

Personal Narrative and Overview

Thank you for evaluating my tenure and promotion portfolio. I'm grateful for your time, energy, and consideration. I've arranged this portfolio an intuitive way in order to minimize the effort you'll need to spend evaluating my package against the criteria.

Organization of the Tenure and Promotion Portfolio

This portfolio is divided into four sections:

- **Overview**
The page you are currently viewing. This page contains the narrative that gives the big picture, frames the context for the rest of the portfolio, and ties all of the pieces together into a coherent whole. Read this page first, as the other pages are mainly links to supporting documentation.
- [Teaching](#)
Evidence for my excellence in teaching.
- [Scholarship](#)
Evidence for my vitality in scholarship.
- [Service](#)
Evidence for my value as a community member

The Big Picture: Who I Am and How I Contribute

The last five years at JMU have been deeply satisfying for me—I am engaged in my calling, and I have a powerful sense that JMU is the right place for me. I am grateful that my life's path has led me here. I find myself at a university that shares my values, in the midst of a progressive department committed to pushing boundaries for the betterment of students, and for the betterment of the world. I am a better man for being at JMU, and I believe the JMU community is stronger for having me here.

I am truly inspired by JMU's mission statement:

We are a community committed to preparing students to be educated and enlightened citizens who lead productive and meaningful lives.

As enlightened citizens, we are called to employ our talents and gifts to leave the world better than we found it. As professors, we are called to lead by example, to

show students what it means to live a productive and meaningful life, and also to help them acquire the awareness and the tools to do the same.

Psychologist Mihaly Csikszentmihalyi's flow theory teaches us that we are all happiest and most alive when engaged in overcoming challenges that permit us to use our strengths to overcome them. We receive a sense of joy from meeting those challenges with the skills we know we are best at. I am a programmer and web developer whose research interests are in the areas of learning, assessment, pedagogy and motivation. My passion and first priority is to create the highest quality learning experience possible both in and out of the classroom. My computer is my tool of choice when striving to foster self-awareness and the desire to excel in my students, and in helping other teachers to do so.

Put simply, I help learners learn, and help teachers teach, and I'm most effective when I make use of technology to do so. This is the big picture, and the lens through which you should view my entire portfolio. Almost everything I do contributes to this mission in some way. This narrative will make the connections between my various activities clear. In the following three sections I will provide a guide to making sense of my teaching, scholarship, and service. I will conclude with a discussion of how the three areas work in concert with one another.

Making Sense of My [Teaching Portfolio](#)

In this section, I'll discuss my teaching prior to coming to JMU—both in Japan and at the New Jersey Institute of Technology (NJIT)—and then narrate how my teaching role has unfolded here at JMU. The goal of this section is to convey to you my trajectory, depth, passion, and maturity as a teacher. The supporting documents in the [teaching section of this portfolio](#) will serve as evidence of my quality. In other words, the artifacts in my portfolio will demonstrate *what* I've done, while this narrative will relate *why* and *how* I've done these things.

TEACHING ENGLISH IN JAPAN

My first job after graduating from college was as an English teacher in rural junior high schools in Hokkaido, the northernmost island of Japan. When I took this job I still had no idea that my calling was teaching. At the time, I would have told you that I wanted to have an adventure in a foreign country where I couldn't speak the language. I chose Japan because I had been studying judo and zen meditation since my sophomore year in college. As an undergrad at the University of Richmond I majored in sociology and leadership studies, and minored in physics. My plan was to spend one or two years in Japan and then come back to the US and figure out what my "real career" would be. Regardless of my intentions, though, teaching in Japan made a deep impression on me and relating the differences between the US and Japanese educational systems may shed some light on how my teaching philosophy developed while there.

