

## Chapter 7

# Electronic Research Collaboration via Access Grid

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### ABSTRACT

*Recent technological advances are providing new and exciting opportunities for researchers to work together across the conventional boundaries of time, distance, and discipline. These advances have formed new networks of research, both in electronic mediums and in face-to-face environments, different from traditional networks in terms of their changing nature and scope. This paper reports some of the preliminary findings from a qualitative case study of the establishment of the 'EMT project'. It attempts to illustrate how the EMT project as a connected network formulates positive academic interactions and consequently facilitates professional learning immersed in research activities. In parallel, the study examines the benefits and problems arising from the sense of being together across time and space supported by advanced networked technologies in collaborative research, and further identifies the gap between the academic and the technical perspective in research.*

### A QUALITATIVE CASE STUDY

Recent technological advances are providing new and exciting opportunities for researchers to work together across the conventional boundaries of time, distance, and discipline. These advances have formed new networks of research, both in electronic mediums and in face-to-face environments, different from traditional networks in terms of their changing nature and scope. Such networks potentially provide rich opportunities for informal and unplanned professional learning of academics involved in the course of the many and varied interactions that take place whilst carrying out research projects.

This paper reports some of the preliminary findings from a qualitative case study of the establishment of the "EMT project". The EMT project, a three-year collaborative project that addresses how successful secondary chemistry teachers structure and handle the chemistry content of lessons, is being conducted by researchers from two prestigious universities based in two countries with a 10-hour time difference. A set of preliminary research meetings, which have contributed to team building and the

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establishment of a collaborative research project, were held via AccessGrid<sup>1</sup> for one year prior to the start of the main project.

The EMT project is considered as a bounded system, lending itself to being studied by using multiple data collection methods (semi-structured individual interviews, observation, and a review of key documents) in order to provide a rounded and comprehensive account of academic interactions over a period of time. A set of preliminary research meetings, including two face-to-face and four video meetings through AccessGrid, have been observed within a year. A 4.14G packet of documents used in the project was collected and analysed. Post interviews were carried out, both face to face and online (two face-to-face interviews, one Facebook online chat, one Skype live conversation, one Skype online chat, and one via email exchange). The semi-structured interviews consisted of a set of preparatory questions, including the development of the participants' research career, the use of technology, the learning aspect of research, etc.

This interpretive case study intends to form a knowledge base for developing a conceptual framework and theoretical assumptions about unseen professional learning mediated by technology in research networks for a future research project. It attempts to illustrate how the EMT project as a connected network formulates positive academic interactions and consequently facilitates professional learning immersed in research activities. In parallel, the study examines the benefits and problems arising from the sense of being together across time and space supported by advanced networked technologies in collaborative research, and further identifies the gap between the academic and the technical perspective in research.

## **CONTEXTUAL BACKGROUND: E-RESEARCH AS CONNECTED NETWORKS**

In this increasingly professionalised world of modern academia, research is less likely to be carried out as an isolated activity than as a “social enterprise” that includes complex relationships binding elements together (DiMaggio, Hargittai, Neuman, & Robinson, 2001). Especially with the advances in networked technology, academics are no longer working in isolation but in a social domain (Bourdieu, 2004). Research embedded in interactions with a number of academics thus can be described as a network consisting of web-like relationships. In this study, I depict a research project as a connected network, where academics come together and interact with each other. The network acts as an environment that supports all kinds of interactions among academics working together.

Here I present a model, proposing some of the characteristics of a research network that will be used in the analysis of the qualitative data below.

A research network can be said to exist as more than a collection of academics when it possesses the following qualities:

- **Aims:** the shared purposive research thinking that to some extent binds academics together
- **Social Unit:** a recognised entity with norms, roles, and power relationships, which holds its identity no matter whether academics are geographically dispersed or together
- **Interaction:** the dynamics of a relationship among academics working together
- **Reciprocity:** a modality (form) in which academics mutually learn from each other in the network

On the one hand, none of these characteristics defines a research network, but each intertwines and together reveals what a research network is. On the other hand, not every research community neces-

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