Evaluation Plan: Utilizing Learning Analytics to Improve a Text-Based Simulation

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Abstract

Learning that takes place even partially online can generate a host of passively collected data to inform student behaviors and the educational environment. Some of what might be lost lost in real-time visual feedback between student and instructor during online instruction can be retained by engaging in course data and pursuing learning analytics. New innovations in learning management systems (LMS) inherently collect student activity and participation data and package it nicely in easy-to-use dashboards. Leveraging student information systems (SIS) and campus reporting tools can assist to enhance these learning analytics and tell a more complete, quantitative story of student engagement and success in a course. In this Evaluation Plan, learning analytics will be deployed to examine the effectiveness of a text-based negotiation simulation in a career development course. Passively-collected data from Google Forms and Canvas will be combined with demographic information from the SIS and campus reporting tool to create a comprehensive view of how the simulation was used in Fall 2020 across nine Career development courses. Interpretations of data will be presented through the use of visual dashboards and charts using Microsoft Excel and Tableau Public software.

Keywords: learning management system, Canvas, learning analytics, Google Forms, Tableau

Background

In Fall 2020, all career development classes in the Lindner College of Business introduced the Leveled-Up Learning Assignment (LuL). This assignment acknowledged that while comprehensive, the course cannot address all areas of career development. Students were asked to select one of four assignment options that best fit their needs including a reviewing a job description, drafting a cover letter, conducting an informational interview, or completing a negotiation simulation (NS). Each assignment required a similar effort and time commitment with the shared goal of offering the student the opportunity to select the assignment most beneficial to their needs.

The negotiation simulation, still in its pilot form, is a text-based Google Form (see Appendix A) embedded in a Canvas page. Created like an escape room or breakout room, participants were asked to complete a series of questions correctly, and provide inputs where solicited in order to finish the activity. Upon completion, the student would submit the kickback confirmation email to Canvas allowing for grading to occur. The timing of the simulation occurred after students completed a module on job-offer negotiation. At the start of the simulation, students assume the role of a candidate who recently received a full-time job offer. Students were then provided with a PDF job offer to review and base their in-simulation decisions on. The skip-logic in the form prevented incorrect answers on multiple-choice selections. If students initially answered incorrectly, they were re-directed with feedback to answer the question again. Grading was mostly done based on completion, although students were asked to expand or alter the text inputs if necessary in Canvas. As reported in Trimboli et al. (2020), students in the Lindner College of Business routinely rank job-offer negotiation as their least-confident competency, at the beginning and end of the course. This simulation was

created to provide students with a mastery experience to increase their self-efficacy surrounding negotiation in a low-risk environment (Bandura, 1982).

While the negotiation simulation was not an artifact created in a course in the Master of Education in Instructional Design and Technology program at the University of Cincinnati, it was inspired by concepts learned in various ID classes. The NS aligns with a constructivist lens, and through this active learning activity, students are able to make sense and meaning of the simulated experience (Driscoll, 2014). Gamification was specifically chosen for the NS because of its ability to increase the motivation of the learners, and it aligns with the attention elements of Keller's (2010) ARCS Model (Kalmpourtzis, 2018). While the escape-room style itself aims to capture learner's attention, elements of inquiry arousal should sustain it throughout the NS.

Significant research was completed on the negotiation simulation through the creation of a grounded, instructional design in the Fall of 2020 during IDT 8020, Learning Sciences. In the culminating project, I examined the NS through the lens of Bandura's (1982) Self-Efficacy motivational theory and proposed enhancements by applying Keller's (2010) ARCS model of motivation. The improvements noted through the analysis will be combined with the findings from this evaluation plan in order to thoroughly strengthen the NS and increase its impact in the career development classes.