Before I do that I'd like to share part of a journal entry that I wrote on September 5th, 1996, approximately two weeks into my teaching job in Japan (one of over 200 pages I wrote that first year). At the time I was feeling a bit overwhelmed by the job of teaching English while handicapped by my total lack of Japanese language ability. Using the self-reflective skills my mentors at UR had taught me, I drew upon my own experience to develop a plan for the future:

When do/did I learn the most? I have energy. I am engaged. I am challenged. I am confident that I can learn AND I perceive that what I'm learning is important to me. Therefore, My goals for my class environment are:

- 1. Students are energetic*
- 2. Students minds are engaged*
- 3. Students are challenged*
- 4. Students believe that they **can** learn, and*
- 5. Students believe English is important to learn*

It is amazing to me that my values at age 22 are the same as they are today. The major difference is that now I know and understand the science of teaching and learning that demonstrates why my then intuitive perspective is a sound one.

In Japan, unlike the US, the accomplishments (or failures) of the individual student are not that important. In the US, underperforming students must repeat grades. Westerners believe that individuals are essential and that each person must learn to perform as an individual. In Japan, however, students must learn to function as part of a group, and as such, the need to remain with one's age cohort trumps individual academic performance. That doesn't mean that Japanese teachers don't care very deeply about individual students' learning, but it does mean that students will always be promoted to the next grade regardless of their actual learning.

In practice, this was very frustrating for me. In the centralized Japanese system, all students study English from the seventh grade until graduation from high school. As such, you'd expect to find a lot of English speakers in Japan, but such is not the case. What I found was that about 60% of my students failed to grasp even the most basic English concepts during their first year of English study. Despite that, they were promoted to the second year which builds on the material from the first year. By the time they reach the third year of English, the number of students who are able to keep up is tiny. Teaching first year students was fun, but by the time they reached third year, they were so bored and demoralized that it was a very painful experience.

Despite their individual failures to learn English, however, Japanese students are constantly reminded of how important it is for each person to make a valuable

contribution to the groups of which they are a part. Over time I began to see the wisdom of their way of education. While they may find a class like English boring, Japanese students are not particularly bothered by their lack of proficiency in any particular area so long as they are able to contribute to their classmates in an area of their own strength. They learn cooperation to an extent that adult Japanese can accomplish complex coordinated action with little, if any, exchange of words. In a world where we do most of the work in our adult lives in a collaborative, cooperative environment, the Japanese approach makes a lot of sense.

From the Japanese I learned a number of things:

- Cultural beliefs are deeply embedded in our education
- Be humble and open-minded when faced with a radically different approach
- It's tough to learn English when you don't have anything particular to say
- Not to have a dogmatic acceptance for the things I had grown up believing

I learned something about perseverance in trying to adjust my style of teaching to the students I am working with. Since then I've also learned that American researchers like Deming have recognized the power of the Japanese perspective and shown how their focus on groups and quality can lead to superior performance as was demonstrated by the Japanese auto and electronics industries' dominance through the 70's and 80's.

TEACHING AT THE NEW JERSEY INSTITUTE OF TECHNOLOGY

After five years in Japan, I moved my family to New Jersey where I was invited to complete my PhD in Information Systems at NJIT. What a culture shock! I was looking forward to moving back to my "home culture," but New Jersey was nothing like Virginia, and NJIT was nothing like the University of Richmond where I'd been an undergrad. As a full-time lecturer at NJIT and as grad student I had new transformations in store.

Given my background in sociology, I was assigned to teach a course called "Computers and Society," a 300-level required course in both the Information Systems and Computer Science bachelor's degree programs at NJIT. Many of NJIT's students were first-generation college students working forty-hour weeks while going to school full time. They were mostly unprepared for "college-level" work and didn't have a lot of confidence in their abilities. Not having any understanding nor sensitivity for this, I was very strict with my students and commiserated with colleagues about how unmotivated, and inarticulate they were. It took me a couple of years to realize that my inflexibility, and my preconceived notion of what students "ought to know" and "ought to be able to do" were not serving anyone well. In focusing on understanding my students, my Ph.D. studies stalled as I devoted more and more time to my teaching.

