Teaching Dossier (Generic Version)[1]

Sathaporn "Hubert" Hu

TH: สถาพร ฮู (Sathaporn Hu)

ZH: 胡秀楷

Faculty of Computer Science
Dalhousie University

Contents

[1] Using template from Centre of Teaching and Learning at Dalhousie University: https://www.dal.ca/dept/clt/services/Dossiers.html

Synopsis

This is the generic version of the dossier. It does not include all information. For example, it omits my student feedback score as well as sample teaching materials.

Teaching Philosophy

I am a teacher in the field of computer science with specialization in Human-Computer Interaction (HCI). I also have some background in Data Science as well as Cognitive Science. I have experience teaching in first-year, upper year, and graduate students in computer science. My core values are accommodation, respect, use of example, and engagement.

Being accommodating is an important value. I believe that since each student has their own circumstance which can significantly impact their performance in class for better or for worse, I should be as accommodating as possible to allow the students to display their full potentials. While many classes simply have so many students that accommodating for the students can be an extremely challenging, I was fortunate enough to be able to teach in classes with smaller numbers of students. As such, I learned to become more sensitive to the plights of the students. Accommodation can come in many form – from providing small deadline extensions to help out a student to being sensitive to the diverse background of my own students.

My other core value as a teacher is respect. Being a teacher means that one has a great power over their students. As such, it is easy for one to become dismissive of their own students and neglect their ultimate duty of education. I had a misfortune to be educated by those who are disrespectful of me, and I do not wish my students to go through the same experience. Therefore, when I conduct my duties as a teacher, I always keep my students in mind.

Examples are useful to make students better understand the content. They allow students to make connection between the course content to the real world. Therefore, I incorporate practical examples into my work. For example, when I teach my students to cite existing literature, I also include example citations. I learned the importance of example when I was a student in a statistics class. Since the lessons lacked clear examples, I did not understand the points of the lessons. It was not until years later that I started to appreciate the lessons taught in the class.

I also believe in frequently engaging students. Without Engagement, students can quickly develop indifference toward the class which can lead to students falling behind. Even if they can pass the course, they may not treasure the knowledge that they have gained during the class. Engagement makes learning more entertaining, and also allow the students to retain more of their knowledge. Engagement does not simply mean being engaging in class, since we should also strive to engage outside the class as well. If a student does not understand something, I will also try to explain to the student to the best of my ability until the student can understand it. I also encourage students to make use of the resources on campus which may be better to solve their problems than myself.

During my time as a PhD student, I also active look at improving my teaching skill by participating in the Certificate in University of Teaching and Learning at Dalhousie University. The program substantially improved my teaching skills. It also assisted me in securing a lectureship during the summer of 2020. I am aware though that becoming a good instructor also means constant self-improvement. As such, I will try use feedback from my students and my peers to better myself.

Teaching Activities

Courses Taught as an Instructor

Research Methods and Statistics (CSCI 6055/ECMM 6040)
SUMMER 2020 | Dalhousie University

This is an introductory course in research methodology and statistics for graduate students in computer science programs. During the summer of 2020, I taught this course online due to the COVID-19 restriction. Since the course was originally offered as an in-person class, I was also a course developer responsible for revamping the class to make it more suitable for online teaching.

Courses Taught as a Teaching Assistant

The courses are listed chronologically with the most recent courses listed before past courses.

Science and Technology Innovation, Commercialization, and Entrepreneurship (SCIE 4701)
FALL 2020 | Dalhousie University

This class is unique in that the teaching assistants are also learning. However, unlike students, the teaching assistants do not have to submit assignments nor are they evaluated in other ways. I decided to become a teaching assistant for this class, because I would like to gain skills in entrepreneurship. My responsibilities included attending lectures, holding group discussions, and marking.

Research Methods and Statistics (CSCI 6055/ECMM 6040)
WINTER 2020 | Dalhousie University

This class is an introductory course in research methodology and statistics for graduate students in computer science programs. I adjusted the statistics lectures for this section to be more approachable to the students. I also assisted in occasional marking duties and helped to transition the course online when the COVID-19 restrictions started to apply in March of 2020.

Human-Computer Interaction (CSCI 4163/6610)
WINTER 2020 | Dalhousie University

This is a cross-listed graduate course in Human-Computer Interaction. The students are taught how to prototype an app and evaluate their prototypes.

Usable Privacy and Security (CSCI 4169/6307)
FALL 2019 | Dalhousie University

This is a cross-listed graduate course where students learn how to incorporate principles of human-computer interaction to security and privacy. I assist students in their projects and mark their assignments.

Human-Computer Interaction (CSCI 4163/6610)
FALL 2019 | Dalhousie University

This is a cross-listed graduate course in Human-Computer Interaction. The students are taught how to prototype an app and evaluate their prototypes.