In Summer of 2020, all of the career development courses in the Lindner College of Business went online in an asynchronous format due to the COVID-19 Pandemic. This switch made it very difficult to assess in real-time how the students were doing in the course. Instructors felt disconnected from students, and beyond assignment grades, could not understand where students were at cognitively. Sclater (2017) suggested that "as education moves increasingly online, teachers may lack the visual clues that helped them to identify students who were

insufficiently challenged, bored, confused or who were failing to attend" (p. 11). Although the simulation itself worked successfully, it is unclear if its objectives were met. Evaluating the simulation using learning analytics can help instructors understand what happened in the Fall 2020 iteration and if the simulation provided a meaningful practice opportunity for students.

Sampling

Samples in learning analytics can consist of current students participating in the educational context (Sclater, 2017). For this evaluation there are two samples to be used, titled Sample A and B respectively. One larger sample includes all students who completed a career development course in the Lindner College of Business in Fall 2020. A secondary sample will contain 27 students who took the simulation in a specific career development course and will include both analytics from Google Forms as well as Canvas. For both samples, the Student Information System (Catalyst) and Reporting tool (CaRT) will be utilized to enhance the gender and class year demographic data in the submitted Google Form. Table 1 below provides a summary chart of each sample in this evaluation.

The selected sampling methodology aligns with the overall evaluation methodology due to the student's participation in the career development courses. Gašević, et al. (2016) suggested that sample populations should possess data originating from interaction across various university systems. The availability of learning analytic data from all four sources mentioned prior makes each student in the respective samples a robust source of information.

In addition, I recognize interpretations would benefit from the inclusion of multiple semesters. Gašević, et al. (2016) stated that pooling data across multiple contexts and having a larger sample would increase the "predictive utility" (p. 69) of learning analytic data. They warned against an interpretation that presents one-size-fits-all suggestions. This will be kept in

mind throughout the evaluation. Students reactions to the negotiation simulation in Fall 2020 may not be representative of future semester's students' reactions, especially given the COVID-19 Pandemic. Future samples would include students from multiple semesters of the course, however, this is not possible for this particular study due to the newness of the NS at the time of this evaluation.

Sample A

Sample A consists of 201 students in BA 1080 and BA 2080, Career Success Strategies, as well as BA 2081, Preparing for Professional Experiences, at the University of Cincinnati in Fall Semester 2020. This sample includes nine separate sections of career development courses. These students represent all class years and majors in the College of Business. The data source for Sample A will be pulled from Google Forms. This sample will be used to describe gender differences in selection of the simulation as well as highlight differences in class years.

Sample B

Sample B is comprised of 27 students in BA 2081, Preparing for Professional Experiences, at the University of Cincinnati in Fall Semester 2020. These students represent mostly freshmen and sophomore students who are not yet Lindner Collee of Business students. Data from Sample B will be pulled from Google Forms as well as Canvas. Since I was the primary instructor for these students, I can look at the Canvas course analytics for more detailed information engagement, assignment choice, etc.

Table 1

Evaluation Sample Population Descriptions

	Sample A	**Sample B**

Data Source Used	Google Forms, Catalyst, CaRT	Google Forms, Canvas Analytics, Catalyst, CaRT
Total Sample Size	406	27
Sample completed Negotiation Simulation	201	15
Male in Sample	Determined Upon Analysis	Determined Upon Analysis
Females in Sample	Determined Upon Analysis	Determined Upon Analysis
Non-Binary Students in Sample	Determined Upon Analysis	Determined Upon Analysis

Evaluation Methodology

Learning analytics can improve the quality of education by examining available data sets. Interpretations of such data can be used to "improve our understanding of learning and teaching processes, predict the achievement of learning outcomes, [and] inform support interventions" (Gašević, et al., 2016, p. 69). Thus, learning analytics will be utilized to examine existing data from students who completed the negotiation simulation in Fall 2020. Findings from this evaluation will inform changes to be made in Spring 2021 and future classes in a cyclical process of data review (Sclater, 2017).

