

What is the status of online geospatial education and its impact on traditional educational offerings?

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No one can miss the significant growth in formal programs over the last 6-8 years. Apart from occasional anecdotal evidence, we know little how an institution reaches its decision to launch one of these new programs. How extensive and accurate is the market research for this field, and how do schools translate that knowledge (if available) into program design? How many programs are near capacity? What are the graduation rates?

How do the online experiences vary for students, and do they know enough – about GIS or online learning – to be able to make informed decisions when they are selecting from among programs? How many of the programs have adequate cyber-infrastructure to provide a smooth technical learning environment? What programs direct their students to Esri's Virtual Campus for some part of their instruction? An institution may have IT tech support available on-campus that could address GIS software issues, but what online support do they provide students, especially on nights and weekends? What support is provided to geospatial faculty to help them trouble-shoot a students' issues? In smaller programs and at smaller institutions, the burden of technical support also falls on the faculty.

The next generation of programming ought to be even more modular and flexible, and robust without necessarily being credit-bearing. This would lower the price-point for instruction suitable for thousands of "ancillary" users of geospatial technologies who need to learn but just enough. Software tutorials and training fill one dimension of this need, but shortcomings exist in the bridges between the theoretical and applied. Short courses – perhaps combinable into a Certified package – on topics such as Managing Uncertainty in Your Data & Project, or Basic Principles of Spatial Analysis are hard to come by for a casual student. Just this week, a man called asking me for information on a short class on "GIS Ethics." He knew about Penn State's project on ethics for GIS professionals (<https://www.education.psu.edu/research/projects/gisethicsproducts>), but was seeking additional learning opportunities. Though the Penn State collection is comprehensive, it necessarily assumes the learner arrives with adequate prior GIS knowledge to appreciate the variables at play, and many novices do not.

What about opportunities designed for people who already have strong digital skills and are seeking to expand their repertoires? For example, people already in the IT field, or people who work in the field of graphics or digital design. This latter case connects with my personal interest in understanding how people understand and apply spatial and geospatial concepts. If you are an expert in using PhotoShop, you necessarily already understand how to work with "layers" of distinct information, and how an object resides in coordinate space, and what scale and resolution mean. Does this knowledge translate to more readily grasping certain dimensions of GIS? Something I think about...

The ways in which online GIS education is affecting traditional educational offerings may be considerable or may still be negligible at this point; I am uncertain. For university students of traditional age, traditional educational offerings may still be the most common fit, but this sector is not where the most substantial opportunities lie. In the high growth areas of serving adult and professional learners, the demand for flexible online education will no doubt continue and expand. I look forward to seeing programming that focuses on FOSS packages as well, as this is another current gap.