Contextualizing with GIS: Geographic Information Systems and Information Literacy

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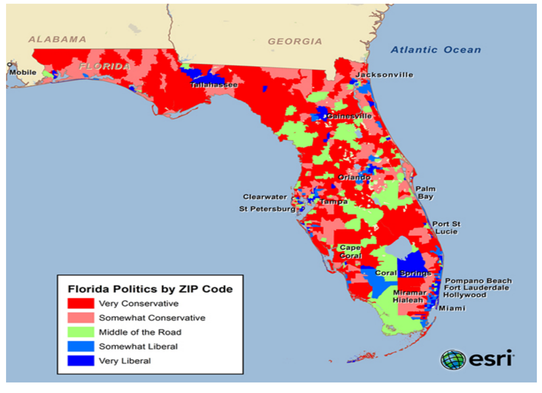
Purpose

This project integrates Geographic Information System (GIS) software and information literacy to provide innovative ways for faculty and students to learn about their local, national, and global community.

Research Questions

- What is the effect of using GIS technology in a contextualized research assignment on student's level of engagement with the assignment?
- After using the GIS technology in a contextualized research assignment did students feel there was value in using the GIS technology in connection to their Pathway?

Sample ESRI Map



GIS technology can help campaigns do the following:

- Target voters for "robo calls"
- Determine where to direct fundraising appeals
- Direct where to "get out the vote" drives
- Decide where to send candidates for appearances
- Determine where to mail flyers
- Decide where to post signs and billboards
- Identify where to send volunteers to canvas for votes

Allison, P. (2012). "How Do People Lean Politically in Pivotal Swing States?" *ESRI*. Retrieved from http://www.esri.com/news/arcwatch/1012/how-do-people-lean-politically-in-pivotal-swing-states.html

Contextualized Assignment 1 – Mapping Analysis

Outcomes:

- Students will be able to locate, evaluate, and effectively use needed information. (Gen Ed Information Literacy competency)
- Students will be able to explain questions or issues through interpreting/evaluating information in order to develop a logical conclusion. (Gen Ed Critical thinking competency)
- Students will be able to recognize how we can affect each other, different groups, and our surroundings. (Gen Ed Global Self-Awareness competency)
- Students will be able to write effectively using clarity of language, organization of content, and supporting content with relevant and credible sources. (Gen Ed Written Communication competency)

Students will choose a topic of interest related to their career field and using GIS technology will produce a series of thematic maps (local, national, global) related to their topic. Students will then follow up with a 3-5 page paper conducting a spatial analysis of the map results. These original maps should be included in the research paper. Students will analyze the results of the GIS mapping and compare the results to research conducted.

Contextualized Assignment 2 – Factsheet or Presentation

Outcomes:

- Students will be able to locate, evaluate, and effectively use needed information. (Gen Ed Information Literacy competency)
- Students will be able to explain questions or issues through interpreting/evaluating information in order to develop a logical conclusion. (Gen Ed Critical thinking competency)
- Students will be able to clearly organize content, provide oral citations, and engage audience using both vocal and physical delivery. (Gen Ed Oral Communication competency)
- OR Students will be able to write effectively using clarity of language, organization of content, and supporting content with relevant and credible sources. (Gen Ed Written Communication competency)

Students will choose a topic of interest related to their career field and using GIS technology will produce a thematic map (local, national, global) related to their topic. Students will produce either a Factsheet (one page single sided), Power Point or poster presentation. Using their topic, students will produce an original map on one of the following levels: local, national, or global. The original map should be included on the Factsheet or in the presentation. Students will then provide additional factual information regarding the topic/issue supporting findings.

Student Survey and Sample Size

Student Survey:

1. Using GIS technology with the research assignment did you feel more or less engaged with the assignment?
2. After using GIS technology within your Geography course, would you be interested in taking additional GIS coursework?
3. After using the GIS technology with the research assignment did you feel more connected to your Pathway?
4. How easy or difficult was it to use the GIS technology for your assignment?

Sample Size:

- Students from six sections of GEA2000 will participate in the assignment and will therefore be our population for the sample. Potential sample size is 75.
- At the end of the spring 2018 term students will be asked to anonymously complete a survey asking about their experiences with the GIS technology and the assignment.

Innovation

Students working with ESRI ArcGIS will have exposure to a new analysis tool, which allows them to answer research questions through mapping of an issue or problem within their Pathway, with the final product allowing them to visualize the results on a local, national, or global level. Broadening access to both faculty and students to this innovative GIS software will allow for the creative use of this technology in the classroom.

References

Davis, A. M. et al. (2010). Mapping and geographic information system exercises for freshman and sophomore college students. Digital Mapping Techniques '09 – Workshop Proceedings, U.S. Geological Survey Open-File Report 2010-1335. Retrieved from http://pubs.usgs.gov/of/2010/1335/

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Jablonski, J. (2004). Information literacy for GIS curricula: An instructional model for faculty. *Journal of Map & Geography Libraries, 1*(1), 41-58. doi:10.1300/J230v01n01_03