The evaluation methodology of learning analytics requires a comprehensive collection, review, and interpretation of data to understand an educational context. Ifenthaler and Yau (2020) described it as a practice of "socio-technical data mining" (p. 1961). In this instance, findings will be used to make long-term curriculum changes to better support the negotiation simulation. Learning analytics was selected as the methodology and aligns with the artifact for two reasons. First, the availability of a large, pre-existing data set creates an opportunity to see the impact of the NS on a macro scale. The data gathered through completion of the assignment in both the learning management system (LMS) and Google Form are already available, negating

any additional pulls on time or resources. Second, the situation of the simulation across all career development courses in the College of Business provides not only a large sample, but a significant opportunity to create value in multiple courses. Wilson (2017) suggested the need for "demonstrable value" (p. 991) in order to assure worth in pursuing learning analytics. By looking at the descriptive analytics across nine courses, we can begin to understand student choices and justify the need for improvements to the simulation. Ultimately, the collected data analyzed to find potential answers to the questions posited in Table 2.

Table 2

Questions to be Explored through the Evaluation Process

Evaluation Question	Why it's being asked	How it will be collected
What is the gender breakdown of students selecting the negotiation simulation?	While the simulation is meant to be beneficial for all students, we know women need more support building self-efficacy in negotiating (Babcock & Laschever, 2007; Lipman, 2018). If more men than women complete the simulation, we need to work on how to encourage female students to opt-in to this selection.	Samples A & B. Data from the Google Form and Canvas will be compiled with demographic information from CaRT and Catalyst.
What percentage of students in selected the negotiation simulation?	One of the goals of the negotiation simulation was to provide a mastery experience for all students. If a disproportionate number of students avoid the NS, then it is not meeting its objective	Sample B. Data from Canvas New Analytics. Both page views and actual submissions will be compared.
How many times do students completing the NS answer incorrectly?	This will help us assess if students enter the simulation with the pre-requisite knowledge to succeed.	Sample A & B. This hopefully will be answered through Google Forms. But may be a limitation of the platform.
How long do students take to complete the assessment?	Are students taking their time, or rushing through for the sake of completion? Is the simulation creating a meaningful opportunity for practice?	Sample A & B. This hopefully will be answered through Google Forms. But may be a limitation of the platform suggesting a switch to Qualtrics.

		Additionally, Sample B will be analyzed using the Weekly Activity Report for the Leveled-Up Learning Assignment to get this information.
Does class year factor into selection?	Negotiation is a subject that may not have relevance for younger students, however, it is not taught later in their careers. Keller (2010) noted that students must feel personal relevance to the topic to experience motivation to learn. If a disproportionate number of younger students avoid the simulation, there may be a gap in ability later.	Sample A. CaRT/Canvas will be combined with information from the Google Form results. Class year will be analyzed against which assignment choice was selected.
Is there a relationship between selection of the NS and success on negotiation-related questions on the final exam?	Ideally, the NS would improve self-efficacy, which cannot be examined through this plan. However, the increased opportunity to practice should equate to increased self-efficacy beliefs, influencing behaviors (Bandura, 1982). This ideally would result in higher exam scores for specified questions.	Sample B. Canvas. Student choice and final exam scores on negotiation related questions will be compared for to understand the relationship.

Correlation

While the ideal result of the NS is increased self-efficacy for students in negotiating a job offer, that cannot be assessed as students in the Career development courses are not likely to be faced with a real-life negotiation situation during this time in their collegiate career. We can however look at Bandura's (1982) Self-Efficacy Theory in relation to student's performance on quiz questions regarding negotiation. According to Bandura (1982), students may hold the knowledge and skill to negotiate, but negative expectations and self-judgements may impair their abilities and performance. Ideally, the increased opportunity to practice with the negotiation simulation would result in higher exam scores for specified questions. This will be assessed by comparing student's answers on the exam questions that directly assess knowledge of negotiation

against their choice in the Leveled-Up Learning Assignment. Sclater (2017) noted a simple regression is an appropriate way to find if there is "correlation between something measurable known about students and their subsequent academic success" (p. 90). Looking at these two items on a scatter plot in the analysis phase of this evaluation will identify if there is a connection between the two variables at this point.

