Teaching Portfolio

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**Teaching Philosophy Statement**

The ultimate purpose of education is to teach students to teach themselves. That is to say, for students to become self-directed and life-long learners, able and motivated to work, learn, and thrive in any situation. To create full, well-functioning, self-actualized human beings.

Sometimes in life, we lose sight of why we’re in a situation and why we’re doing what we’re doing, as we get caught up in the minutia of daily life and in the mores of our culture. Sometimes we forget that teaching is ultimately about the student’s learning - and not about the content we deliver. Sometimes, we forget that each student is a unique individual and will resonate better with some teaching approaches and methodologies than others - and will ultimately learn in a different manner and find meaning in different topics than their peers. And sometimes we forget that ultimately, students just want to find what they love, develop the skills and propensities necessary for pursuing these passions, and to pursue them to their maximum ability. And that, I argue, is what teaching is about - helping students see the wide possibilities of the world, guiding them to muddle around in it to find their place, and, ultimately, empowering them to gain the skills necessary for pursuing aptitude in these areas.

Just as learning is a work-in-progress and a journey for the students, likewise the act of teaching is a continual process of improvement for teachers. And having the right processes and methods for developing into a good teacher is ultimately more important than the individual plans or results or lessons we may craft. Taking in and processing feedback, and being able to ‘roll with the punches’ and adapt to different student learning styles, interests, and skill levels is more important than having that one perfect project or lecture or lesson plan. With this comes the recognition that teaching is a dynamic process, a continual undertaking, and that we may never have it ‘figured out’ - but that as long as we focus on the student and on making their experience as enjoyable and enriching as possible, then we can be assured that we’re on the right path.

My personal goal in teaching is to have students leave my class feeling confident that they have learned something, developed as individuals, learned more about themselves and others, and have the confidence and ability to continue pursuing knowledge in the areas they’re interested in.

**Core Philosophy Aspects**

This general philosophy comes from my personal explorations and struggles with trying to answer the question, ‘what is education ultimately about?’, and is heavily influenced by the works of Bain, Fink, Seymour & Hewitt, Deci & Ryan, and a number of other scholars in the field of education. The following sections offer an elaboration and grounding for my philosophy:

**Teaching through the Active Process.**

Teaching shouldn’t just be a ‘pouring out’ of knowledge, and learning shouldn’t be a passive reception of facts. Students learn best through the active process - by asking questions, grappling with difficult concepts, discussing ideas, and by trying things for themselves (Fink 2003, p.27; Bain 2004, p.48-49, 52, 56; O’Brien, Millis, and Cohen 2008, p.4).

As a teacher, my role is to be a guide and a door-opener. To show the students what they can do, encourage them to do it, and give them the best possible resources to be successful - but ultimately to let them take that first (and second, and third) step, to decide their own direction, to get lost, to try, fail, and try again. That is, to learn for themselves. Many of my specific pedagogical practices stem from this conception of the teacher as a door-opener, facilitator, resource-provider, and ultimately, hands-off observer.

**Development of the holistic, well-rounded, life-long learner student.**

Specific class content and fact-recollection aren’t the only things we should teach in a classroom; a full education develops all aspects of a person - not just their cognitive abilities. A number of authors argue that education is a multi-faceted topic. A pioneer in the field, Benjamin Bloom argues that education consists of six types of learning: evaluation, synthesis, analysis, application, comprehension, and knowledge. Years later, authors like Dee Fink elaborated and built upon Bloom’s ideas and argued that learning how to learn, leadership skills, interpersonal skills, communication skills, ethics, tolerance, and the ability to adapt to change are equally valid aspects of learning and education - and that education is not just about content mastery (Fink 2003, p.29-33; Bain 2004; O’Brien, Millis, and Cohen 2008).

Between the works of these scholars and my own personal deliberations, I’ve developed the idea that teaching should focus on developing all, or at least as many as possible, aspects of a student - especially focusing on the things that students will retain five, ten, even fifty years down the line - character, ethics, self-efficacy, life-long learning, self-direction, interpersonal skills, communication skills, critical thinking and analysis skills, self-reflection, the ability to adapt to change, and the ability to make connections and engage in ‘big picture’ thinking.

We can’t hope to impart to our students all of the skills and minutia they’ll need to know for the rest of their lives (nor can they hope to remember such things), but that we can teach them the processes that will let them acquire knowledge in the future, and thrive in any situation they find themselves in.

**Motivation and Context**

Ultimately, students should know why (and be excited about why!) they’re taking the class or doing any given assignment, This ‘why’ should be a fusion of their own personal motivations, as well as the professor’s ideas about why the topic is interesting or exciting.

