# M253 Resource Sheet

# *Working at a distance*

## 1 Overview

The purpose of this *Resource Sheet* is to bring to your attention some of the issues that you might encounter when working as a member of a geographically-distributed team. We will discuss the ways in which working at a distance can change the way in which teams communicate and collaborate with each other, and highlight some of the factors that have been identified as critical to the success of teams working in distributed environments.

## 2 Introduction

The classical view of a team is that it is a group of people who have shared goals and a common purpose. Implicit in this definition is that members of the team live and work in the same place. In other words, team members are co-located so that they can meet face-to-face when they need to do so. This view of team working is gradually being supplanted by a more open view in which teams may be composed of members who live far apart from each other, work for different organisations, meet rarely, and collaborate electronically (Lipnack and Stamps, 2000). In other words, the team is a *virtual* team.

In this *Resource Sheet*, we will explore some of the issues that can arise when working as a member of a virtual team. Some of these issues you may already have come across through your study of other Open University courses: the lack of face-to-face contact with your tutor or fellow students on the course; use of the internet to communicate and send documents; the need to travel to meetings (tutorials and day schools), and so on. These issues become even more significant when you are a member of a virtual team where you have to cooperate and collaborate with other team members.

## 3 Successful virtual teams

Virtual teams can be remarkably successful, even outperforming co-located teams. A recent article by Majchrzak et al. (2004) (co-authored with the authors of one of the leading books on virtual teams – Lipnack and Stamps (2000)) identified three practices which they found were important to the success of the virtual teams they surveyed. In brief, the three important practices were as follows.

1. Exploit diversity within the team. In successful teams, team members with different perspectives and backgrounds worked together to devise innovative and creative solutions to problems by capitalising upon their differences as a team, rather than seeing their differences as a barrier that had to be overcome. Differences of opinion, which almost inevitably arose because of the team's diversity, were channelled so that it generated solutions to problems rather than acrimony between team members – light, not heat.
2. Use technology to simulate reality and bring people together in the virtual realm. Having said that, in the teams surveyed team members tended to use simple rather than advanced technologies to communicate. This may seem surprising, but many teams found email and video-conferencing to be poor ways to communicate and collaborate. Instead, most teams used conference calls and shared websites (such as wikis). Conference calls tended to be used to discuss disagreements whereas shared websites were used to remind team members of their decisions and commitments – in other words, they were used as virtual team rooms.
3. Work on holding the team together through frequent communication. This is required to prevent some of the hazards of teamwork from arising – mistrust between team members, clique formation, or the distraction of other activities unrelated to the team's activities. The team leader has an important role to play in keeping in touch with each team member and in holding the team together. Strategies such as asking team members to work in ad hoc pairs for short periods provide an effective way of allowing team members to get to know each other better, and to discourage the formation of cliques.

In summary, frequent, effective communication is a critical success factor for a virtual team. In the next section we will look at the communication issue in more detail, which will enable your team to answer the question 'How will you communicate?'

## 4 How will you communicate?

Today, there are a variety of ways of communicating which differ in their immediacy, the number of people that can participate in the communication at one time, the richness of the communication medium, and so on. Olson and Olson (2000) presented a classification of communication media which we have extended and modified in Tables 1 and 2. In these tables we have analysed how the different media 'allowed for the expression and joint negotiation of common ground' (ibid, p. 159). Here, common ground is taken to mean a shared and agreed understanding of the problem, a decision, or whatever it is that the team is currently discussing.

Olson and Olson (2000) categorised the different ways of communicating in terms of a number of dimensions (or categories) along which communication media can be differentiated. In Table 1 we have summarised the categories and in Table 2 we have applied the categorisation of Table 1 to a variety of communication media. This is not an exhaustive comparison of the different media, but we hope that it brings out the important distinctions between them.

**Table 1 The dimensions or categories along which communications media can be categorised. (Based on Olson and Olson 2000.)**