Table 3 outlines the questions asked in the Job Offer Management and negotiation quiz and addressed through the negotiation simulation. This quiz is assigned after students complete the Job Offer Management class module, which consists of lecture videos, and after completion of the NS.

Table 3

Job Offer Management and Negotiation Quiz Questions

Quiz Questions
Which one is NOT a ground rule of job offer negotiation?
State one item you can often negotiate for when evaluating a job offer.
Health Insurance is an item you can negotiate with an employer.
You should always get your job offer in writing. What elements should that letter contain?
You should always start your negotiation conversation by asking for an increase in the salary.

Evaluation Instruments

Data for the negotiation simulation will be pulled from the Learning Management System (Canvas), Google Forms, the Student Information System (Catalyst) and reporting tool (CaRT) ensuring the most essential sources are included (Gašević, et al., 2016; Sclater, 2017). Logged learning activity data serves as "key sources" (Sclater, 2017, p. 79) for learning analytics and

will be extracted from Canvas and Google Forms. Both Canvas and CaRT will provide demographic information. While some demographic information can be irrelevant for learning analytics, this evaluation will include both students' gender identity and class year to supplement the learning activity data as it may be helpful in anticipating academic performance.

Additionally, Sclater (2017) acknowledged that many analytics- based studies do not include such demographic information as it its not available to the researchers. In this situation, I have access to the core university information based on my staff position. After submitting a HRP-503N Not Human Subjects Research form for review with the University of Cincinnati's Institutional Review Board, it was determined that this study does not need to seek IRB committee approval in order to proceed (see Appendix B). This step was key as protecting student data and privacy is essential to the future use and acceptance of learning analytics.

The process for data collection and synthesis is outlined in Table 4.

Table 4

Process for Data Collection

	Task	**Description**
Step 1	Collect	Create a Google Sheet using the responses collected from the Google Form. This is automatically generated and is accomplished by selecting the Google Sheet icon on the form response page.
Step 2	Collect	Develop and run a query in CaRT with the following fields: - UC ID - Student First & Last Name - Gender - Class Year - UC Class (Filtered to "BA 1080, BA 2080, BA 2081") - Term Code (Filtered to "2208")
Step 3	Clean	Download the results into Microsoft Excel (Titled "Workbook 1", Sheet Labeled "Sample A") and add a blank column for "Completion of Negotiation Simulation" and "LuL Assignment Choice."

Step 4	Join	Using the Google Sheet, copy all values into Workbook 1 on a new sheet. VLOOKUP values from the Google Sheet into column "Completion of Negotiation Simulation." Copy/Paste sheet values to hold the VLOOKUP information.
Step 5	Clean	Remove identifying student information (Name and UCID). Label each student numerically starting from 1.
Step 6	Collect	Create a second sheet in the workbook titled "Sample B". Filter the Sample A sheet to show data of students in BA 2081. Copy this information and paste it into the Sample B sheet. For Sample B, manually enter in which assignment choice they selected using Canvas Speed Grader in the "LuL Assignment Choice" Column. Students who did not complete LuL will be removed from the workbook. Save for analysis.
Step 7	Collect	Open a new Workbook titled "Workbook 2." Enter in Sample 2 information for Page Views from New Analytics. Fields will include: - Knowledge Check: Leveled-Up Learning Page Views - Informational Interview Page Views - Job Description Review Page Views - Negotiation Simulation Page Views - Cover Letter Page Views Save for analysis.

Google Forms Analytics

Google Forms collects basic analytic information when the form is submitted. Most notably, time taken to complete the form is not recorded. This creates a potential limitation in the evaluation and a recommendation will be made to move the simulation over to Qualtrics. When creating the form, required fields for student course, student name, student number and email were included. This information will allow me to pull in more detailed demographic information from CaRT through use of a VLOOKUP function in Microsoft Excel. Additionally, I will be able to separate students by course section to get a more microscopic view of trends.