The energy I put into teaching led to innovation. I developed NJIT's first course on server-side web development and allowed students in the course to complete projects using their own choice of programming language: Cold Fusion, PHP, JSP, or ASP. I wrote [a web-based system that taught students how to record and upload online presentations](#) (in 2004 before people were doing this kind of thing), and deepened their learning through the peer-evaluation component of the system. My system was jury rigged into Blackboard before such systems had interfaces for 3rd party plugin developers like myself. I set up my own PHP server and tried out Moodle, one of the first free, open-source learning management systems. Because of that experience, I was tapped to serve on a committee under NJIT's VP for IT evaluating our options before renewing our expensive contract with Blackboard. Before I left NJIT I was nominated and took honorable mention for the university-wide Excellence.

Given this experience, it is not surprising that my dissertation topic migrated towards the development of online systems to improve teaching and learning. Eventually I built and tested [QuesGen, an online system to help teachers write better multiple-choice questions](#), but before I could get there, I had to dive into the areas of learning, pedagogy, assessment, and teachers' professional development. My dissertation studies set me up to have several realizations that have shaped the teacher and researcher I've become.

One of my first realizations was that college faculty receive little to no instruction or training in teaching and pedagogy, even though teaching consumes generally one-third to one-half or more of our professional lives. Teaching is a professional occupation which does not necessarily come intuitively to all of us who are asked to teach at the university level, hence the need for organizations like JMU's Center for Faculty Innovation, and books like Will McKeachie's *Teaching Tips*. As a web developer, I wanted to build rich online tools that naturally led professors to use sound pedagogy grounded in the science of teaching and learning.

The second realization was the potential conflict of interest that faculty experience between serving students and serving society. Ken Bain, who was the keynote speaker at the most recent CFI May Symposium at JMU, articulates this conflict in his book *What the Best College Teachers Do*. In discussing how great professors prepare to teach, he describes a number of questions teachers ask themselves, including, "#9. How will I find out how students are learning before assessing them, and how will I provide feedback before—and separate from—any assessment of them?" (p57) In his discussion he makes the following observation:

The professor holds a dual role, first, to help students learn, and second, to tell society how much learning has taken place. The intent of this ninth question is to recognize the distinctions between these two responsibilities and restore the primacy of the first. (p58)

My reading of King's College of London professors Dylan Wiliam and Paul Black's book *Assessment for Learning* taught me how these roles can be in conflict. Grades become ego-involving, i.e. a student's sense of self-worth becomes dependent upon these external judgments of their work. When faced with a "negative" judgment, the need to preserve self-esteem leads them to put up defensive barriers against the feedback, compromising the learning opportunity. Alternatively, students may develop a belief in a fixed ability level, only alterable by outsiders—a problem when research demonstrates that learning is most robust in students who believe that they a) can improve their ability, and b) have the power to do it themselves. Wiliam and Black's research showed that grades tend to be more ego-involving than other feedback. As such, society's demand that professors grade may put them into conflict with what is known to be best for fostering student learning.

The third realization I made concerned class size. As a lecturer I taught large sections of eighty or more students, with semesters in which my total enrollments were close to 150. Such class sizes prevented me from employing the techniques and best practices I was garnering from the literature, and getting to know students as closely as I would like. Building on my experience as a distance learning student (the first two years of my master's degree at NJIT were completed from Japan—I never set foot on NJIT campus), I began to develop online videos (tough when many people still used dial-up!) and software that would automate administrative, one-way communication, improving my efficiency and leaving me time to get closer to my students.

I was fortunate to get to meet Dylan Wiliam and work with him and other well-known researchers in the professional educational measurement world as an intern at the Educational Testing Service (ETS) during the summer of 2004. While at ETS, I saw firsthand how professional tests are developed, and how they are scored. I was able to observe teachers involved in scoring the AP English, Latin, and Studio Art exams. I worked as a developer on the MathTCA software system that attempted to automate the creation of high-quality math questions for standardized tests.

