

Final Report on ACS IF Grant

Integrating GIS into the Liberal Arts Curriculum: A Cross-Campus Seminar

Carol Ekstrom cekstrom@rhodes.edu

Steve Ceccoli ceccoli@rhodes.edu

David Kesler kesler@rhodes.edu

Rhodes College

Dec. 30, 2002

Introduction

We conducted a month-long seminar to explore ways to integrate GIS into the liberal arts curriculum and operation of Rhodes College. Our goals were 1) to increase familiarity of technology through hands-on projects and 2) to develop synergies useful for institutionalizing GIS as an analytical device for a variety of campus wide uses. On Saturday, September 14, 2002 we offered a half-day seminar for 18 participants who represented seven disciplines and five campus offices. The participants then spent one month working on their projects with assistance from us and our GIS lab assistant. On October 12, 2002 we reconvened for the presentation of their projects. Approximately one month later, the participants presented their projects to the campus during the GIS Day Open House. This report details the important steps in the development of this Cross-Campus Seminar. Judging from the outcomes, the evaluations, and the comments and enthusiasm across campus, the seminar was very successful.

Planning and Recruitment

We were concerned whether we could attract 15 people for the seminar. We started early and with the help of our Academic Dean, the email invitation for the seminar produced 26 applications for the 15 slots. Several factors can account for this unexpected response. First, the Academic Dean announced that the grant had been received at the April faculty meeting. Second, he was willing to send out the invitation for the seminar from his office. Third, there was interest and curiosity on campus about GIS stemming in part from our collaborative GIS group activities and our successful GIS Day Open House in 2001. As one seminar participant stated on his evaluation, "I have been hoping for an opportunity to learn GIS, so I was excited to receive the invitation. This format required me to go ahead and jump into the learning process." Another participant stated that he was convinced to take part because of "the need for the Library staff to be able to work with student and faculty users who need help with GIS." Fourth the seminar was early in the semester. Fifth, participants would be paid a stipend.

We decided to accept all applicants in April, knowing that the number would probably decrease by Sept. In May, we asked applicants to identify a possible project to work on. This request worked both ways. It gave us lead time to become familiar with the GIS techniques needed for the various projects, and it gave the applicants something to think about over the summer.

We encouraged a team from nearby LeMoyne-Owen College to apply for this seminar, in order to strengthen Rhodes' Campus-Community Initiative and to facilitate later collaboration between the two institutions in faculty and student research.

The Execution of the Seminar

Sat., Sept 14, 2002

The morning was divided into three parts; demonstrations, hands-on, and brainstorming (see attached schedule).

We prepared notebooks for each participant which contained:

- Power point Introduction to GIS and the Seminar handout

- Power point hand out on GIS important terminology

- List of resources: urls, table of contents for Rhodes' Online GIS Textbook by Dr. Mike Kirby and Justin Starling, GIS lab schedule.

- Power point handout of our three presentations:

 - Kesler- Data Acquisition, Kudzu in the Park

 - Ceccoli-Data Management

 - Ekstrom – Data Analysis, Memphis Groundwater Project

- Hands-on directions for working with the three presentations above

The seminar evaluations indicated that the hands-on part of the morning was the most useful. As the participants worked with the hands-on directions, many of them articulated new ideas for their own projects. One participant stated "Organization and presentation of seminar was excellent: in one session the logic of the software became very clear; the initial steps were tried in the hands-on manner; examples of applied use were compelling."

We extended the break to 30 minutes because of the fruitful conversations that were occurring between participants. At lunch, we asked each person to articulate to the group their project idea; this exercise gave everyone a sense of the wide variety of projects possible.

Sept. 15-Oct.11, 2002

The GIS lab was open to participants at any time during the month. The GIS lab assistant was available in the lab two afternoons for a total of 8 hours/week. Several people took advantage of the assistance most of the month. Many waited until the last few days. The lab assistant helped with technical problems, data transfer, and printing of projects on the HP large carriage printer. The entire seminar worked efficiently because of the talents of the lab assistant.

Sat., Oct. 12, 2002

We were fortunate to have Dr. Suzanne Bonefas, who was visiting Rhodes for the ACS Deans meeting, join us for part of the morning to see the results.

The session was billed as "work in progress" to encourage as many presentations as possible. Only two people cancelled, but two new people had taken part and a total of 12 projects were given by individuals or groups, (see attached program). The preparations ranged from "this is what I will do once the **&% data comes up" to a finalized map

ready for mounting in the physics lobby. The presentations were exciting because of their diversity, and applicability to classroom and/or research. Part of the positive reaction to the entire seminar was the understanding we all gained of the vast application of spatial analysis, plus new insights into the concerns of other disciplines.