As Dr. Ken Bain puts it, “people learn best when they are trying to answer their own questions” (Bain 2004, p.55), and clearly explaining the motivations behind the class, and how it connects to other disciplines and the ‘real world’ is paramount for stimulating student interest and motivation in the topic. This can be accomplished with something as simple as writing the plan/goals for the class on the board at the start of every unit, so the students always have the ‘bigger picture’ of what they’re doing, or with something like integrating real-world examples and applications into every topic.

**Student-Focus**

For a class to be interesting and exciting to the students, and for them to remember it, the content must be structured around the student, and their interests, goals, and abilities. Such a student-centric approach to teaching can be viewed as the process of taking what the students already have and building and elaborating on top of it.

By starting with the students’ interests, goals, and abilities, and integrating them with the ideas and goals of the instructor, it is possible to build a classroom environment that fosters and intrinsic motivation, develops self-efficacy, and enables self-direction for the students - creating high performers and high achievers who ultimately do well both in the class and long after it is over (Bain 2004, p.99-100; Hidi 2000; Eccles & Wigfield 2002).

**Classroom Practices**

My teaching philosophy and its grounding principles form the foundation from which all of my classroom practices and pedagogies derive. The following is a collection of specific elements of my classroom that have evolved out of these core beliefs - these may (and hopefully will) change over time, as I learn and grow as an instructor.

**Feedback**

Though rarely explicitly discussed in literature, I strongly believe in incorporating strong elements of feedback into every aspect of the classroom. Feedback can take one of three forms: feedback from student to instructor, instructor to student, and feedback between peers.

Feedback from the students to the instructor, in the form of one-minute papers, small group discussions, or even class-wide discussion, can help shape and direct the class to better match students’ interests and abilities. As the instructor, I can use such feedback to change the pacing of the class, class structural elements (i.e. including or excluding breaks), or any number of other pedagogical practices. This meshes well with my idea of teaching being a process of continual improvement, and inherently dynamic - every group of students will be different, and feedback is a powerful tool to adapt to each set of students, and to maximize their interest and learning.

Feedback to the students from the instructor can be a valuable formative tool, and instrumental to student learning and conceptual change. Without feedback about what they are doing well or poorly, how can students hope to improve or get better? Providing timely, thorough comments and feedback about student work, and creating mechanisms that allow students to provide each other with feedback can increase learning and content retention (Scharmann 2004 citing McDermott 1991, McClymer & Knoles1992, Pride, Vokos, & McDermott, 1997, Tobias 1990).

**Sensitivity to different levels of ability, & effects of gender, race, and other personal attributes**

#### Tying closely to the idea of using feedback as a tool to learn more about student interests, abilities, and progress is the idea of taking into account the effects of the different backgrounds students enter class with.

A broad swath of literature discusses the various differences in background that students enter school with - differing levels of ability, race, gender, socioeconomic backgrounds, social capital, study skills, and previous experience (McAnear 2001; Mallow 2006; Massey 2003; McIntosh 1988; Valian 1998; Burkam 1997 citing Kahle & Lakes 1983, Kahle, Matyas, & Cho 1985, Jones & Kirk 1990, Jones & Wheatley 1990, Kelly 1981, Morse & Handley 1985, Cannon & Simpson 1985, Jones & Wheatley 1990, Simpson & Oliver 1985 & 1990). This much literature on a topic cannot be easily disregarded, and it is crucial for every instructor to consider these issues when structuring their courses and lessons.

I believe that a teacher must do their best to take into account the effects of such differences and work to equalize the learning field for all students. This means A) being aware of the issues that can potentially arise due to gender, race, or other personal attributes. B) Teaching to all different learning styles, using a variety of pedagogies (as some tend work better for some students than others). C) Working to get to know students and learn more about their individual interests, struggles, and strengths - and acting upon this information to adjust the amount of scaffolding provided, techniques used, and classroom elements like pacing - in order to maximize student learning and make the classroom experience as positive as possible.

In general, I believe that gender, diversity, and differing student backgrounds is a very deep and complex area in education, and one that I intend to explore further and take very seriously throughout my teaching career. I may not have a great depth of experience in dealing with these issues now, but I hope to develop them as I grow and develop as a teacher.

