self-motivated learners have not communicated in FM unless they are part of a tutored group. This suggests that the combination of OpenLearn content and tools can be useful in contexts including independent educational practitioners moderating groups of open learners. The case study examined describes moderated collaborative learning in the OpenLearn environment in terms of instructional goals, methods, conditions, and effectiveness. To analyse the case study, we answer the following questions (identified in Reigeluth, 1999):

Instructional Situations	Instructional Methods
- Learning: What is the type of learning content? - Learner: What are the student characteristics? - Learning environment: What are the collaborative learning environments (e.g. group composition, group size, collaborative tasks?) - Development constraints: What are the constraints for the development of collaborative learning methods?	- Effectiveness: What instructional methods are effective or not effective? - Conditions: What are the instructional conditions necessary for the effectiveness of a certain instructional method?

Table 1: Instructional design questions (Reigeluth, 1999)

4.2 Case Study

The FM tool has been used in combination with OpenLearn units more often since its integration with the LearningSpace. At the time of writing ten meetings related to two OpenLearn units and around ten events were linked to experimental units. Additionally a few corresponded to collaboration areas in LabSpace. Presently one group of open learners have used FM successfully to discuss the content of an OpenLearn unit.

A series of 6 meetings were designed by EP, an OpenLearn user, with a focus group of two students, discussing the OpenLearn unit Y159, 'The importance of interpersonal skills'. The main goals were; to improve English language conversational skills and to test the collaborative tools provided within OpenLearn with in conjunction with OpenLearn content. It should be noted that this case study discusses naturalistic interactions as participants were intuitively using the platform, content and tools, without any guidance from the researchers.

In this section, we evaluate this case study based on the instructional methods framework for collaborative learning in computer-supported learning environments (So and Kim, 2005) by identifying:

- Instructional goals realised in the form of activities,
- Types of activity,
- Conditions of learning and
- Effectiveness of activities.

The qualitative views presented in this paper are based on the unit forum feedback added by the moderator and in a few cases by one student, after each FM session corresponding to a set of goals and the material in a unit section. The unit forum is accessible to users who have been registered with OpenLearn and the specific unit. The purpose of the forum postings referring to the tutored group examined was to share the experiences after each FM session with the group involved or other open learners who may have been interested in joining. The moderator of the group was contacted via email and asked to answer a short questionnaire clarifying the goals, methods, conditions and effectiveness of using FM videoconferencing with an open content unit in the same environment.

EP is an EFL teacher, who formed the focus group by recruiting learners from other online communities by suggesting the use of open content and tools available in the OpenLearn platform. The group intended to use commercial software as well as FM for video-chatting, complementing the communication for each section of the unit:

> 'Native English Online' (NOE: http://www.nativeenglishonline.com/) is tutoring a small group of non-native-English learners through this course as a first attempt at using OpenLearn's

material and tools. We will mostly meet in a … chat room and will use the video meetings room here at some point in the course. *(EP, unit forum posting)*

The group selected this short 6-hour unit and worked through all sections of the unit, meeting synchronously or communicating a-synchronously in the unit forum, trying in this way all possible communication media, using collaboration tools for informal online learning. The tutor played the role of the meeting moderator, as well as the technical facilitator, explaining the FM functions to the students. The activity goals and types, as well as the learning conditions are summarised in Figure 10. The activity goals were expressed by the moderator-instructor, in terms of usability of the VLE and tools and in terms of taking advantage of the content to improve the students' linguistic skills in English. The types of activity presented here refer to a combination of using the open content and the tools provided, such as forums for asynchronous communication and especially FM for synchronous communication. The learning conditions relate to collaborative learning, facilitated by a moderator. The learning environment integrates the content, tools and activities, presenting limited development constraints.

Activity Goals
- Improve collaboration skills (by testing the VLE: content and collaborative tools).
- Improve conversational skills: using new vocabulary.
- Extend the scope of the content by discussing own experiences.
- Assessment during live videoconference sessions and after collaborative activities via email communication.

Types of Activity
I. Grouping
- Form groups through OpenLearn forums.
- Form groups by recruiting members in other online communities.

II. Collaborative task
- Test videoconference technology with group as a collaborative task through discovery.
- Discuss each section of the unit in FM.

III. Team-Building
- Promote introductory turns through broadcast in FM.
- Use FM text chat for socio-emotional support.
- Use forum feedback for shared experiences and socio-emotional support.

IV Computer Mediated Communication
- Use forums for recruiting open learners.
- Use forums to provide videoconference session feedback.
- Use FM to motivate synchronous discussions on the OERs.

V Instructor's role
- Acts as technical facilitator and meeting moderator.

Learning Conditions
Learning
- Learn by following the activities integrated with the content.
- Learn by trying out collaborative tools.
- Form focus groups around a unit to support each other.

Learner
- A tutor-moderated group can motivate learners to learn collaboratively.