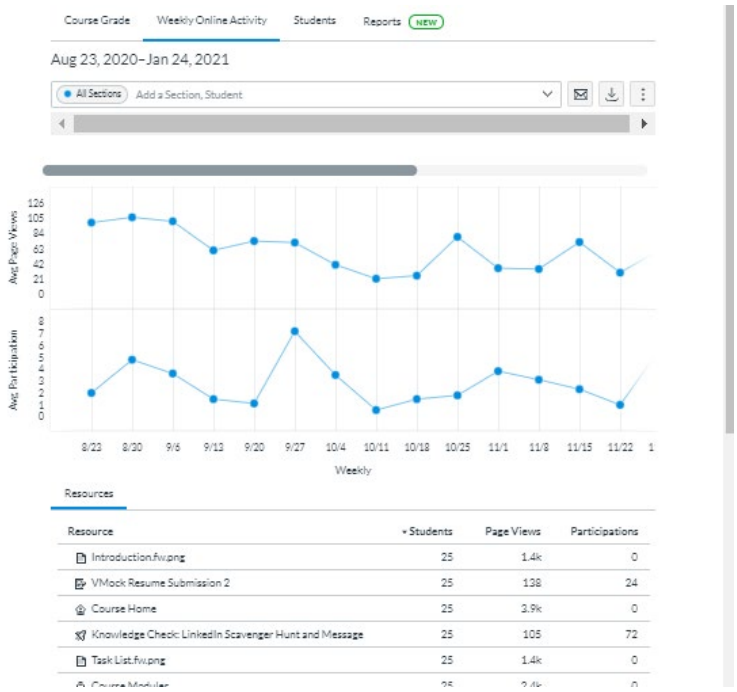
Canvas Analytics

The Canvas LMS has extensive tools for course instructors to utilize basic course analytics. The structure of the Leveled-Up Learning assignment allowed for each assignment choice to have its own page in the canvas course. Students would use this landing page for each assignment choice to review additional content, videos, and instructions. The Google Form was embedded directly onto the on the Negotiation Simulation page, and thus, we can utilize the page views as a component of the learning activity data.

Using the New Analytics feature native to Canvas courses at the University of Cincinnati will provide me with all of the comparative information needed to compile the data set. The Weekly Online Activity tab also includes a list of accessed resources for the course (Figure 1). I can navigate to view each page of the Leveled-Up Learning Assignment and record the page view data using Microsoft Excel. Additionally, this page will provide information on activity for all students the week the assignment was due. This information is tangential to the scope of the evaluation, but will serve as an indicator of how students engaged in the LuL assignment compared to other class assignments.

Figure 1

Navigating to Page Views in Canvas in the New Analytics feature



Note. This New Analytics page was from the Fall 2020 BA 2081 course.

Supplementary Demographic Information

The University of Cincinnati also provides ample supplementary data for learning analytics through the use of Catalyst and CaRT. When available, this demographic information can be helpful in presenting a more well-rounded view of the learning analytic data (Sclater, 2017). All information in CaRT is pulled from existing information in Catalyst. Catalyst provides an easily digestible view of individual course or student information, while CaRT is a reporting tool and can pull larger amounts of information at once through queries. I anticipate using both frequently, but pulling the bulk of the demographic information through a self-generated analysis in CaRT.

Cleaning of Data

Once compiled, the data will require an extensive cleaning in order to be usable for analysis. Transforming data is essential as outliers, errors, and missing information can significantly alter the "metrics and predictions" (Sclater, 2017, p. 83). First, personally identifying information will be removed from the data set. This includes first and last name, as well as UC ID number. Each student will be assigned a unique number. Next, the data will be checked for any duplicate submissions to the Google Form and any found will be deleted. During this step, students who did not complete the Leveled-Up Learning assignment will be removed as they do not meet the criteria for evaluation. Finally, Workbook 2 will also be reviewed for outliers in page views. Any potential issues will be noted accordingly. By nature of CaRT, the data can be filtered prior to being collected, thus alleviating the need for manual filtering. Once transformed, the data from the Google Form and CaRT demographics will be joined in Microsoft Excel using the VLOOKUP function.