**Pacing**

Setting the appropriate pace - through the semester’s content, and through lectures/explanations is crucial for students to be able to keep up, and for the material having time to properly ‘sink in’. Ruhl, Hughes, and Schloss (1987) explain that when faculty pause frequently during lectures, students absorb significantly more information. Furthermore, adding breaks in the semester to let students de-compress, catch up if behind, and let the material sink in - can be highly beneficial for mitigating the stress and feelings of overwhelm that are often side-effects of the fast-paced university setting (Seymour & Hewitt 1997).

**Office Hours & Outside Help**

Students will inevitably need external support when grappling with new concepts and struggling through conceptual change. I believe in three primary mechanisms for helping students get through this: 1) open instructor office-hours (where anyone can come in, chat, and ask questions), 2) course assistants (to provide more granular instruction and offer a different perspective), and 3) peer-help (the class is in this ‘together’, and individuals who are at different levels of understanding can help each other through the learning process). Providing adequate student support and outside help is crucial for maintaining student well-being and success (Seymour & Hewitt 1997).

**Teaching in multiple styles**

There is ample evidence in literature that stipulates that students learn in a variety of ways, and that teaching through multiple senses significantly increases content retention (Nilson 1997; Watkins and Mazur 2009). In her 1997 work, Linda Nilson elaborates: as a baseline, students retain 10% of what they read in books, 10-20% of what they hear, and 30% of what they see. By incorporating active learning/peer-instruction, students retain 70% of what they say. Combining these styles, student retain 90% of what they say & do. Combining three of these techniques can lead to retention rates equal to or exceeding 97% (Nilson 1997).

Nilson’s work suggests the use of a number of pedagogies: peer-instruction (students say and hear content), hands-on, project-based work (students say and do content), and a multi-sensory approach to lecturing (say, visualize, and have students act on). Nilson’s research forms a large portion of my rationale for using such pedagogical techniques, which will be elaborated more on in the ‘pedagogies’ section.

**Giving Students an Opportunity to Think First**

In my experiences, I’ve seen too many students who, subject to their instructor’s mentality of ‘handing down’ knowledge, end up leaving their university years without ever really having learned to think for themselves - because content was always supplied to them, and they were never forced to *think*. Furthermore, authors like Deci & Ryan and other motivational psychologists explain that when one has personal interest in learning material, they are more motivated to learn it and persist more (Deci & Ryan 2000). I argue that if students have the opportunity to first try to solve a problem or answer a question, and, in the process, realize that they don’t have the knowledge/tools/skills for doing so - they become motivated to learn those skills and bits of information that we wanted them to learn in the first place.

In order to do this, instructors must give their students the opportunity to think about a question/problem first, before giving out the answer - so that students can discover the holes in their knowledge for themselves. Such a “try first” method accomplishes two things: 1) develops student ability to think and reason through a problem, increasing conceptual understanding, and 2) builds motivation for learning the associated content, as the student develops a clear picture of *why* this information is needed (Bain 2004, p.101; Watkins & Mazur 2009, p.41).

Dr. Ken Bain summarizes this idea well, “Let the students hold a bat and swing it around, before talking about the theory” - they’ll understand the theory more, and the details that you explain once they’ve had a chance to experiment and think about it first by themselves (Bain 2004, p.110).

**Raising Provocative Questions**

As a corollary to the ‘think first’ technique described above, posing provocative questions to students and letting them grapple, think about, and discuss them can lead to significant critical thinking, analysis, synthesis, debate, communication, and life-long learning skills development (Fink 2003; Bain 2004, p.101).

In my classroom, I believe strongly in the role of such questions - about ethics, the broader context of the content, even student self-growth and life goals - as an integral part of challenging and developing students.

**Positive, Open Atmosphere**

A significant amount of literature argues for the positive effects that come from a friendly, non-threatening, non-competitive, non-stressful classroom atmosphere - where peers are comfortable around each other, the instructor and students are seen as collaborators and colleagues instead of antagonists. (Bain 2004; Seymour & Hewitt 1997; Tobin & Fraser 1998; O’Brien, Millis, and Cohen 2008).

Ice-breakers and activities that require class-wide collaboration can work to build this sense of ‘togetherness’ and create class cohesion and trust. Between the students and instructor, being open with students - telling them what will be taught, why, when, where things are going, etc. is another critical element. Small things, like annunciating the little details of the upcoming lesson, as well as larger ones, like sharing one’s teaching philosophy with students, serve to build this trust and create a positive environment where learning and collaboration are more likely to happen (O’Brien, Millis, and Cohen 2008, p. 7).

The goal of fostering such an atmosphere is multi-fold: 1) to reduce student stress 2) to enable greater peer instruction and informal student-teacher instruction, and 3) to create a place where students are not afraid to try things, speak up, fail, and shape the class - all of which tie back to the goal of increasing student well-being and maximizing learning.

