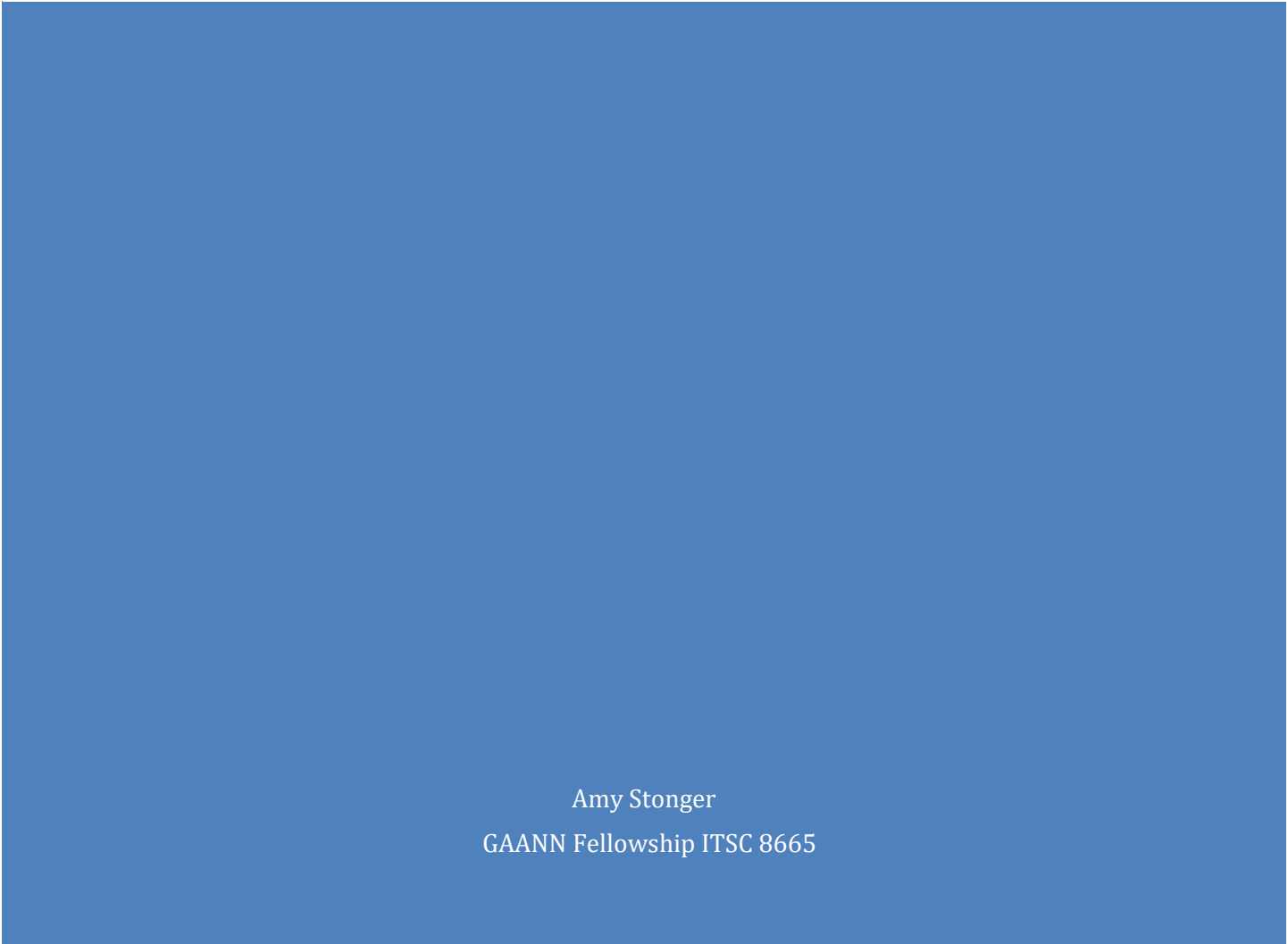




TEACHING PORTFOLIO



Amy Stonger
GAANN Fellowship ITSC 8665

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Introduction

My experiences teaching as a graduate student have provided me with the basis to begin a successful career in academia. As I progress on this journey to become a professor, I am developing my teaching style and am eager to incorporate nontraditional methods of instruction. Over the past three semesters, I have gained an understanding of the challenges associated with teaching. It is an exhilarating and sometimes scary experience that I hope to build on more as I finish my PhD and begin my career. I place high esteem on those who teach and see myself pursuing this role. I am grateful for the opportunities presented to me through the GAANN fellowship. This scholarship is associated with a variety of responsibilities designed to introduce different methods that can be implemented within the classroom setting and facilitate the development of my own personal teaching style. Under the guidance of my teaching advisor, Dr. Schlueter, I intend to completely develop and implement my own teaching style and philosophy.