Learning Environment
- Integration of the units' content with the FM tool via the link 'Related Meetings', it is not obvious why videoconferencing would be useful for accompanying activities.

Development Constraint
- Learners need to familiarise themselves with the one-way audio communication.
- Navigating the OpenLearn website and connecting to the FM live communication room are designed to be user friendly, without requiring any installation.

Figure 10: Activity goals, types of activity and learning conditions

Effectiveness of Activities

We have thematically coded the open forum feedback added after each videoconferencing session. The following themes emerged indicating the effectiveness of the learning activities followed: interaction with OER, computer-mediated collaboration skills, development constraints, assessment skills and communication patterns.

Interaction with OER

The learners had analysed the open content provided, enriched the content through the exchange of their personal experiences and used new vocabulary to engage synthetic skills in oral communication:

> The content of our meeting was relevant to Y159 but arose spontaneously. A question about extrovert and introvert personalities and roles took the focus for a while with participants drawing from personal experience and observation. For an ESL group the real value was that learners were comfortable using new language that helped them to express ideas in an organic conversation. …It is short (3hrs) and the content encourages participants to express themselves and elicit other's points of view. *(EP, unit forum posting)*

> We talked about the characteristics of each role type, matched the closed type to us, played some roles and guessed the roles. We also completed and specified some other characteristics in Belbin's table and we concurred in the opinion, that in working teams might also appear "bad members". *(AM, unit forum posting)*

> We added a good amount from personal experience and extended the scope of the content slightly by discussing CBT and NLP in outline. It was the first time several of them had tried VC and I think only AM and I used webcams. The sessions were a combination of learning to use FM and working through the material. *(EP, questionnaire)*

Collaboration skills and sense of community

FM has been proved to enhance the sense of community, indicating its added value in an open learning environment in combination with following an open content unit. Collaborative activities in videoconferencing settings may decrease the feeling of 'loneliness' in open learning:

> Meeting in video conference helped bond the group, encouraged a sense of collaborative working and introduced a wider perspective than is possible for a lone learner. *(EP, questionnaire)*

> Well done everyone, I'm looking forward to the next lesson! Hopefully all of us will be able to join! *(AM, unit forum posting)*

> A student and I recently spent 90 minutes in a FlashMeeting pressing all the buttons, tabs, icons and playing with the whiteboard. As an exercise in collaborative learning through discovery it proved to be exceptional. *(OpenLearn user, FM forum posting)*

Development constraints

The use of FM appears to be challenging for learners who use it for the first time, as they can also communicate, using commercial software:

> We worked through the Introduction and the Communications unit, discussed the contents and outlined how we would approach the remaining material…As no one had used FlashMeeting before we attempted to meet there which proved successful for some but not for others. It looks good and I'm encouraged to believe that we may be able to ditch 'S' once we're familiar with FM as it really is rather nice. FM's analytics and replay functions seem extremely useful *(EP, unit forum posting)*

The fact that FM allows only one speaker to broadcast at anyone time can be confusing for users who are not familiar with it. While it has been designed this way so that everyone can be heard, learners can be frustrated, when having in mind duplex communication available in similar tools. However, the simplex audio forced by the tool is responsible for its clear sound and low bandwidth, which causes it to almost never break. FM also provides an 'interrupting' option, just as in face-to-face communication and takes some time to get used to:

> Clearly FlashMeeting is designed to enforce classroom control - the speaker cannot be interrupted and attendees join a queue if they wish to have their say. That's brilliant for a lecture but not so convenient for a seminar where dynamic interaction is to be positively encouraged. It meant that to get feedback the speaker needed to relinquish control and pass it in turn to the other participants. *(EP, unit forum posting)*

Assessment skills

The main asset of using FM in combination with a unit has been its recording facility. The replay can be accessed via the meeting URL after the end of the meeting and has proved especially useful for foreign language learners, who are able to detect their mistakes and replay the tutor's corrections as many times as they need to. In this focus group, most learners replayed the meetings more than once, showing that replays may indeed be used as learning objects:

> Perseverance with FlashMeeting has paid off. The main driver was the perceived advantage of being able to replay the session, which to non-native English speakers is a real bonus. *(EP, unit forum posting)*

> The replays were in fact a perceived bonus and I think everyone tried them. For the non-native English speakers there is the opportunity to hear it all again and benchmark their levels. There were six meetings and I think thirty six replays in all. *(EP, questionnaire)*

Communication patterns

After the group got used to the simplex FM communication of the foreground channel, they started intuitively using all other background communication channels, such as chat, voting and emoticons. It takes time for the users to realise what all these channels are for. In meetings of multiple participants, the background communication channels prevent the speaker from being interrupted, but allow others to express themselves. This may not be possible in face-to-face communication. Spontaneous patterns of effective communication emerged, by managing the turn-taking intuitively, with learners queuing after the tutor's questions and waiting for their turn to broadcast:

