

**Teaching Creatively with Authentic Inquiry Cohorts Due to COVID-19 Disruptions**

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## Introduction

In the spring of 2020, post-secondary institutions around the world abruptly shuttered the typical face-to-face teaching and learning environment in favor of remote instruction (Rapanta et al., 2020). The abrupt change to fully remote learning in response to the COVID-19 pandemic required faculty to quickly learn new pedagogy, reformat course structures, and implement needed flexibility in their courses (Mishra et al. 2020). During the following summer, school administrators would again evaluate whether instruction would remain virtual or if students would be allowed to return back to campus, and if so, the extent of face-to-face instruction allowed. These difficult decisions had to account for a teaching and learning environment that was both safe and effective. At Doane University, located in Crete, Nebraska, the decision was made to allow students to return to the small residential campus. Administrators, regional health experts, faculty, and other stakeholders worked tirelessly to develop an ultimately successful plan that would allow in-person classes to resume. The plan included high levels of precautionary measures such as implementing required social distancing, face-masks, mandatory quarantines, contact tracing, and small maximum class sizes, among other safety measures. Given COVID-19 restrictions, and the university's unwavering support for faculty to be highly innovative, personal, and unique in their teaching, the course structure and teaching practice of the course *Local and Global Food Systems* was dramatically changed to include authentic research conducted by student cohorts. This innovative poster will describe the changes in the course, resulting outcomes, and plans for future course modifications. Examples of innovative and unique teaching strategies, especially ones employed under unique parameters, can be useful case studies in the profession.

## How it Worked

*Local and Global Food Systems* was a relatively new undergraduate course at Doane University with an aim to be an exploratory course on food production for agriculture majors and non-majors. In the fall of 2020, 17 students were enrolled in *Local and Global Food Systems*. The 3-credit course was scheduled to meet Mondays, Wednesdays, and Fridays, for one-hour. However, due to COVID-19 restrictions, the maximum student capacity was breached. In addition, administration suggested to maximize hybrid modalities and to only use small in-person gatherings. Therefore, the 17 students were split into three cohorts, and each cohort met once in-person each week and also were given assignments to be completed asynchronously throughout the remainder of the week. The arrangements of three cohorts allowed each cohort to include 5 or 6 students and easily fostered a learning community characterized by in-depth conversations, faculty guidance, and intensive student-student and faculty-student interactions. Given the small cohort-size and ability of the faculty to guide the small student groups, the course content was adapted to incorporate a semester-long, authentic inquiry project involving food production. Each of the three cohorts completed their own identified authentic inquiry research project involving some aspect of the local and global food system. Although this project was a large part of the total class, other course requirements reflected the traditional course material and learning objectives. For each cohort's authentic inquiry research project, the cohort first selected a current topic of investigation that met a community or regional need involving the local food system. Each cohort then narrowed down their topic to include specific research objectives or questions. The faculty member, who had an expertise in social science research, then guided each cohort to develop appropriate research methods to collect and analyze data. Seven assignments were created, including rubrics, that guided each stage of the cohort's research project: component 1: topic selection, purpose statement, objectives/questions;

component 2: annotated bibliography; component 3: introduction, literature review, and framework; component 4: research methods; component 5: data collection; component 6: results; and component 7: dissemination. For the total project summary, due at the end of the semester, each cohort developed a short, written manuscript and presented their results to the other cohorts through a live virtual presentation.

### **Results**

The restructuring of the course into three student groups allowed the faculty member a very high degree of faculty-student interaction with small student cohorts. This established a strong learning community (West & Williams, 2017) within each cohort. A disadvantage was each cohort met in-person for only 1-hour each week, and serious time constraints occurred to both cover course topics and for each cohort to be guided on their authentic inquiry projects. None-the-less, each cohort was successful in conducting authentic inquiry research projects. One cohort conducted a qualitative analysis on the impact of COVID-19 on small-scale swine producers in the Midwest. They were effective in designing a semi-structured interview, obtaining IRB approval, interviewing swine producers via phone, completing a rough coding exercise, and summarizing and presenting their results. Another cohort was able to complete a qualitative study on conventional row crop farmers' perceptions and attitudes toward industrial hemp. They were also able to construct an interview guide, obtain IRB approval, interview farmers via phone, code data, analyze results, and present findings. The third cohort chose to investigate the demand for locally-grown hops from small-scale breweries in the Midwest. They were able to develop a research-caliber survey and a full sampling frame, however, the group ran out of time to conduct the research. Each cohort presented an excellent overview of their study. Overall, students enjoyed completing an authentic inquiry project with their cohorts. On course evaluations, one student remarked about the course structure being beneficial, "the class was structured differently than the other classes that I have had and I thought it worked well for the current situation with COVID." Several students also described the cohort-based inquiry project. One student said the research project, "made [him] see a whole different side of farming," and another student remarked, "I like that it was hands-on in conducting research and being able to see the results." Several students also mentioned they enjoyed investigating "real life scenarios." Despite a majority of comments being positive, a couple of students did mention the time constraints and high workload required of the cohort projects.

### **Costs and Resources**

The fiscal costs associated with the cohort inquiry projects were very low. For students conducting interviews, students used zoom to record and transcribe phone interviews. The university's IRB board was also used to obtain research approval. The research participants themselves were also vital resource, as well as the faculty's guidance on research methods.

### **Future Plans**

It is anticipated that the semester-long, authentic inquiry research projects will become a permanent component in the *Local and Global Food Systems* course. However, modifications to the project and course structure will be made. Due to issues with time, and post-COVID when typical in-person class sizes can resume, all students will likely meet three times each week at the same time as opposed to once each week with their cohort. Cohorts will be transitions to permanent teams (Zapata et al., 2017). Research guidelines will also be established that require the same methodology by each group – short, semi-structured interviews worked well. Additional, "lessons learned" from this experience will be presented in the poster format.

## References

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