Purpose

This teaching portfolio was developed to provide a comprehensive view of my teaching experiences. Furthermore, my portfolio provides a platform to reflect on my experiences and evolution as an instructor. Not only does this provide a means for my own personal professional reflection, it also allows for a more in depth evaluation from prospective employers.

Teaching Philosophy

As I near the end of my graduate education, my teaching philosophy is still under development. I intend for my teaching philosophy to be ever evolving. I am more aware of different teaching strategies and equipped with the knowledge of how and when to implement them. I have gained an appreciation for the multitude of teaching strategies available to me and recognize the benefits and challenges associated with each method. I intend to explore and implement a variety of different teaching strategies to engage students in the process of learning and foster a sense of personal accountability within my students for their success or failure in the course. I believe that variety in the classroom aids in student engagement, fosters

critical thinking, and overall increases students understanding of course content.

I am intrigued by the idea of student centered learning and want to experiment with this teaching method as I further develop my teaching portfolio. Two types of instruction of interest are structured discovery and the flipped classroom, where discussion and classroom activities are designed to facilitate discussion and guide content discovery. Both of these methods promote critical thinking and a deeper understanding of complex ideas, but do require a higher level of student participation. My experience as both a mother and student has solidified my perception that students are not held adequately accountable for their own learning. I believe that a higher level of responsibility can foster a greater experience for both the teacher and student.

Traditional lectures, with the teacher at the center of learning, do serve a role in the classroom but are not the only tool available to professors. I think it's important to incorporate different teaching approaches to maintain student engagement and intend to utilize all the tools at my disposal. It's important to recognize that traditional lectures do serve a purpose and can be useful, but I don't want to limit myself in the classroom. Learning is one of my biggest passions and I want to share that with my students.

Homework assignments and projects will be assigned. These serve as a learning tool and provide a measure of the student's understanding of the course material. I will provide clear guidelines of what is expected and how grades will be assigned. The goal is to set students up for success and provide them with the tools necessary to reach the goals set forth at the beginning of the semester. I want to be approachable and available to my students for any issues or questions that may arise, so I will fully utilize office hours and online communication.

Reflection of teaching experiences and GAANN fellowship

Over the past three semesters as a GAANN fellow, I have gained a better understanding of how to be an effective teacher and the variety of pedagogies available to me. I was naïve in my perception of instruction

styles, but am now better informed of how different teaching styles can be used for content instruction or discovery. I expect my teaching portfolio and philosophy to be ever evolving, as I progress in my career. I intend to be flexible in my teaching style, and tailor it to each individual course, as needed. I think it's important to recognize that each student will have a preferred style of learning and the class as a whole will benefit from a variety of instruction types.

My evolution from a student to a teaching assistant to a co-professor hasn't been without struggles. One of my biggest struggles is how to structure a course and each individual class section, particularly time management. I was attempting to cover too much material in each session and needed to rearrange my lecture schedule. Another struggle I encountered related to time management, was how to balance my teaching responsibilities with my research commitments. Towards the end of the semester, I developed a schedule with devoted time blocks to each obligation that worked fairly well. Self-evaluation is important not only at the end of a semester, but also during the semester.

I enjoyed having more control this semester in the selection of lecture topics, design of the final project, and the experimental design in the laboratory section. I am hoping to develop and design a class to be taught completely by myself in the Spring of 2017, with the help of my advisor. My department does not yet include an undergraduate degree program and thus has a much smaller selection of courses available. Within these courses, attendance is much smaller so I haven't had the opportunity to instruct a large class. I recognize this deficit in my teaching portfolio and am exploring options to gain this valuable experience.

Teaching Experience

Spring 2016

Co-teacher for BINF 3201+BINF 3201L Genomic methods

Professor: Dr. Schlueter and Ms. Stonger

This is an undergraduate course that includes a mandatory laboratory session. Lecture topics include genomic methods used in the laboratory, computational methods for data analysis, and the process to design an

experiment. The laboratory provides students with hands on experience in basic laboratory techniques, library preparation, sequencing with the Ion Torrent, and data analysis. I was responsible for more than half of the lectures, grading of assignments, overseeing the laboratory sessions, and guiding students in their final project.

Fall 2015

Teaching Assistant for BINF 6100/8100 Biological Basis of Bioinformatics
Professor: Dr. Schlueter

This is a graduate level course designed to provide a foundation in molecular genetics, transmission genetics, and cell biology necessary for graduate training in bioinformatics and genomics. This course covers a multitude of biological topics and provides the knowledge base for those unfamiliar with genetic biology. My responsibilities were similar to those last semester, including grading, lecturing, and providing academic support to students. By the end of the semester, I will have taught 4 lectures in all, on behalf of my advisor.

Spring 2015

Teaching Assistant for BINF 2101 Genomic Methods
Professor: Dr. Schlueter

This is an undergraduate course designed to introduce students to the creation and analysis of large genomic datasets, through hands on experience and traditional lectures. My role was to assist with laboratory sessions, perform grading responsibilities, and guest lecture. I was provided the opportunity to facilitate 3 lectures over the semester. Two of these lectures were related to course content and developed in conjunction with the professor. The third lecture was based on my own personal research and how it relates to the course objectives. It was a thrilling experience and I look forward to continuing this role next semester, in addition to adding further responsibilities.

