

# **Teaching Experiment Report**

## **Spring 2021**

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## **ITSC 8665 - Graduate Teaching Seminar**

During the Spring 2020 semester I took my third semester of the teaching seminar ITSC 8665. This semester, my classmates and I worked together to edit the draft of the handbook for teaching assistants (TAs) in the College of Computing and Informatics (CCI) at UNC Charlotte that we created last semester. This handbook originally included 12 chapters which covered a variety of topics, including the roles and responsibilities of a TA, how to grade assignments, and how to prepare course materials. However, this semester we condensed these 12 chapters into 5 by combining correlated topics together. We then worked to make the handbook more engaging and usable by adapting it to a website.

When editing the handbook, I worked with another PhD student to combine and elaborate on the original topics of Backward Design, Teamwork, Labs, and Active Learning. Working on this content, I realized Active Learning methodology can be incorporated into traditional lecture style courses relatively easily. For example, incorporating class activities or discussions into a lecture style course would break up lectures and allow students the chance to apply concepts and learn where they are struggling.

The other topic I learned a good bit about was Backward Design. This is not a topic I was extremely familiar with nor one I had really practiced before. However, reading about Backward Design, I realized it provides instructors with an excellent opportunity to think about what they want students to learn and then design projects, lectures, and activities with the goal of teaching those specific concepts. While I am unsure if Backward Design would be a practical approach to all courses and course material due to my lack of experience with it, I do think this key concept of keeping in mind the precise learning goals for the course materials would help ensure the material is effective in both teaching concepts and measuring the students' understanding of concepts.

## **CTL Workshops**

This semester I took two of the online workshops provided by the CTL (Center for Teaching and Learning) at UNC Charlotte. The first workshop was Humanizing Your Online Course: Effective Facilitation Strategies to Engage Online Learners and the second workshop was Creative Projects for Online Classes. I chose to take these workshops in order to learn some skills, activities, or tips to help make online classes more engaging and effective.

The first workshop I attended primarily reinforced the idea that active learning methods and flexible methods of instruction are some of the most effective methods for teaching an online class. For example, the use of videos to present the lectures, the syllabus, etc. to the class allows students to watch the content at their own pace and to rewatch any content needed to sufficiently learn the course material. This workshop also reinforced that it is important to provide thorough feedback to students as soon as possible, particularly in an online course, as this feedback may be the primary interaction the student has with the instructor.

In the second workshop, I learned about a few tools and project ideas that could be used to make projects more interactive for students. One of my favorite project ideas was the use of podcasts to present material rather than a report or powerpoint presentation. The podcasts are often more interesting for other students to listen to which might encourage students to listen to their classmates podcasts as well as their own. I think it would be interesting to try adapting some of these more creative projects, such as the podcasts, to take the place of some of the written reports I've used in class and provide more diversity and creativity to the course structure.

## **ITIS6420/8420**

This semester I taught ITIS 6420/8420- Usable Security and Privacy. One of the key skills I learned this semester was how to plan the length of course material. Each week I put

together a class activity for the students to apply the concepts and tools they learned about that week. In the beginning, I often over planned and provided more tasks than there was time for due to the class discussions held to share ideas and topics discussed during the activity. However, as the weeks went on, I became much better at judging how long both the discussions and the activity would take to ensure that there was enough time to complete all of the tasks.

The next key skill I learned about was how to design projects and writeup project descriptions. This class was primarily project based, so I learned a lot about how to write and explain projects as well as what makes a good project by considering things like skills practiced during the project, the difficulty level, etc. One of the key things I learned was that project descriptions need to be as detailed as possible. It was extremely important to fully explain exactly what I expected as the project deliverables to prevent confusion. I found the use of a rubric helped clarify my expectations as the rubric was often quicker to read. In the beginning, I often broke down each category and wrote in depth descriptions of the expectations for each point category. However, after the first project or so, I found this was actually not as useful for the students as I expected since the point deductions did not always fit exactly in my pre-planned boxes. Instead, I found it more useful to provide detailed descriptions of the expectations and deliverables for each category, including the format of the report, and then write comments in the rubric to further explain any point loss as needed.

The last skill I learned was how to create test questions. This is not something I had a lot of practice with prior to this course, so when I helped design the questions for the midterm and final this semester, I realized just how difficult it was to create good test questions. I particularly struggled with creating multiple choice questions, as I never realized just how difficult it was to think of alternative answers that were both incorrect but still challenging so as to not make the correct answer obvious. For that reason, I found I preferred creating essay and short answer questions, however these questions definitely took longer to grade.

Overall, this semester was an opportunity to understand the different responsibilities between acting as an instructor of a course and the TA of a course. Being an instructor also taught me a few new skills as I had to learn how to lead discussion, design course material, etc. However, it was an extremely valuable experience, and I learned a lot new skills that I hope to continue to improve upon in future semesters.

## **Fall 2021**

During the Fall semester, I will be designing a distance education version of the ITIS 6420- Usable Security and Privacy course. I hope to utilize some of the tools and tips I learned from both the workshops I attended this semester and my own experience teaching an online course this semester. I also plan to take two more CTL workshops focused on skills for online courses to learn more about designing engaging and effective online courses.