Chapter VIII
Illustrating Knowledge Networks as Sociograms

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ABSTRACT

This chapter looks at the concept of sociograms that has great illustrative importance in some circumstances, especially for studying small knowledge networks. It is argued that the sociogram approach might be particularly useful for those who view learning and participation in knowledge networks as an inherently social phenomenon. Then, the sociogram approach is described and benefits and limitations of different approaches are discussed. The chapter also includes an exercise, web resources, further readings, and suggestions for possible paper titles.

INTRODUCTION

In the 1930s, Jacob Moreno (1934) founded sociometry, later defined as “the measurement of interpersonal relations in small groups” (Wasserman & Faust, 1994, p. 11). It is a precursor to social network analysis, which has been developed ever since and now provides a set of techniques for understanding patterns of relations between and among people, groups and organizations (Garton, Haythornthwaite & Wellman, 1999). Social network data is initially organized in sociomatrixes. For example, such a matrix might include data on who communicate with whom. Sociomatrixes might then be used for quantitative analysis or drawing sociograms or graphs. Sociograms have been of great illustrative importance ever since the 1930s (Moreno, 1934). In this chapter, the concept of sociograms is discussed. It is argued that sociograms have great illustrative importance in some circumstances.

In the next section, different perspectives on learning in knowledge networks are discussed. It is argued that the sociogram approach might be particularly useful for those who view learning and participation in knowledge networks as...
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an inherently social phenomenon. In the third section, a basic introduction to the concept of sociograms is presented. Then, different examples of sociograms, and their benefits and limitations are discussed.

FROM OBJECTIVIST TO SOCIAL PERSPECTIVES ON KNOWLEDGE NETWORKS

There are many different perspectives on learning, and the perspective of learning that the managers and members of a knowledge network subscribe to will both explicitly and implicitly influence participation and learning in the knowledge network. In this section, a brief review, which describes how the emphasis has shifted from objectivist perspectives on learning towards more social perspectives on learning, is presented.

Learning has traditionally been based on objectivist theories on learning. The objectivist tradition assumes that knowledge is an object that can be absorbed (Duffy & Jonassen, 1992). This assumption originates from the psychological school of behaviourism. The key theory of behaviourism was that of stimuli and response, where stimuli, and combinations of stimuli, were argued to determine reactions (Watson, 1925/1997). The aim was “to be able to reproduce [a] reaction at another time (and possibly in other individuals as well)” by determining “what the situation is that causes this particular reaction” (ibid, p. 20). When applying ideas originating from the objectivist tradition, the goal of the participants of a knowledge network becomes to transfer “knowledge objects” (Duffy & Jonassen, 1992; Leidner & Jarvenpaa, 1995). Prior experiences and human interpretation is not of interest since it is seen as leading to partial and biased understandings (Duffy & Jonassen, 1992). Technology is used to transmit knowledge with limited possibilities for conversations among members of the knowledge network (Edelson, Pea & Gomez, 1996).

In the beginning of the 1990s, constructivist theories on learning gained popularity. The argument of constructivism is that there is no correct “meaning” of the world that we are striving to understand. Instead, it is argued that there are many ways to structure the world, and there are many meanings or perspectives for any event or concept (Duffy & Jonassen, 1992). Individually oriented constructivist models assume that the main objective when managing knowledge networks should be to support the members in gaining experiences rather than aiming to transfer “knowledge objects” between the members of the knowledge network (Säljö, 2000). Thus, constructivist theories have moved away from the knowledge transmission model towards an active learner model. However, like objectivism, constructivism has “commonly focused on the learner as an individual, learning in isolation from other learners” (Edelson et al., 1996, p. 151).

Social theories on learning (e.g., Wenger, 1998; Vygotsky, 1978) have gained renewed interest since the beginning of the 1990s (Heeren, 1996) and emphasize that learning is dialogue, both internal and by social negotiation (Jonassen & Land, 2000). Rather than being solely based on experience with the physical world, the construction of knowledge and understanding is seen as a fundamentally social activity (Littleton & Häkkinen, 1999, p. 24). There exists different perspectives but the most common ones share a focus on participation as a condition for learning (Jaldemark, Lindberg & Olofsson, 2006).

The basic premises and implications of the three theoretical perspectives on learning that have been discussed are summarized in Table 1. Jonassen and Land (2000) argue that never before have so many learning theories shared so many assumptions and common foundations. Nowadays, most researchers agree upon that knowledge not only exists in individual minds but also “in the discourse among individuals, the social relationships that bind them, the physical artefacts that they use and produce, and the theories, models
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