Through these experiences, coupled with my reading in item response theory (IRT) and [research into multiple-choice question generation](#), I became deeply skeptical of the validity of tests and other assessments that I had designed for my students.

The depth and breadth of my perspective toward teaching changed dramatically in my five years at NJIT. Unfortunately, the funding for my position dried up before I had completed my dissertation and I was thrown into the job market earlier than I would have liked. Fortunately, that happened to be the year that ISAT was looking for a new IKM professor.

TEACHING AT JMU

Since coming to JMU, I have continued to broaden and deepen my knowledge and skills in the two areas that [Lee Shulman](#), an expert in teacher professional development, describes as the pillars of effective teaching:

- **Subject Matter Knowledge:** knowledge about the subject that one is teaching, and
- **Pedagogical Content Knowledge:** knowledge about how people learn and the techniques teachers can use to support that learning.

I have worked constantly and consistently throughout my time here to become a recognized expert in my field and also a recognized expert in the ways in which I can foster understanding about my field among the students that I interact with.

I am primarily responsible for teaching courses in programming and web development. These domains are still young and very volatile. The languages and techniques used by software and web developers change rapidly and may become partly or largely obsolete on time scales that range from eighteen months to two years. In order to deepen my subject matter knowledge I have [spent a considerable amount of time learning a broad array of languages and technologies](#), and staying current in the languages I knew previously. I have sponsored [weekly “hacking sessions” for the past three years](#) so that I can involve students in my exploration and also be responsive to and knowledgeable about the technologies they would like to use for solving problems. I have [mentored a large number of senior projects](#), many of which required me to work hard to keep up with my students, who chose cutting edge platforms upon which to build. I have attended conferences and workshops focused on software development such as the 23rd IEEE-CS Conference on Software Engineering Education and Training (CSEE&T 2010) in Pittsburgh, and the Agile Software Development 2011 Conference in Salt Lake City where I met, interacted with, and learned from some of the most famous members of the agile software development community like Alistair Cockburn. I have also kept my skills sharp by employing them in the service of outside [consulting clients and colleagues’ research grants](#). I feel comfortable saying that I know more about web development than any other person at JMU.

Likewise I have worked to deepen my pedagogical content knowledge. I have attended at JMU, and most recently the ISAT Mini-Symposium on innovations in teaching held this past May. I have observed over 45 classes and discussed effective teaching strategy with over 1000 students in my service as a [Teaching Analysis Poll \(TAP\) Consultant](#). I have also benefitted (and benefitted my students) by being the [recipient of TAP analyses in almost all of my classes](#). I spent a year exploring the characteristics of the “millennial generation” as a Madison. I have engaged in extensive reading and research to deepen my pedagogical understanding such as my [choose-your-own-grade experiment](#), and the ongoing development of a web-based [learning management system \(LMS\) I am developing called U Matter 2Us](#). I have reviewed articles for journals and conferences related to information systems and computing education such as the *Journal of Information Systems Education* and *Computers & Education*. I have taught in a number of different types of classes, contexts and formats including lecture courses, lab courses, discussion sections, independent studies, international programs (SERM), and through

the [development of a summer study abroad program to Japan](#). I have spent a great deal of time discussing effective pedagogy as a member and through [one-on-one conversations colleagues have sought to have with me](#). Finally, I maintain subscriptions to the *Chronicle of Higher Ed*, *Educational Researcher*, the *American Educational Research Journal*, and the ACM SIGCSE journal (*Computer-Science Education*).