Preparing the Correlation Data

Finally, I will complete a Pearson Correlation for Sample B to check for connection between two variables- Student's selection and completion of the negotiation simulation against their answers of quiz questions about negotiation. This is indicated in the last row of Table 2. The controlled variable, student's completion or not of the NS, will be assigned the criterion variable x (Sclater, 2017). Student performance on the quiz represented in point totals will be assigned the predictive variable y. Students in Sample B will be assessed point values based on their selection in the Leveled-Up Learning assignment. A student who selected the negotiation simulation will be assigned a 1, if they selected any of the other options they will be assigned a 0. Questions indicated in Table 3 will be transformed and assigned point values as well. For all questions (including true/false, multiple choice, and short answer) correct answers will be given

a value of 1 and incorrect answers will be given a value of 0. This will create a maximum total score of 5. Table 5 below outlines what this will look like when prepared. This data will later be used to create a scatterplot in the analysis phase, and ultimately determine whether or not correlation exists. I will be utilizing the "Table of Critical Values: Pearson Correlation" from Statistical Solutions (2021) to determine correlation.

Table 5

Example student's selections on the Leveled-Up Learning Assignment and points scored on quiz

Student	***Selection of Leveled-Up Learning Assignment***	***Points Scored (out of 5)***
1	*1*	*5*
2	*1*	*3*
3	*0*	*2*

Analysis

Once collected and organized, the learning analytic data for both Sample A and B will be analyzed using a variety of methods. First, visualizations will be created in order to clearly present the data. Then, the visualizations will be used to inform interpretations and suggested improvements to the negotiation simulation. These two components of analysis will be compiled in the final Evaluation Report.

Visualizations

Visualizations of the data will be created using a combination of Microsoft Excel and Tableau Public, a Business Intelligence System that can be leveraged for learning analytics (Sclater, 2017). Using visualizations can help tell the story of the data, direct attention to relevant components, and make it more accessible for educators. As Canvas already presents a few charts and graphs in its New Analytics, I want to be mindful of not creating overload, and not representing redundant information (Duval, 2011).

Ballard (2013) provided six guidelines for visualization design with learning analytics

1. “Visualisations should be simple to interpret;
2. Adapt content to the user;
3. Indicate how prediction is built up;
4. Bridge the gap between predictive and historic data;
5. Enable users to respond and take action;
6. Allow users to monitor the effectiveness of their actions” (slide 17)

Designs created from analysis in this evaluation will adhere to these guidelines as best as possible barring number four which calls for historical data (not yet existing). Simple histograms and scatterplots will be created in Microsoft Excel to represent the data sets as they pertain to the evaluation questions in Table 2. In addition to the representations in Excel, the data set will be entered into Tableau Public in order to create a more visually appealing and widely accessible analysis.

Interpretations and Reporting

Finally, interpretations from the collected data and visualizations will be compiled in a written Evaluation Report. This report will include all findings from the evaluation as well as changes made, and future directions of the negotiation simulation. I aim to share indicators of success, hypotheses, and potential interventions. As cited in Sclater (2017), Dragan Gašević suggested presenting pertinent information in a checklist of things to address. In the analysis and reporting, I hope to distill the more relevant components and present it in a similar, simplified way.

Timeline

Table 6 outlines when expected deliverables will be developed and submitted. I fully anticipate that while this is a good attempt at a schedule, it may need to be adjusted at different parts of the process due to unforeseen circumstances and the need for flexibility. Overall, I believe this evaluation to be feasibly accomplished during the Spring 2021 semester.