**Expectations for Students**

In conjunction with the open and friendly atmosphere described above, I also believe in holding students to strict and high expectations for quality work and commitment to the course. By establishing clear ground rules early on in the class and asking the students to commit, to the class, the course objectives, and their peers, I hope to establish a fast-paced, high-performance, yet relaxed atmosphere. I don’t believe in treating students like children; by offering them responsibility and holding them to high standards, I hope to foster a positive classroom experience (Bain 2004, p.113). Furthermore, by acknowledging student abilities, yet always pushing them to do more, I hope to build them as individuals and help them reach their maximum potential (Mallow 2006).

I believe that the best class environment is where the students see the teacher, ultimately, as their instructor, but where the classroom atmosphere and culture allows the teacher to be highly approachable and integrated in classroom activities, where they are able to better work with and help students.

**Scaffolding**

Throughout almost every element of teaching, *scaffolding* - the providing of students with key information and concepts that enable them to build their understanding - is critical to the success of any teaching undertaking, whether an activity, project, lesson, or general lesson goals (Bain 2004, p.52). Identifying the right amount and type of scaffolding is arguably the most difficult task of an instructor, and acknowledging it here is simply a matter of due diligence and being explicit, as it is something I will continue to pursue throughout my entire teaching career, and probably never get fully right.

**Pedagogies**

Over my development as a teacher, I have been exposed to a number of different teaching pedagogical methods of instruction - case studies, labs, discussions, debates, role-playing, project-based learning, problem-based learning, peer-instruction, self-reflection, spiral learning, just-in-time teaching - and made attuned to their various propensities for helping students better acquire content vs. skills, or for engaging various levels of thinking. Though it is perhaps too much detail to capture the minutia of my thoughts on these topics here, I will say that I will always work toward trying out new and different techniques, as well as modifying and improving old ones, and attempt to keep the classroom environment new and dynamic and ever-changing for the students. Ultimately, the choice of pedagogy depends on the teaching goals for that particular course or lesson, and will have to be adapted based on the teacher and student goals for each course and lesson.

That being said, I believe that two particular techniques can work across a wide variety of courses, cater to different student learning styles, and accomplish a majority of my core goals as an instructor: interactive lecture and hands-on learning. Lectures expose students to new ideas, challenge their notions and preconceptions of the world, and show them ‘what’s out there’, while hands-on learning allows students to take an active role in their education, pursue what they love, and solidify the concepts that they find meaningful. The following sections discuss the literary grounding for these techniques, and elaborate on my beliefs about them:

**Interactive Lecture**

I believe in the power of a well-crafted, enthusiastic, thought-provoking lecture, supplemented and enriched by stories, anecdotes, and real-world examples, as a powerful tool for enriching student understanding and getting students interested and excited about a topic.

Commonly held as the ‘standard’ teaching mechanism, lecture-based instruction often comes under the attack of modern educational reformers, who disparage it as being too traditional or not reaching enough students’ learning styles. However, I believe that a closer examination of lecture-based instruction can show us that lecture, if done properly (structured correctly, animated and exciting, and presented in a mixed-sensory way) can be an incredibly useful teaching tool and be especially powerful at delivering new content and ideas to students.

Research shows that lecture is particularly useful for:

* Presenting new information, new perspectives, and different ways of thinking; challenging student conceptions and mental models of the world (Bain 2004, p.51, 100)
* Creating interest, curiosity, and engagement of students, if the content is presented in an animated, powerful, near-theatrical way (Bain 2004, p.99)
* Telling interesting stories that provide context, a broadening of worldview, or just curiosity and interest (Bain 2004, p.102)
* Clarify and simplify complex material (Bain 2004, p.107)
* Raise important, challenging, and provocative questions (Bain 2004, p.107)
* Focus or direct student thinking toward some topic the teacher would like them to engage on (Bain 2004, p.107, 109)
* Offering anecdotes, stories, examples, questions, and explanations (Bain 2004, p. 115)

Furthermore, interlacing lecture with breaks for students to try the material and concepts for themselves, and to let the material ‘sink in’ can make lecture a more active and interactive process, and further enable student learning.

**Hands-On, Active Learning**

A number of hands-on techniques - such as problem-based learning, project-based learning, and even case studies and discussions, work to engage students actively - to explore, think, reason, research, analyze, synthesize, and learn for themselves. Picking any one of these isn’t necessarily a practical path to go down, as the specific choice of pedagogy will depend largely on the teaching goals and objectives for the particular lesson/course. Thus, I can’t say whether I will use any particular method in any given class, as different techniques will be more appropriate class to class, or even lesson to lesson - and I will just have to adapt to each situation and figure out what is best for student learning and for achieving both instructor and student goals.

