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Social network analysis for e-learning environments

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Abstract

With the help of new technological developments and increase in the number of Internet users a new trend came into existence by which Internet users can create and share information collaboratively and easily. This trend is generally referred to as Web 2.0 whose core value is social networking. Besides web 2.0 tools such as Facebook, Myspace, Youtube, Elgg and SMC hold profound potentials in educational settings. Thus, educators are starting to explore and investigate the potential of such tools. These are including implementations in schools at every level and research studies conducting for analyzing the effect of web 2.0 on performance or learning, the perceptions or opinions of learners and instructors, facilitating or inhibiting factors of integrating these tools, diffusion of innovations. In most of the studies we concentrate on the attributes of the individuals, even though we are designing and using environments for connections which is indeed complex to be analyzed. The analysis of relations, not the individuals is a paradigm shift in social sciences. "Network" data consist of a square array of measurements. The rows and columns of the arrays are the same cases, or subjects, or observations. In each cell of the array describes a relationship between the actors. The major difference between conventional and network data is that conventional data focuses on individuals and attributes, network data focus on individuals, attributes and relations. The purpose of this paper is to introduce Social Network Analysis (SNA) which provides us the tools to investigate the relations by taking into account the naturalistic or self-reported data. The network members in a learning environment may be the individuals (learners, teachers, scientists, principals etc.), organizations (schools, departments, online communities) or web pages, called nodes. Identification of the relationship can be broadly classified as similarities, social relations, interactions and flows which is the concern of the research problem. "How do patterns of relations affect learning?" is a broad question that researchers, policy makers and teachers have been interested in for a long time. We, as education researchers or more specifically, researchers in the filed of education can benefit from the new generation of research methods and tools.

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