Table 6

Outline of Timeframe for Each Component of Proposed Evaluation

Time Frame	Deliverable	Description
Submitted February 1, 2021	Evaluation Plan Draft	An initial draft of the proposed Evaluation Plan will be submitted for instructor review.
February 10, 2021	IRB Submission	HRP-503N Not Human Subjects Research form submitted to UC IRB to determine if evaluation can continue without IRB approval.
February 18, 2021	Revisions Made	Per request of IRB, adjusted HRP-503N Not Human Subjects Research form.
February 10, 2021	IRB Approval Letter	Approval from IRB to proceed without seeking IRB committee approval for evaluation and use of data.
Submitted March 1, 2021	Final Evaluation Plan	Requested revisions and amendments will be made and the final Evaluation plan will be submitted for grading.
March 1- 8, 2021	Collection and Cleaning of Data	During this period, all data mentioned in the methodology and instruments sections will be collected according to the Table 4 processes. The collected data, once gathered, organized, and cleaned will be saved in two Microsoft Excel Workbooks.
March 8- 22, 2021	Analysis of Data	Findings and data from the Workbooks will be visualized utilizing charts in Microsoft Excel and Tableau Public software. Interpretations of findings will be reported in the final Evaluation Report.
March 22- April 9, 2021 **Submit April 9, 2021**	Evaluation Report Draft and Revision of Artifact	Following the analysis, the initial report of findings will be drafted. Screenshot images of the visualizations will be included in the report to aid in understanding and strengthen arguments. At this point, the artifact will also begin to undergo revision according to the findings in

		the analysis. Based on timing of the evaluation plan, the revisions will take effect in any Summer 20201 instances of College of Business career development classes.
Submit April 12	Evaluation Report Final Submission & Portfolio Update	Finally, the completed Evaluation Report will be revised and submitted for final review. At this time, the final version of the Evaluation Plan and Report will be posted on my WordPress portfolio page.
April 14	Pecha Kucha Presentation	Data from the evaluation report will be presented in the Master's defense/Pecha Kucha presentation.
The Leveled-Up Learning assignment is due April 19th, 2021. If possible, analytics from this assignment will also be incorporated into the final evaluation report.	*Preliminary Review of Spring 2021 Data (potential)	If time allows, inclusion of current semester (complete or partial) learning analytics will be included as an addendum. I anticipate that these findings will be presented separately from the Fall 2020 findings, but may provide some information helpful to the overall understanding of the NS impact.

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Appendix A

The pilot negotiation simulation can viewed on Google Forms using this link:

https://docs.google.com/forms/d/1HvAKKPEwi6LO9ifTaswhEtJ5zZh6LOdLiwFlYUxvCgE/edit?usp=sharing

Appendix B

University of CINCINNATI
Institutional Review Board

FWA #: 000003152

NOT HUMAN RESEARCH DETERMINATION

February 24, 2021

Victoria Buckley
LCB Career Services B

Dear Victoria Buckley,

Type of Submission:	Initial Study
Title of Study:	Negotiation Simulation Evaluation Plan
Investigator:	Victoria Buckley
IRB ID:	2021-0151
Documents Reviewed:	• CLEAN HRP-503N Not Human Subjects Research.docx • TRACK CHANGE HRP-503N Not Human Subjects Research.docx • Point-By-Point Response Letter.docx • HRP 503N

On **2/24/2021**, the IRB reviewed the above submission and determined that the proposed activity is notresearch involving human subjects as defined by DHHS, DOJ and FDA regulations.

IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and thereare questions about whether these activities are research involving human in which the organization is engaged,please submit a new request to the IRB for a determination. You can create a modification by clicking **Create Modification/CR** within the study.

Statement regarding International Conference on Harmonization and Good Clinical Practices

The Institutional Review Board is duly constituted (fulfilling FDA requirements for diversity), has written procedures for initial and continuing review of clinical trials: prepares written minutes of convened meetings and retains records pertaining to the review and approval process all in compliance with requirements defined in 21 CFR Parts 50, 56 and 312 Code of Federal Regulations. This institution is in compliance with the ICH GCP asadopted by FDA/DHHS.

Please note: This review is through the IRB only. You may be responsible for reporting to other regulatory officials. Please check with your institution and department to ensure you have met all reporting requirements.

Thank you for your cooperation during the review process.