Mapping and Spatial Analysis of Instructional Technology Support Role at Colleges and Universities

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Abstract: Geographic Information Systems (GIS) are computer-based systems for the collection, display, management, and analysis of geographical or spatial information. Many colleges and universities provide faculty members with the technology, tools and support needed to enhance teaching and learning. This presentation will highlight a case study using GIS with two purposes. The first is to analyze various institutions instructional technology support geographically. The second is to empower higher education communities in the instructional technology support process.

An Instructional Technology Support Survey was conducted among the participating colleges of CLAC (The Consortium of Liberal Arts Colleges), NITLE (National Institute for Technology and Liberal Education), and NMC (The New Media Consortium) associations. The collected data includes number of faculty members, number of the Academic Computing staff members, size of student body; technologies supported such as multimedia, communications, social computing, mobile learning, course management system, task oriented tools; and various applications supported such as audio/video editing software, web page editors and animation software. The results are georeferenced to each college using ArcView GIS. Detailed college emerging technologies supporting information is geocoded via address matching. Spatial supporting patterns have been mapped out using GIS and spatial statistical analysis has been conducted using SpaceStat.

In summary, this research has shown the correlations and trends among number of college faculty members, size of student body, and the number of Instructional Technology support staff members, and the variety of various emerging technologies that the colleges are currently supporting or plan to support in near future (within one year). Over 50% of invited colleges participated in the survey. The institutions with specific features can be viewed on the Google map. The technologies and applications supported by specific institutions you are interested can be viewed on the map as well. You may find institutions near you who support similar technologies or applications. The spatial data of the up-to-date survey results can be viewed on the map at http://curriculum.union.edu/survey/.

This research is expected to empower the communication, collaboration and opportunities among higher education community in instructional technology support.