All of these efforts have resulted in a number of concrete achievements. My [syllabi have evolved](#) to become what Ken Bain refers to as “promising syllabi.” I have produced numerous [course websites and course videos](#) as well as [high quality labs](#). I have received [excellent student evaluations](#) including an Honorable Mention for the NJIT Teaching Excellence Award during my last year there. My subject matter and pedagogical content knowledge expertise continues to be recognized as I am asked to participate in grant-funded research, build websites for external and internal clients, and [deliver invited talks to colleagues](#). I’ve used my knowledge and expertise to lead the [update of the ISAT 252 CAR](#) and create a course called ISAT 252K to facilitate the entry of transfer students. I have taught programming and web courses (ISAT 252, ISAT 340, ISAT 348, ISAT 640), courses in critical thinking (GISAT 160), courses in society in culture (ISAT 131, ISAT 440, GHUM 252), and in foreign language (JAPN 111/231/232). I developed the [pre-semester questionnaire technique](#). I’ve been able to [publish papers on teaching and learning](#) and present them at refereed conferences. I [led the effort to produce BSISAT Program Goal K](#), and also contributed language for the JMU faculty handbook that sets standards for the quality and frequency of instructor feedback. Of the senior projects I’ve mentored, one earned the ISAT Integration Award, a Best Honors Thesis Award, and was [published as a poster at the American Wind Energy Association’s annual meeting](#) in Dallas, 2010. Finally, I’ve also been able to use my expertise to good use in the Harrisonburg community by developing a multilingual website for the Thomas Harrison Middle School PTO, and serving on the Harrisonburg City Schools Gifted Advisory Committee.

Taken as a whole, ***I believe this evidence demonstrates that I am an excellent teacher.*** Beginning with my first job in Japan and continuing through the present, I have been committed to my craft and energized by the challenge and the opportunity to help students mature and develop as people and as professionals, becoming enlightened citizens who lead meaningful and productive lives.

Furthermore, not only have I improved as an individual, but also I have become known as an expert on pedagogy within JMU and am frequently consulted by colleagues and asked to present at meetings, workshops, and symposia. My efforts therefore have resulted in an overall increase in the quality of teaching at JMU, particularly within ISAT.

Making Sense of My [Scholarship Portfolio](#)

The goal of my narrative in this section will be to describe the nature and trajectory of my scholarly activity at JMU. Again, I help learners learn, and help teachers teach, and I'm most effective when I make use of technology to do so. This is the big picture, and the lens through which you should view my scholarly activity. This is the cord which binds all of my activities together.

My scholarly activity primarily falls into two broad categories:

- Developing a coherent body of research focused on developing effective pedagogy and the technological tools to support it
- Supporting funded and other projects going on at JMU by making use of my technical expertise as a programmer and web developer

To begin, I will describe the path I've followed to get to where I am now. Most importantly, it is necessary to point out that my research focus shifted significantly after I arrived at JMU in a direction different than what I had established as a graduate student prior to coming here.

As a graduate student at NJIT, I explored a number of different research areas before settling on a research topic for my dissertation. Among the areas I considered were pattern, [hyperlinked hierarchical template repositories](#), [information retrieval and the semantic web](#), [standards development](#), information visualization, and website personalization. During the entire time I was taking courses and exploring different topics with the faculty, I was teaching 3-4 courses per semester and wrestling with the workload and the feeling that I could be using technology to make the teaching and learning process more effective.

Eventually I settled on the topic of how to build a web-based system to help teachers write better multiple choice questions (MCQs). Initial research in this area revealed that [MCQs were a problematic form of assessment](#). The outline of my argument for [my dissertation](#) was as follows. The quality of teaching is a significant factor in how much students learn. The support for this came from the Tennessee Value Added Assessment System which demonstrated that the impacts of an exceptionally good or bad K-12 teacher were detectable even 2-3 years after a student had moved on to a new classroom. Richard Stiggins had done a great deal of work to demonstrate that teachers. Drawing on the [work of Virginia Richardson in teacher professional development](#) I made the argument that a computer system could be built that would educate teachers about how to write high-quality assessments while they were engaged in the actual task in much the same way that a program like TurboTax teaches people about the tax system as they are preparing their taxes. I decided to focus on MCQs as the subset of assessment tasks since [Haladyna had provided extensive guidance on writing MCQs](#). Furthermore, I used Bloom's Taxonomy of educational objectives to create a set of question templates that would have a higher probability of yielding promising questions. I built a system designed as a small