Research Methods and Statistics (CSCI 6055)
SUMMER 2019 | Dalhousie University

This is a graduate course introducing research methodology and statistics for the students. I designed the statistics portion of the class and administered lectures on statistics to the students. I also assisted the instructor in designing the exams and invigilated the exams. I also marked the assignments and the exams. I became a teaching assistant for this course, because when I was a student of this course in 2018, I expressed such interest to the instructor. The instructor saw my passion for my statistics and believed that I would be an ideal for this course.

Human-Computer Interaction (CSCI 4163/6610)
WINTER 2019 | Dalhousie University

This is a cross-listed graduate course in Human-Computer Interaction. The students are taught how to prototype an app and evaluate their prototypes. I designed tutorial slides, led laboratory sessions, marked the assignments. I also invigilated one of the midterms for the class.

Human-Computer Interaction (CSCI 4163/6610)
FALL 2018 | Dalhousie University

This is a cross-listed graduate course in Human-Computer Interaction. The students are taught how to prototype an app and evaluate their prototypes. I designed tutorial slides, led laboratory sessions, marked the assignments.

Computer Science II (CSCI 1101)
WINTER 2018 | Dalhousie University

This is a first-year course in computer science at Dalhousie University. As a teaching assistant, I led laboratory sessions. In each session, I gave a short presentation on the material and provided support for the rest of the session. I also acted as a marker and an invigilator.

Introduction to Problem Solving using Application Software (CPSC 203)
FALL 2017 | University of Calgary

This is a first-year course in computer science at the University of Calgary. It is designed for non-specialists. I led tutorials for the class and provided support during the tutorials. I also marked the assignments for this class and invigilated the final exam.

Web-based System (SENG 513)
WINTER 2017 | University of Calgary

This is a fourth-year course in computer science at the University of Calgary in web development. I designed the tutorial materials and provided guidance for the students.

Web-based System (SENG 513)
WINTER 2016 | University of Calgary

This is a fourth-year course in computer science at the University of Calgary in web development. I designed the tutorial materials and conducted lab sections. I also marked the assignments.

Introduction to Computer Science for Multidisciplinary Studies I (CPSC 217)
FALL 2015 | University of Calgary

This is a first-year course in computer science at the University of Calgary. I designed the lecture slides and conducted labs for the class. I marked assignments and exams. I also acted as an invigilator for this class.

Introduction to Programming (CSC 108)
FALL 2013 | University of Toronto

This is a first-year course in computer science at the University of Toronto. Since this class used an "inverted" model, I attended the lectures along with the students and provided help with in-class activities. I also marked some assignments and the final exam.

Student Advising

Mentor for Innis College Residence at the University of Toronto
FALL 2012 | University of Toronto

During my second year at the University of Toronto, I became a student mentor for first year students at the residence. I advised the students of how to navigate the first-year courses in computer science. Additionally, I also provided tips and how-to to the students so they could have the best experience. I was selected one of the Best Mentors.

Course Building

Due to the COVID-19 pandemic, Dalhousie University hired students and alumni of the Certificate in University Teaching and Learning to help transition in-person courses to online. As an alumnus of the program, I assisted an instructor, Prof. Daniel Labrie to develop online (Brightspace) sites for his classes from Fall 2020 to Winter 2021.

Experimental Physics I (PHYC3000)
FALL 2020 | Dalhousie University

I implemented the online site for PHYC3000 based on the requirements of Prof. Daniel Labrie and the education developer assigned to the course. I also maintained the site throughout the semester.

Information from Colleagues

Research Methods and Statistics #1 (CSCI 6055)

While I was a teaching assistant for this class, I also requested the instructor (Kirstie Hawkey) to observe three tutorials. In the end of each observation, she provided a written feedback for (1) my content and presentation style, (2) my major strengths demonstrated in the class, and (3) suggestions for improvement. Overall, the feedback suggests that I offered high-quality teaching to my students.

First Observation: Confidence Interval

I received the following overall feedback for the first tutorial in term of content and style:

> *The quiz towards the end of class gave students a good sense of their understanding of the knowledge [and] their gaps. Very good review of quiz after they turned it in.*

The instructor provided the feedback below for my major strengths demonstrated in class:

> *Keen desire to teach well + give the students the tools they need to apply the theory to real world problems (ie., their own research questions).*

For the suggestion for improvement, she provided the following feedback:

> *Keep at it. The care with the content + student learning is evident. Over time, will become more confident in which delivery method is best for the content.*
>
> *Have a couple of extra problems worked through so if there are questions there is a bank to poll from.*

Second Observation: Two-way ANOVAs and Chi-squared Tests

For the second tutorial, the overall feedback was as following in term of content and style:

> *Left with a clear expectation of how we would test on this material [with] good knowledge of the inner workings of 2 way ANOVA [and] χ^2-tests.*

The feedback for the major strengths of my teaching is as following:

- *Good slides [with] pop-ups of formulas*
- *Exercises/examples built in*

For the improvement, she provided this feedback.