> By the end of the hour a couple of conventions had evolved which helped maintain the flow of conversation. Having made one's point the speaker would ask a particular participant what they thought about the topic and in this way pass the conversation baton around the group. Additionally the use of signs (thumbs up, nod of the head) helped a speaker get feedback from webcam users without having to stop speaking. This time the OpenLearners public chat window simply served to gather the group, deliver the FM link and for final goodbyes once the hour had passed. *(EP, unit forum posting)*

The following figures present one of the events organised by the Y159 focus group, including the tutor from the UK (in red), and two learners, one in Slovakia (in green) and another in Kazakhstan (in blue). The linear visualisation shows the effective turn-taking between the tutor and the two students. The teacher (in red) clearly dominates the broadcast, while the chat is dominated by a high number of messages sent by the tutor and a few messages of long length by the one learner.

Figure 11: Linear representation and polar area diagrams showing the broadcast and chat dominance in one of the Y159 meetings

5 Discussion

Open learners are offered a range of ways to communicate and discuss the content of a unit, either synchronously via instant messaging and videoconferencing, or a-synchronously via forums. Although users within communities and focus groups that have formed around an OpenLearn unit communicate successfully in forums a-synchronously, it seems to be challenging to meet synchronously in a videoconference. In the first year of release, FM was integrated with the experimental LabSpace, with no policy restricting its use to OpenLearn units. At the time of writing, only a few video-meetings were related to an OpenLearn unit or to collaboration areas. Most meetings related to discussions of educational material and e-learning project discussions which were not necessarily related to OpenLearn.

There are many ways of organising a video meeting in OpenLearn, yet there no straightforward reason why open learners should meet virtually. One way of organising a video meeting in OpenLearn is by using instant messaging via MSG, the text based chat tool available in OpenLearn. Another way to organise a videoconference around the material of a unit are through postings in unit forums. MSG has rarely been used to send a FM URL, while there have been forum postings by only three open learners prompting the use of FM to improve conversational and language skills. No one replied to most of these open forum postings:

> I want the chance to improve my French (not least before venturing off to Normandy in a couple of weeks). Is there anyone else out there with access to a cam and headset who would like to have a go at using the FM tool which is this video chat tool that's part of OpenLearn. I haven't given much thought to what we could talk about ... but if we can get a few of us student francophones together, we could see what happens... *(OpenLearn user, OpenLearn forum posting)*

> I come from Hong Kong but now live in the UK. As a native speaker of Cantonese I would like to chat with other OpenLearn learners in Cantonese using the FM video chat tool they have in the LabSpace. I also can speak Putongua and welcome for a separate Putongua Flash Meeting. Are there other people out there who would be interested in talking? We could talk about what

> we are studying, or about current issues in the news. *(OpenLearn user, OpenLearn forum posting)*

Open learners may prefer different types of communication for a variety of reasons. These include; the synchronous nature of the tool – such as different time-zones of users located around the world, or the nature of the tool itself – such as privacy issues related to the visual element of videoconferencing. Furthermore, open learners may study and complete a unit at different paces with different queries in different times. Another reason for not using videoconferencing may be the lack of someone to organise a videoconference by suggesting the discussion of a specific aspect of a unit and playing the roles of group moderator and tool 'champion'. Nevertheless, many open learners may not consider synchronous communication useful in their own contexts. However, tutor moderated groups of open learners have found FM useful.

After analysing the case study with the instructional framework proposed in So and Kim (2005) and according to participants' open forum feedback, the experimental group found the use of the tool effective in combination with the study of an OER. Interestingly, the group was moderated, showing that the presence of a tutor creates a more formal impression of informal learning scenarios.

6 Future Trends

There could be a greater integration of videoconferencing with the open learning environment and the other social media tools, so that its use makes sense to learners. To encourage FM use in terms of supporting open learning communities to connect with each other and analyse the content of a unit, we propose the following solutions:

- Integration with the MSG instant messaging tool for instant video-meetings, without the need of booking a meeting and sending the meeting URL around. In this way, users may not waste t time waiting for fellow learners to appear in meetings they booked. This integration will be available with the next OpenLearn release.
- Integration of activities requiring the use of FM and collaborative work in OpenLearn units. Tutors designing open learning materials may include collaborative scenarios that learners may benefit from.
- Organisation of FM seminars with experts presenting topics related to the content of OpenLearn units. The virtual seminars can be advertised a long time before the actual event in the unit forum and OpenLearn news and be open to a big number of participants to attract more learners.
- User scenario and good practices publication. These can be added in the FM unit, as most users need to be shown some examples of good use of the tool in order to realise its added value.

The case study presented in this paper showed how FlashMeeting has been successfully used in a tutored group of open learners. The absence of teachers and moderators makes the open learning scenario very challenging. By publishing examples of collaboration scenarios, independent users may be encouraged to start connecting with each other. In the future, we expect more peer-to-peer meetings related to units, where learners can support each other with or without a tutor or moderator.

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