Ultimately, the only way any of us truly learn is by trying something for ourselves and finding personal meaning and relevance behind what we’re doing (Deci & Ryan 2000). Thus, incorporating elements of active, participatory, and hands-on learning in the classroom is integral to my pedagogical beliefs.

**Peer-Instruction and Collaborative Learning**

Peer instruction and collaborative learning can enhance student interest, performance, and student retention (Mallow 2006 citing: Gautreau and Novemsky 1997, Hake 1998, Heller, Keith, and Anderson 1992, Watkins & Mazur 1997, Meltzer and Manivannan 1996, Michaelsen et al. 1982, Treisman 1992). I believe that students have a great deal to teach each other, and a great deal to learn in the process of doing so (Nilson 1997)- and thus work to incorporate elements of peer instruction and peer teaching into my instructional techniques. ).

One specific implementation of this is the use of student discussion groups outside of class - where students are required to get together some number of times a week and discuss a number of different questions. These questions may be homework-related, as an almost mandated collaboration, or may be larger questions that engage students to think about the ‘big picture’ of the class content or their lives in general.

Furthermore, including any sort of collaboration, group work, or team work in a course can teach students valuable lessons about teaming and inter-personal skills that they can then take with them far beyond the classroom and use in all their future endeavors (Mallow 2006; Harmon, James, Bryant 2007; Blumenfeld 1996)

**Assessment Methods**

Assessment can be useful for a number of purposes: showing students their strengths and weaknesses (such as in competency-based evaluations), creating an externally-necessary metric of student ability (i.e. GPAs), providing the instructor with feedback about how the class is progressing, and acting as a learning tool for students.

However, the way in which assessment is executed in a classroom plays a significant role in student well-being and motivation - and maximizing both of these is crucial to maximizing student learning (Bain 2004; Seymour & Hewitt 1997).

Thus, in my assignments and assessments, I have worked to develop a non-stressful learning environment that encourages students to try and mess up, pursue their interests, and learn as much as they can every class, without fear of failure or repercussion. My evaluation schema reflect this, as I believe strongly in grading based off of effort and relative student progress - instead of absolute, comparative metrics. This hopefully creates an environment that encourages student exploration, pursuit of interests, and minimizes anxiety. The specifics can be described by:

* **Feedback about work and opportunities for resubmission.** This allows students to try, fail, get feedback, and try again before facing summative evaluation of their work - which encourages experimentation, pursuit of interests, less stress, and higher potential for intrinsic motivation (Bain 2004, p.108-111; Seymour & Hewitt 1997). Furthermore, feedback from the teacher or from peers can be a valuable tool for learning, and adds to the idea that assessment can be a formative tool as well as an evaluative tool. By receiving feedback and being encouraged to revise and fix their work, students will hopefully change their orientation to one that is more learning-focused instead of assignment-focused.
* Minute papers that ask students questions such as ‘what is the most important thing you learned today’, and ‘what questions do you still have’ can be used to solicit and evaluate feedback.
* **Effort-based and relative student progress-based grading**. Every student comes into the class with a different background and different goals, interests, skills and abilities. Naturally, some will do well and breeze through, while others will struggle and have difficulty learning the material. Thus, my evaluations of the students are based off of the effort they put in to the course, and not necessarily how far, on an absolute scale, they get. The same effort and time put in to the course is expected from a student who comes in unsure and with little background to the course, as to the student who comes in with years of experience in the subject; both will be expected to work equally hard and as far as they can.
* Personalized goal-setting can be used to gauge student orientations and goals, and rubrics to evaluate progress and learning.
* **Student self-reflection and self-evaluation.** Not only does self-evaluation build the skills of analysis and self-reflection described in Bloom’s and Fink’s Taxonomies, but letting students honestly evaluate their own work can increase students’ intrinsic motivation and sense of ownership over their assignments.
* A strong ability to self-reflect is something I fervently believe in as an important life skill to have - as well as the ability to pick out and remember the most important topics from a course. Giving students opportunities to self-reflect and synthesize what they’ve learned, through concept maps, portfolios, and learning reflections, can help students develop skills in both these areas.

**Sample of Work**

A sample lesson plan is attached as a separate document, and gives an example of how my teaching philosophy, classroom practices, pedagogies, and assessment methods can be integrated into a lesson.

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