> *Rather than finishing [with] a concrete example, intersperse it [with] the theory to help solidify the knowledge.*

Third Observation: Criticism of Null-Hypothesis Significance Testing

For the third tutorial, the instructor did not fully complete the observation form. She provided the following statement on the form:

Was too engaged in in learning about the topic to look at these things individually so just filled out the last page.

Even so, she still provided all three of the written feedbacks. For my presentation of my content and style, she provided the following:

[The take away lesson is] that it is easy to do bad statistics. That they need to be critical when designing a study + reading about reach by others.

She provided the following feedback for my major strengths:

This is a topic that Hubert is passionate about [and] it shows. None of the content existed in prior offerings of this course. Hubert pulled together a great set of content from history to current day with lots of examples [and] points of interest that students might follow up with.

For my improvement, she suggested:

More pauses. More discussion. The video was great.

Information from Students

Research Methods and Statistics (CSCI 6055)

As an instructor for CSCI 6055 in Summer 2020, I also received student evaluation for that instance of the course. On average, I received 3.85/5 for my teaching. Since the class size was small, I only received feedback from four students. Despite of this, I will incorporate their feedback into my future teaching. For example, when I was implementing this course for Summer 2020, I allowed the students to learn from this class in a completely asynchronous manner. However, some students pointed out that this reduced engagement. Therefore, in the future, I will make the class less asynchronous.

ADDITIONAL INFORMATION OMITTED FROM THE GENERIC VERSION OF THE DOSSIER.

Course Modification

Research Methods and Statistics (CSCI 6055)

I redesigned the statistics portion of this course for Summer 2019 and Winter 2020, because I found it to be outdated. Introductory courses in statistics, such as this one, emphasizes on Null-hypothesis Significance Testing (NHST). However, with NHST becomes increasingly scrutinized by various communities, students may find their knowledge to be outdated in the near future. The most significant redesign that is the increased emphasis on confidence interval, effect size, and nonparametric statistics. I also included a lesson that outlines the criticism of NHST. Although I de-emphasized p-value in the class, I did not eliminate it. Since many researchers still use p-values and many academic articles still display them, students are still required to know it to some degree. Additionally, I also would like the students to develop some understanding of the "machinery" of statistics. Therefore, I also occasionally provided a deep-dive into the theories themselves.

The materials that I used for Winter 2020 was similar to Summer 2019 – albeit simplified. I found that the course was already quite intensive, and presenting all information in all details at once would not be beneficial to the student. However, I did not simplify the class as much as I would like to, because Quantitative Methods (CSCI 6061), the follow-up class, required significant statistical competency.

When I became an instructor for this course in Summer 2020, the course became an online course due to COVID-19 restrictions. Due to the restrictions, it was not possible to hold in-person classes. I eliminated all of the exam components in the course in order to reduce potential plagiarism issues. This required me to develop a large number of assignments. I also decided to make the course asynchronous.

Development of Teaching Materials

Research Methods and Statistics (CSCI 6055)

Developing the materials for this class as a teaching assistant waschallenging, because most of the existing materials were still oriented toward NHST. Therefore, I spent much of my time trying to develop a deeper understanding of confidence interval, and effect size. To be able to explain the material to the most minute details to the student, I also read advanced paper. For example, I read a paper on how to create a distribution for Wilcoxon Signed-Rank Test even though it was not necessary for me to explain to the students how to generate it.

When I became an instructor for this course during Summer 2020, I also transitioned this class from an in-person format to a strictly online format. As an in-person class, this course included exam components. Since conducting online exams could be extremely challenging, I decided to eliminate the exam components from my offering. Instead, I turned the exam questions into assignment questions that the students could complete.

SAMPLE CLASS MATERIALS ARE OMITTED FROM THE GENERIC VERSION OF THE DOSSIER.

Efforts to Improve Teaching

Teaching Assistantship for CSCI 6055

A teaching assistantship for CSCI 6055 is different from most assistantship for most classes, because the teaching assistant's main task also includes lectures. They also have to design an introductory course in addition to lecturing. I learned many things from being a teaching assistant for this class – from designing course materials, designing exams, to dealing with students' expectation during the lecture.

Certificate in University of Teaching and Learning

I earned a Certificate in University of Teaching and Learning at Dalhousie University. The program contains multiple modules designed to prepare graduate students to become better teaching assistants and instructors. The course has four components for the students who wish to complete the program:

1. Course: Students in this program are required to attend a one-semester course on teaching and learning in a university.

2. Observation: Students are required to be observed by a colleague or an instructor for three times.
3. Workshop: Students are required to attend at least 20 hours of workshops on teaching.
4. Dossier: Students are required to complete a teaching dossier.