

Information Research on Interdisciplinarity
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The field of library and information science (LIS) is concerned with managing and providing access to information in all its forms for all kinds of users and purposes. As such, research in LIS strives to understand information phenomena at a fundamental level and applies this knowledge to the development of information systems and services and the training of information professionals. Because information is so pervasive and its uses so diverse, the field itself is necessarily interdisciplinary in how it develops its base of knowledge and expertise (Smith, 1992). At the same time, interdisciplinarity is an important object of inquiry in LIS, since it presents two core problems in providing information for scientists and scholars: 1) the representation and organization of interdisciplinary intellectual content and 2) supporting access and use of information for interdisciplinary inquiry and problem solving. This chapter will trace the body of information research on interdisciplinarity, concentrating on studies of information seeking and use by interdisciplinary scholars and scientists, to show how it advances our understanding of how to develop information technologies to support interdisciplinary research.

The interdisciplinary nature of science emerged as a theme decades ago as scholars began drawing attention to the exponential growth of scientific information and the dynamics of intellectual exchange among scientific communities (Crane, 1972; Price, 1963). The practical implications of these trends have long been a concern for research libraries, especially in terms of classifying interdisciplinary literature, allocating budgets for interdisciplinary materials, and providing services to researchers in interdisciplinary fields as well as interdisciplinary researchers working from within more conventional fields. In recent years, the problems of supporting the information needs of interdisciplinary research communities have also received attention from a range of cognate fields involved in the development of information technologies for scientists and scholars. Nevertheless, most questions about how information can best be selected, collected, organized, accessed, retrieved, disseminated, and evaluated for interdisciplinary research remain largely unanswered. At the same time, digital information technologies are seen as having great potential for providing solutions to these problems.

Bibliometric methods have been a standard approach for mapping the dynamics of intellectual domains, beginning with statistical measures of how disciplines grow, divide, and merge (Hulme, 1923) and later focusing more on the transfer of information across disciplines (Borgman & Furner, 2002). But interdisciplinary researchers are also studied as a significant and distinct class of scholar (Bates, 1996), primarily through quantitative and qualitative investigations of their information needs, searching activities, and source preferences. However, examinations of the complex environment of interdisciplinary work and information practices have become more common and include analyses of factors related to disciplinary cultures, modes of collaboration and knowledge.