subset of the total functionality I'd envisioned in my dissertation. At the time this was a very laborious process because javascript frameworks for the web were still in their infancy. Making the system work across web browsers proved very difficult. I tested the system on approximately 30 faculty members in GCOM at JMU. The system proved not to be very effective for the predictable reason that users ignored the scaffolding I'd provided them and wrote questions in the way that they always had. Only a couple of the teachers actually used the scaffolding, with promising results, but the sample size was too small to make any confident statements as to the system's effectiveness. I completed the dissertation on May 7, 2007 at the end of my first full year here at JMU (I had been hired ABD).

I published two papers based on my dissertation research ([AERA 2008](#) and [AMCIS 2008](#)), but by this time my research focus was beginning to shift to the topic of grades and motivation. The shift was largely motivated by my own dissatisfaction with the means by which I was arriving at grades for my students. My feelings about the effectiveness of grades had begun to shift in 2004 when I met Dylan William and became familiar with his research (see a brief description of his work above in the Teaching narrative section). However, while I was at NJIT as a grad student and lecturer I did not have the freedom to experiment or set my own grading practices that I did at JMU. As a JMU faculty member I had latitude for the first time, and as my [ISAT 348 syllabus for the Fall 2007](#) semester and my [teaching evaluations](#) for the same semester demonstrate, the old formulas weren't working for me anymore but I hadn't figured out yet how to revise them.

I began reading in earnest. Some of the more important things that I read were Pamela, [Alfie Kohn's 2002 Chronicle of Higher Ed article on grade inflation](#), [Deci, Ryan and Koestner's 2001 meta-study on rewards' impact on motivation for learning](#), and [Vickers' \(2000\) paper on GPAs and justice](#). Moss's article made a dramatic impact on me when she shifted the definition of "learning" from the traditional psychometric one--i.e. the difference in scores on tests given at time one and time two--to a sociocultural one (relying on Wenger's work in communities of practice) which described learning as the ways our relationships to ourselves, to our peers, and to the world change as a result of acquiring new skills, knowledge, and ways of understanding. In her formulation, it was very difficult to make a truly valid quantitative assessment of learning in a classroom setting. She articulated in a very clear and theoretically grounded way feelings I'd been having for a long time. It was then that I began to seek feasible ways to do the type of hermeneutic assessments of learning that she described in her paper. Around this time I discovered Alfie Kohn's 1992 book *Punished By Rewards: The Trouble with Gold Stars, Incentive Plans, A's, Praise and Other Bribes*. This book is so comprehensively researched and documented, it was what gave me the courage and energy to try my [choose-your-own grade experiment](#) in the Spring 2009 semester. (Follow the previous link for the details of this experiment.)

In the semesters before choose-your-own-grade, and since then I've been working with students to develop a [learning management system that I call U_Matter2Us](#). I've

had two senior project students work on the system so far, but while their efforts helped me make considerable conceptual progress on the design of the system, neither of them were skilled enough programmers to develop a testable working prototype within the timeframe of their senior projects. On my own I've been able to build small components of the system, but haven't had time to incorporate them into a full-featured system that I could run tests on. I have several more senior project students working on the system again this year, and due to a major architectural shift in the application based on past failures, I'm optimistic that we'll have some working components by spring.

PROVIDING TECHNICAL EXPERTISE TO RESEARCH AND DEVELOPMENT

My technical skills as a programmer and web developer are in great demand. Upon arriving at JMU I was immediately approached about working with the Virginia Department of Historic Resources to help them produce an [online search interface for the Historic Highway Markers](#), over 2,000 of which are installed along Virginia's roadways. This project was targeted to be completed to coincide with the Jamestown Quadrennial celebration that happened in the spring of 2007. This project brought in nearly \$50,000 to the university.