| *Category* | |
|---|---|
| Participants co-located | Participants share the same physical environment because they are in the same meeting room. This gives a shared context for the meeting and physical objects can be used to support the discussion. For example, in a website design meeting participants can use shared surfaces, such as whiteboards or meeting tables, and use paper prototypes as shared workspaces. |
| Participants visible to one another | Participants are visible to each other; hence they can use body language and visual cues to communicate, as well as being able to communicate through speech, diagrams and pictures. |
| Participants audible to one another | Participants use speech to communicate. This provides audible cues as to who is speaking and their emotional state. |
| Communication is synchronous | All participants participate in the meeting *at the same time* (if not the same place) since messages (including speech) are not necessarily stored once they are sent. This provides an understanding of the context (in terms of the time at which the message was sent). |
| Communication is simultaneous (sometimes called duplex) | Both speakers can send and receive messages at the same time. In a face-to-face meeting you can speak at the same time as you can listen. Electronic mail is not simultaneous since you can only send (write) or receive (read) email at any one time. |
| Communication is sequential | This does not mean that participants take strict turns in speaking! In combination with the previous dimension, communication that is simultaneous and sequential (such as speech) is easier to follow, since it is always heard in the correct sequence and you can remember the context of the previous message while listening to the current one. One reason why so-called 'threaded' electronic mail programs have been developed is to enable people to follow the order in which items are contributed to the discussion. Since electronic mail messages can be received out of sequence, a threaded email or discussion group reader can help recreate the conversational thread. |
| Is a permanent record kept? | If a permanent record of the discussion is kept then you can review each other's messages after they have been sent or spoken. It is often helpful to refer back to earlier discussions or even just to read another person's message several times in order to understand them. (This is one reason why minutes of meetings are so important.) Telephone conversations are ephemeral since there is no permanent record kept of the conversation or what was said – unless it is being recorded. |
| Are revisions possible | Can you revise messages before they are sent, or are they broadcast as soon as they are composed (as happens with the spoken word)? The ability to revise a message before it is sent gives people the opportunity to compose carefully what they are going to say, and hopefully avoid putting their foot in it! |

Table 1 provides a useful way of thinking about different aspects of how we communicate. Characteristics of some communications media are obvious – in a face-to-face meeting everyone has to be in the same place at the same time; email messages can be sent and

then read at a later date by the recipient(s); telephone conversations usually involve two people (although more can take part in a conference call), whereas many people can be involved in a meeting or forum discussion, and so on.

The categories listed in Table 1 provide a useful way of describing, and thus being able to discuss, the advantages and disadvantages of different communications media. In Table 2, we have categorised (by the dimensions listed in Table 1) some of the different communication media that you may choose to use.

### Table 2 Characteristics of various communications media according to the dimensions listed in Table 1. (Based on Olson and Olson 2000.)

| *Communication medium* | *Co-located* | *Visible* | *Audible* | *Synchronous* | *Simultaneous* | *Sequential* | *Permanent record* | *Revisions possible* |
|---|---|---|---|---|---|---|---|---|
| Face-to-face meeting | Yes | Yes | Yes | Yes | Yes | Yes | Possible | |
| Telephone conversation | | | Yes | Yes | Yes | Yes | Possible | |
| Video conference | | Yes | Yes | Yes | Yes | Yes | Possible | |
| Internet telephony | | Yes | Yes | Yes | Yes | Yes | Yes | |
| Instant messaging | | | | Yes | Yes | Yes | Yes | Yes |
| Voicemail | | | Yes | | | Yes | Yes | Possible |
| Wiki | | | | | | Yes | Yes | Yes |
| Email | | | | | | | Yes | Yes |
| Asynchronous forum | | | | | | Yes | Yes | Yes |
| Mobile phone text messaging | | | | | | | Possible | Yes |

Table 2 does not cover every possible communication medium and you may have experience of other communication media yourself. Feel free to add to this table, or to use it as a basis for discussion, in your team when you decide which tools you will use to collaborate on M253.

## 5 Part-time study and team working

In addition to the characteristics of the communication media that have been discussed in the previous subsection, another issue which may influence your choice of collaboration tools is the fact that you are studying this course part-time. This has implications for how you organise and work in your team. In particular, you cannot expect that your fellow team members are available and studying at the same time as you are, or even that they are studying at the same time each day or week.

This is in contrast to virtual teams in the workplace (or even people working from home), where there is an expectation that, during the working day, team members are working on the project, or can be contacted about the project since they are 'at work'. Although, for teams whose members are living and working in different time-zones synchronising 'meetings', through telephone calls or video conferences, requires that the time differences that may exist are taken into account.

Thus, it can be more difficult for you to schedule synchronous electronic meetings between team members than it might be for a 'full-time' team. As you well know, OU study is one of many things that have to be scheduled into your life, and different people have different ways of coping with this scheduling problem. This will have implications for both you and your team's working practices, particularly in the way you plan your activities and make decisions.

## 6 How will you collaborate?

Choosing the communication technologies that you are going to use is important, but so is deciding upon *how* you are going to use them, so that you can communicate and collaborate effectively with each other. Some of the issues that your team will have to be aware of include the following.

