Codex Proposal: Making Sense with Data

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Description & Goals

Our project is to create data modules for course integration for students in the humanities. Specifically, it would be focusing on the digital and visual communication of data analysis. The modules team members create will emphasize the importance of information literacy, digital literacy, and understanding the use/purpose of using quantitative methods with qualitative methods (synthesis). We will create these modules on Moodle, allowing them to be shared with colleagues at Wooster and other institutions.

We're designing these data analysis modules to target students in introductory courses. This means that students will in many cases be non-majors fulfilling liberal arts requirements (whether Arts & Humanities, History & Social Science, or Quantitative Literacy). All modules will share a common goal: to give students a framework for making decisions about data. No matter which tools they select for analyzing and communicating data, all students will begin by asking a series of questions about data: for example, what should students consider as they find and select data? What do they need to know about the original criteria for gathering, selecting and sharing this data? And how best can they use and communicate data in ways that are responsible, ethical, and intentional?

We have three considerations in mind when selecting the digital tools we'll introduce to students within these modules: 1. that they be easily available (free or included in our campus software license); and 2. that we choose tools with a relatively accessible user interface (so that they can focus more on their projects and less on the idiosyncrasies of a particular software); and 3. that the ease of use and data analysis and visualization skills learned be easy enough for students to return to in later humanities course projects that could benefit from such research.

We believe that using these digital tools for data exploration and analysis will allow students to do more disciplinary-specific, hands-on work. Digital tools will give them experience in data collection, database creation, representation, and interpretation, as well as using graphs, tables, and/or charts to visualize relationships. This exploration will help students not only synthesize the relationships between quantitative and qualitative information, but also build on their digital literacy skills to help a wider audience understand information better. Essentially, they would be gaining some skills as digital citizens.

While making preliminary graphs or drawing maps can be done on paper in some cases, it will give students fewer exploratory opportunities. Developing modules on Moodle will let us share pedagogical resources with colleagues.

Relevance to Curriculum

These projects contribute to our College of Wooster Graduate Qualities. Learning goals addressed in this proposal include data exploration and integrative inquiry, as well as information, quantitative, and digital literacies.

Team Members

Annie Dempsey, Learner Experience Librarian, will contribute to the information and data literacy aspects of the modules as well as the design of the user experience.

Jennifer Hayward, Professor of English and GMDS, will contribute to a model on text analysis (topic modelling, sentiment analysis, or similar). She will also work on assessment rubrics on digital and information literacy after the institute.

Katie Holt, Associate Professor of History, will contribute to a module on making choropleth maps with Tableau. She will also work on assessment rubrics after the institute.

Zach Sharrow, Science Librarian, will contribute to the data literacy and visualization aspects of the modules as well as general knowledge of data tools and sources.

Megan Smeznik, Educational Technologist, will contribute by offering expertise on Moodle module building and knowledge on digital literacy when it comes to the use, integration, and value of said tools in the learning process.

Timeline

Our team will develop a plan to create the data analysis modules, along with prototypes for the digital tools tutorials, assignment guidelines and assessment rubrics, during the CODEX institute. We will submit our assignment rubrics and assessment documents for feedback from our campus assessment committee in the fall.

These initial modules will be use in courses offered during the 2020-2021 school year. After the 2020-2021 academic year, we will look at potentially expanding and revising the modules in order to expand them to be shared across institutions.

Katie Holt will teach History 101 Making Immigrants Count in spring 2021.

Jennifer Hayward will teach GMDS 140: Introduction to Digital Studies in fall 2020.

Experience with the Digital Technology or Method Proposed

As a team, we all have considerable experience using Moodle. Whether this be in the classroom as an instructor or as a system wide manager.

Katie Holt will draw on a workshop she taught in spring 2018 on infographic design, and summer work at ICPSR on quantitative analysis for historians.

Annie Dempsey will draw on previous experience creating digital tutorials and information literacy pedagogy.

Jennifer Hayward will draw on a recent stint as Researcher in Residence at the British Library Digital Lab, as well as her ongoing work with sophomore research assistants in statistical analysis of the "big data" newly available from digital archives of newspapers and other 19th century texts.

Zach Sharrow has experience using the R and RStudio software environment to read, manipulate, and visualize structured and unstructured data. He holds a certificate in data science from Coursera (offered by Johns Hopkins Bloomberg School of Public Health).

Megan Smeznik will draw on experience of working with faculty in their process of developing and shaping their courses through the integration, evaluation, and value of technologies, with a particular emphasis on Moodle for this institute.

Ethical Considerations
Our project involves no human subjects research, ethical, or privacy concerns. We will follow best practices for inclusive pedagogy in our materials designs.

Sustainability
Our plan is to test our data analysis modules, and then make them available on Moodle with a Creative Commons 4.0 "Attribution-Non Commercial-Share Alike" license. This will make it available for subsequent courses to use the assignment templates, technology guides, and assessment rubrics for subsequent courses.

Assessment
Team members will work together to create rubrics that assesses quantitative literacy, digital literacy, and information literacy. We will use these rubrics as course-based assessment to consider the effectiveness of these digital tools.

Accessibility
We will make sure that all work we produce meets standards for disability access and will incorporate student training in accessible visual design as part of the assignment design.

Why CODEX?
 Our team hopes that participating in CODEX will give us the opportunity to really do the interdisciplinary work and more that we are always talking about. We find when we are working in our own little bubbles during the school year, things just seem to get lost. The modules that we create would have far greater impact and use if we had the opportunity to more far reaching collaboration. We think these modules would probably be useful not just to us but others as well.