Assessment

The assessment form for the seminar is attached. We did not administer a pre and post test as we had planned. As we talked with participants beforehand, we realized that we needed to make the seminar experience as welcoming as possible; we felt that the pre and post test could have been interpreted as threatening by some participants.

The evaluation forms indicated that the seminar was well organized and very useful. The only suggestion for improvement was “more hands-on tutorial.” The projects themselves, their variety, and the developers’ interest and enthusiasm for their projects also indicate the success of the seminar. A comment, perhaps summarizing the experience, “It was most difficult to give up a Saturday morning. Yet, it was worth doing so, and perhaps couldn’t be another way.”

Several suggestions were made for improving the GIS lab capabilities to encourage greater use: more powerful computers with CD burners, a projector, connection of all computers to the large carriage printer.

Outcomes

There have been numerous outcomes of the seminar, and all positive! First, all the participants were very willing to demonstrate their familiarity with the GIS technology by presenting their projects the following month at the GIS Day Open House. (See attached program.) They generated interest among their departments colleagues and the administration to attend the Open House. Attendance at the Open House was over 90 people, exceeding that of last year. The President, Assistant to the President, Academic Dean, Dean of Information Services, Dean of Admissions, and two Associate Deans all attended.

Second, synergies developed through the projects. A collaboration developed between faculty, staff and a local community theater to encourage greater involvement in the theater through the use of GIS. Another collaborative effort has been initiated between foreign language, geology, and the Associate Dean of International Programs to incorporate GIS into a pre-departure seminar for study abroad students. Discussion of a possible collaborative grant application is in process with this same group. The Admissions Office is considering new perspectives on minority recruitment to Rhodes. The physics department is planning to hang the alumni map in the physics building lobby and incorporate it into their webpage. Dr. Ryan’s project formed part of his Faculty Development talk to the campus in December and part of two journal article submissions. A discussion and agreement has taken place between the reference librarian who attended the GIS seminar, the Director of the Library and the GIS group to procure funds for acquiring needed GIS data. The ACS Technology Center has asked one of us to be on the

planning committee for the GIS workshop at Southwestern in Feb. 2003. All of these activities will further institutionalize GIS at the college.

Third, the potential for further use of spatial analysis is high. The seminar evaluation indicated that 100% of participants were planning to use GIS in their research or in the classroom. Strong interest was expressed by the LeMoyne-Owen College team to collaborate with Rhodes on GIS projects and to strengthen the campus-community partnership. Cross campus discussion have begun concerning the use of GIS for the new multimillion dollar Priddy grant that Rhodes has received to further campus-community partnerships and encourage student research in regional analysis.

Fourth, two Rhodes faculty members who attended the Open House inquired “ Can I sign up the GIS seminar next fall?”

Fifth, we have received a second grant from ACS IF to take our “show on the road” to help Millsap College set up a GIS program. In addition, a summary of our GIS Day Open House publicity and program was emailed to a number of ACS GIS representatives to alert them to the details of our involvement.

Replication and Recommendations

The seminar was a very positive experience for all three of the leaders. Two of us had had unsatisfactory experiences at GIS workshops in the past because too much was attempted in too short a time. In this seminar we tried to concentrate on only a few concepts, sufficient time (one month), and individual projects, in addition to providing abundant support throughout the seminar and the year. This approach worked at Rhodes and should be reproducible at other ACS colleges. We will experiment with transporting the approach to Millsaps in February and see whether or not modifications need to be made.

Interest in spatial analysis is rapidly growing in most academic disciplines and in the public, private and non-profit sectors. The GIS software is very powerful analytic tool and part of that power comes from its complexity. If one does not use the software often, intricate pathways and subtleties of the software can be forgotten. It is a necessity, therefore, to have a support person on campus to handle some of this complexity. The Rhodes GIS program and this seminar would not be possible without this support. Hiring a support person can be difficult and expensive. We have found that hiring a computer savvy work-study student for ten hours per week provides the necessary support that we need at the present time. The one credit GIS course (GIS 222 Scientific Investigations Using GIS) we offer prepared our present work-study student with the basics. The ten hours per week allows him to pursue topics in depth, seek requested data, and solve technical problems that the faculty, staff and students encounter. In order to replicate this seminar on other campuses, a crucial factor is to find the appropriate work-study student to sustain the program throughout the year.



D. Kesler, S. Ceccoli, C. Ekstrom, J. Bienvenue '03 GIS lab assistant