1. The difficulty of scheduling synchronous meetings. Since you and your fellow team members are all studying part-time, it is likely that you will all have such different and busy schedules that it may be difficult to schedule a time when you are all available for a synchronous meeting. Consequently, you may find it easier to collaborate using asynchronous communication media such as email, wikis and forums (see Table 2 for the characteristics of these communication tools), where team members can contribute at a time which suits their own schedules. If you do arrange synchronous electronic meetings, then you should take good minutes of the meeting so that those people who weren't able to participate in the meeting know what was discussed, and the decisions which were taken. (Just as you would at a face-to-face meeting in the workplace.)
2. Recognising that progress may be slow because you are all studying part-time (and thus no one is working full-time on the course activities). You may find yourself waiting for someone else to complete their part of the project before you can move forward to the next stage. If so, please be patient. Alternatively, if other members of the team are waiting for you, please keep them informed of your progress.
3. Allowing extra time for decision making. In full-time work meetings can be an important decision-making tool. Given the difficulty of organising meetings (see the first point above), decisions will probably be taken by more protracted asynchronous discussions. This will tend to slow down the decision-making process, because you will have to wait for members of the team to read, and respond to, messages posted to asynchronous forums. One way in which you can help to keep the decision-making process moving forward is to set (sensible) time-limits by which every team member should have read, and responded to, issues posted for discussion so that the decision can be taken. The paper by Coar (2003) has a very helpful discussion on the difficulties of reaching a consensus via asynchronous communication methods such as email.

4 Partitioning the work, so that you are not dependent on working very closely with remote team members on a difficult problem. In the context of software engineering, the design of the software could be partitioned into loosely coupled modules, each module being assigned to one team member or to one location if some team members are co-located. This issue is discussed in more detail in the paper by Turnland (2003).

Some virtual teams have found that the way they structure their work has been to organise it to fit the team members' location and collaboration technologies that are available to them. Virtual teams may also find that the current generation of communication and collaboration technologies are neither sufficiently flexible nor of high enough quality to adapt to their requirements. Again, the team may find that it has to adapt its working practices to suit the working environment.

How are you going to adapt your working practices? Or more to the point, what working practices (rules and norms) is your team going to adopt in order to facilitate productive, collaborative working? Examples of rules that the team could consider are as follows.

- How frequently are you going to ask that team members check their electronic mail and team forum? Once a week, twice a week, or possibly even daily?
- What communication and collaboration media are you going to use in addition to your team forum (if any)? You might find it convenient to use other ways of communicating within the team, particularly if you are working on an activity with just one or two other members of the team. However, if you do use email, telephone, instant messaging, or any other communications technologies, then you should summarise the outcome of your discussion(s) in your team forum, for the benefit of the rest of the team and your tutor. In addition to keeping them informed of what is going on, your forum discussions form a permanent record of your work in the team.

You will find it helpful to discuss and debate these issues during the weeks leading up to Milestone 0, so that you can establish some team rules and norms for the way in which your team will collaborate early on in the course.

## 7 Summary

Working remotely from other members of a team changes the way in which you work and interact with them. You will have to rely on electronic means of communicating with the rest of the team: asynchronously, such as via messages posted to a forum, or synchronously using instant messaging, conference calls or other media. Scheduling your team activities may require patience as you work around your own and other team member's time constraints, and wait for them to complete the activities that the team has assigned to them or post their responses to team discussions in an asynchronous forum. However, as shown by a survey of successful virtual teams, one of the key factors for success is frequent communication. The communication media that you choose to use don't have to be technically sophisticated – your team just has to use them!

## 8 Further resources

Coar, K. (2003) 'The sun never sets on distributed development', *ACM Queue*, vol. 1, no.9, pp. 32–39; also available online at http://www.acmqueue.com/modules.php?name=Content&pa=showpage&pid=102 (Accessed 26 October 2007).

This article argues that there are two major causes of the problems that software developers who work in distributed teams face:

- people working in different time-zones because they live in different places;
- people from different regions having different cultural backgrounds.

Coar's article focuses on the implications of the first issue. The article is written for software developers, but it is readily understandable by a wider audience.

NetAge [online] http://www.netage.com

The NetAge Library page at http://www.netage.com/pub/index.html contains full electronic copies of some of the books written by Jessica Lipnack and Jeffrey Stamps, including Lipnack and Stamps (2000).

Olson, J. S. and Olson, G. M. (2003) 'Culture surprises in remote software development teams', *ACM Queue*, vol. 1, no.9, pp. 32–39; also available online at http://www.acmqueue.com/modules.php?name=Content&pa=showpage&pid=105 (Accessed 26 October 2007).

This article discusses the second problem that Coar (2003) raises – the cultural issues that can arise in distributed teams.

## 9 References


Becker, J. D. (2003) 'Collaborative technologies and virtual teams: which is more important – the 'technology' or the 'team'?', *Decision Line* vol. 34, pp. 8–10; also available online at http://www.decisionsciences.org/DecisionLine/Vol34/34_4/34_4ecom.pdf (Accessed 26 October 2007).

Lipnack, J. and Stamps, J. (2000) *Virtual Teams: People Working Across Boundaries with Technology*, John Wiley & Sons.

Majchrzak, A., Malhotra, A., Stamps, J. and Lipnack, J. (2004) 'Can Absence Make a Team Grow Stronger?', *Harvard Business Review*, vol. 82, no. 5, pp. 131-137.

Olson, G. M. and Olson, J. S. (2000) 'Distance matters' *Human–Computer Interaction*, vol. 15, pp. 139–178.

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