

Rollout of Specialized Instructional Software in a Liberal Arts Institution

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Abstract

Many faculty at our institutions would be interested in using specialized software packages for particular applications, but find the learning curve for both themselves and their students to be time-prohibitive. The University of Richmond set out to develop a model for rollout of these types of applications that could be applied across institutions and software packages, using GIS (Geographic Information Systems) as our model application. We initially explored our available resources, assessed our training needs, and identified potential stakeholders with the help of Hugh Blackmer (Science Librarian, Washington & Lee). These discussions led to a follow-up meeting with others from Washington & Lee who had first-hand experience with GIS support and use in the instructional program. These discussions led us to conclude that a university-wide rollout of this software package would be unsuccessful without an individual who is committed to providing full-time GIS support on staff. The University of Richmond has since successfully applied for outside funding to provide us with such an individual for the next two years.

Introduction

All ACS institutions are faced with the challenge of making specialized software available to the faculty, students, and staff of their institution. Issues that must be addressed include licensing, training, installation, maintenance, and continued support for both high-end and general users. Conducting such a rollout in an organized, careful, and thoughtful manner will help optimize success and allow our institutions to plan for needed support, including fiscal and human resources.

Our particular interest is in Geographic Information Systems software (GIS). Faculty in fields as diverse as marketing, environmental studies, political science, sociology, women's studies, biology, geography, and urban policy and practice can use GIS to advantage. Administrative uses for alumni affairs, admission, network services, and grounds and facilities management are also important. However, since the learning curve for GIS is steeper than for most other software, we need an effective plan to introduce GIS to more users and to assure their initial and continued success.

Therefore, the University of Richmond set out to develop a planning process, making optimum use of GIS expertise within ACS, which would allow us to introduce and provide training on GIS to faculty who could then use this tool in their teaching and research.

Objectives

1. Initial exploration of and planning for GIS's potential as an instructional tool, assessment of local resources available for training and support, training needs and options for meeting those needs, identification of potential stakeholders in a vigorous GIS program
2. Documentation of all of the above, development of recommendations for action, and review of the documentation and recommendations
3. Assessment of the documentation and recommendations, adoption of those recommendations, and creation of an action plan for implementation

Phase I

The process began with a one-day meeting in May of 2001 at the University of Richmond with Hugh Blackmer, Science Librarian at Washington & Lee University, as an external consultant. University of Richmond stakeholders attending the meeting included 6 faculty, 4 librarians, and 3 academic technologists.

Meeting Agenda

- Overview and demonstration of GIS
- Assessment of the state of GIS at Richmond
- Brainstorming about its potential to enhance instruction and research
- Identify resources and steps needed to fulfill this potential
- Identify potential stakeholders not present for the meeting
- Assess training needs for staff who will support faculty and student use of GIS

Results

Our results could be divided into three main points:

- 1) Participants acquired a better understanding of the power of the technology and ways its use can enhance instruction. Seeing the projects that Hugh had worked on and their instructional focus helped our faculty and support staff to better understand how GIS could be used on our curriculum.
- 2) Identified those stakeholders most committed to moving forward with GIS. This included discovering which faculty were willing to be innovators on our campus with GIS, and which librarians and academic technology staff were most interested in learning GIS to support their faculty. This helped us to focus our efforts on those who were truly most willing to give time and energy to the project.
- 3) Realized that we still needed to learn more about the actual technical support that was needed, but we were beginning to understand that this was a larger issue than we had initially anticipated. GIS is a very complicated piece of software, even more so than we had originally understood. We became aware at the end of Phase I that we were just

beginning to be able to articulate the questions and were nowhere close to having answers.

Phase II

During the next two months, a subgroup of the meeting participants discussed next steps. We realized that it was unrealistic to anticipate that our present staffing levels could meet the diverse needs of all of the faculty present at the first meeting. However, we also knew that not all of the faculty at the first meeting were prepared to put the personal time and energy into GIS that would be necessary initially. Therefore, we need to scale back how we rolled out GIS on campus and start with a focused group. On our campus, that group was the subset of faculty within the Environmental Studies discipline. We decided to use them as a pilot project as we continued to develop our support network.

Phase III

We had a follow-up meeting in August of 2001. Hugh Blackmer returned with a Washington & Lee faculty member who had conducted a project and the academic technologist who had helped him. They were able to provide us with an even better understanding of the support needs. As an example, they estimated that the academic technologist worked full-time for 6 months with this faculty member and the students in the course on this single project. This example was critical in molding our thinking because this faculty member was very similar to our Richmond faculty. He had little GIS knowledge before attempting this project and simply wanted to use GIS as a tool in his teaching. His objective was not to teach GIS.

At this meeting, we also discussed with Washington & Lee the GIS efforts that were occurring around the ACS and how we might be able to develop a focused ACS GIS working group.

Action Steps

University of Richmond

- 1) We have two academic technologists and one librarian taking a series of GIS courses to familiarize themselves with the technology. We felt that combined, these individuals would bring a skill set and knowledge base that would begin to bridge the continuum of faculty support that will be needed.
- 2) We have begun to provide technical support to one faculty member in Environmental Studies as he begins using GIS in his classes and as he provides guest lectures in other courses.
- 3) We successfully applied for a grant from the Jessie Ball Dupont Fund for \$110,000 to hire a GIS Specialist for two years. This individual will work directly with faculty in helping them to use GIS in both their teaching and research and to integrate this research directly into the greater Richmond community. We expect to be able to make great progress as an institution in gaining broad faculty support and acceptance now that we can ensure faculty that they will have the support they need to accomplish their projects.

ACS

- 1) We hosted a meeting of 8 ACS institutions who are using GIS in their teaching program to discuss their successes and problems and to develop methods to work together. The Environmental Studies division of ACS funded this meeting.
- 2) The Washington & Lee contingent is working on a prototype of a spatial library that would allow for all ACS schools to share created materials. The University of Richmond is ready to be a test bed for them when they are ready to pilot their concept.
- 3) ACS has created a GIS listserv to allow for better communication among those faculty and support staff across ACS that are using GIS in the instructional program.
- 4) ACS is considering sponsoring a symposium in Spring, 2003 that would allow faculty and students across ACS to demonstrate the work they are doing utilizing GIS. This would also be an opportunity for schools that are not using GIS to hear the various strategies that other ACS schools have employed to get started.

Conclusion

Our grant activity was very successful, but did not accomplish what we originally expected to accomplish with this grant. Our initial ideas on being able to roll out GIS to the community were ambitious, at best, and actually pretty naïve. However, the grant allowed us to recognize our naiveté quickly, preventing us from making any major mistakes. The grant allowed us to have a much more realistic view on GIS, develop a more cautious outlook and approach, but still be moving forward. The grant also gave us a very clear picture of our support needs and what we discovered led us to apply for the funding from Dupont.

Budget

Total Spent = \$3368.91

Training \$1495.52

We acquired training directly from ESRI for one academic technologist and one librarian. This training was critical because we now have people with different skill sets working together to support the faculty.

Faculty Stipends \$750

Faculty involvement during Phase I and III was crucial for us to determine which faculty were most interested in GIS and willing to put their time and energy into a project.

Honorarium \$500

We paid Hugh Blackmer a nominal amount for his time and expertise. This money was very well spent – Hugh has continued to be a critical resource for us as we move down this road.

Meeting costs \$623.39

This covered the food and transportation costs for the participants in Phase I and Phase III.