Teaching Seminars

The Center for Teaching and Learning at UNCC:

- The What, Why, and How of Integrating Service Learning Into your Course(s) – Spring 2016

Service learning is the incorporation of community service that relates to the learning objectives for the course. It provides students with the opportunity to implement and extend what they are learning in the classroom in a realistic setting. In order to be an effective teaching strategy, the integration of service learning must include processing of their experience. This provides the connection between the service learning and the course material.

- Engaging Students With Structured Discovery – Fall 2015

Structured discovery is characterized by student centered learning to promote critical thinking and foster a deeper understanding of the material. The 5E model is useful in designing this type of lesson plan, incorporating Engage, Explore, Explain, Elaborate, and Evaluate as the 5 stages.

- Designing Effective Rubrics for e-Portfolios – Fall 2015

Grading rubrics are critical to objective assessment and providing clear expectations to students. Rubrics serve a central role in the classroom, as long as they are effectively designed.

- Using Concept Maps to Promote Critical Thinking – Spring 2015

Concepts maps were introduced as a tool to facilitate critical thinking associated with course content or complex ideas. These concept maps are a great way to organize ideas and understand connections between seemingly unrelated topics.

- Engagement through Whole Group or Small Group Class Discussions – Spring 2015

This seminar focused on how to successfully incorporate discussions within the classroom. A variety of strategies were discussed to increase participation and engage students. A number of critical factors to facilitate discussions were provided, establishing a framework for teachers to utilize when facilitating a group discussion.

Professional Development Seminars

- The Transition from Academia to the Workplace: A Female Perspective – Spring 2015

An amazing panel of 4 women in leadership roles in both the financial district and non-profit organizations provide their insight into challenges faced by woman in the workplace.

- Dissertation Day: Managing Stress – Spring 2015

A quiet, stress-free environment dedicated to dissertation writing. Snacks, writing resources, and one-on-one advice are available if needed. These workshops are a great opportunity to make progress towards the completion of my dissertation.

Computing Leadership Service

Fall 2015

My advisor and I held a day long workshop at J N Fries Middle School on October 6th. This workshop was targeted at the 6th grade students, to facilitate their understanding of the scientific process. The ultimate goal was to provide the scientific basis necessary for designing their science fair projects. We spent the day focusing on the steps of the scientific method, and how they relate to developing an appropriate hypothesis and implementing methods to test a scientific prediction. The science fair is set

to take place in December 2015 and I am hoping to be part of the judging panel.

Spring 2015

I volunteered to co-teach the SCRATCH programming club at Coltrane Webb STEM Elementary School in April and May. The goal is to introduce the basic ideas and concepts associated with programming early on, to generate a lifelong appreciation for this skill and foster the new generation of computer programmers. The SCRATCH programming language was designed at MIT and targets children 8 to 16 years of age. The club is very hands-on and provides the students with the opportunity to test out their new skills.

Educational Paper Presentation

“Strategies for Building Positive Student-Instructor Interactions in Large Classes” – Spring 2016

This research aims to identify effective strategies for building positive relationships between students and professors in a large class. A literature review revealed three strategies that were selected for further analysis; caring leadership, self-disclosure, and making the class feel smaller. Two surveys were administered to two different classes in order to evaluate how effective the teacher was in implementing the strategies of interest and identify additional strategies for building positive student-teacher relationships. The research provides a variety of ways to reach students in a larger classroom setting and encourage a more interactive and engaging class.

“Toward a Measure of Professional Development for Graduate Student Teaching Assistants” – Fall 2015

This research focuses on the development of an instrument to measure graduate teaching assistants' perception of their personal professional development in teaching. Prior research clearly demonstrates that graduate students do not feel adequately prepared for teaching, which may be associated with limited professional development and teaching coursework. This tool is useful to educational research, universities,

programs, and individual graduate teaching assistants. It can be used to assess individual performance, identify areas of weakness, and improve professional development tools.

“Would Someone Say Something, Please?” Increasing Student Participation in College Classrooms – Spring 2015

This research focuses on an analysis of student’s perceptions of discussion and participation within the classroom. It evaluates different strategies for engaging students and strives to identify the most useful methods. Increasing participation is a struggle that most teachers face at one point or another, and this research focuses on the student’s evaluation of a variety of different methods.

Lecture Observation

BINF 1101 Introduction to Bioinformatics and Genomics Dr. Larry Mays

Dr. Mays utilizes a traditional, lecture style approach with the incorporation of questions and discussion to facilitate critical thinking of the topic material. This lecture topic was “Genetic Engineering for fun and profit (mainly profit)”, which is a very engaging and interesting topic. Dr. Mays connected the abstract concepts to their real world applications, further engaging the students’ attention.