Since then, I have worked with a number of my ISAT colleagues to add significant value to their research. I worked with Jon Miles to launch [NextStep](#), an online tool to help Virginians determine the economic feasibility of siting a wind turbine on their property, and also to help Virginia prioritize its spending of federal stimulus funds allocated to wind energy projects. I also worked with Jon Miles, Maria Papadakis, and James Wilson to write a grant (unfunded) that would have significantly expanded the scope and capabilities of the NextStep project. I worked with Louise Temple to create, host and manage a website used to coordinate and publicize the work on her microarray. I am currently working with Maria Papadakis to produce a website called the Virginia Farm Energy Resource Center (to be hosted at <http://www.vferc.org>) that will advise farmers around Virginia in how to make their farms more energy efficient.

I have worked with former ISAT graduate Justin Henriques on two projects creating online and iPhone applications designed to implement his Capacity Factor Analysis Model which in turn supports the selection of appropriate and sustainable technologies to raise the quality of life in developing communities around the world. I have worked with local businessman Tony Britt on a web-based application targeted at doubling the revenue of his sports communications firm. A Charlottesville consulting firm, Espresso Labs, contracted with me in 2010 to build a component of OrderTopia, their online ordering system for small restaurants. I also received a contract from the [Public Performance Measurement and Reporting Network](#) to build the website that supports their membership organization of over 2,000 people and their annual conference.

I host and have built nearly fifty websites for clients in very diverse range of industries including reverse mortgages, security consulting, theater, landscaping, home contracting, restaurants, musicians, recording studios, and consulting companies. The bulk of this work is done in collaboration with my business partner, [Eric Townsend](#), a marketer and graphic designer (who also was my roommate in college).

Recently I have collaborated with Eric Pappas and his son Jesse to build [PersonalityPad.org](#), a website designed to support and encourage intentional self-development toward the creation of a sustainable lifestyle. This research has been supported by the NSF and yielded our first publication at the Americas Conference in Information Systems (AMCIS) this past summer in Detroit. That research is currently entering its second phase and is scheduled become a major platform for self-development research within the next year, targeting projects with JMU administration and in private companies.

I have mentored and supported fifteen senior projects in the past five years requiring me to gain expertise in a broad array of web technologies. Not only am I able to extend my technological capabilities with these projects, but I've also gained quite a bit of experience managing software projects this way, and I've used the opportunity to keep current in the latest trends in the management of software development, particularly agile software development. I've presented two papers and one CFI Faculty Research Day poster on the crossover between agile software development and learning management, one in fall 2010 at the Association of Technology, Management, and Applied Engineering (ATMAE) conference, and another this summer at the Agile 2011 conference. My collaborator, Nicole Radziwill, and I refer to the framework we've developed as the Agile Organizing Framework for Technology Education.

Because of my known expertise in web development and social media I have worked in collaboration with Andy Perrine in JMU's PR department to develop a strategy for JMU for incorporating social media such as Twitter, Facebook, and blogs into the university's web marketing portfolio. I was an invited speaker at the first ever CFI Faculty Flashpoint Series on the Arab Spring in Egypt. I am an invited panelist who will speak about risks and issues for social media in local government at the upcoming COVITS conference in Richmond, the governor of Virginia's conference for statewide technology managers.

While this diverse array of web-related activities may not seem to form any coherent pattern, the thread running through it all is the understanding of principles of human cognition and motivation. Every website I've built requires me to develop a model of how the people who interact with it will think and act—what are they at this website to accomplish, what are the goals of my client with respect to their website visitors' behavior? This effort informs and is informed by my research into learning and motivation that forms the heart of my core research interests.

MY RESEARCH ON PEDAGOGY AND TECHNOLOGY

My vision for my research is as follows:

I strive to build web-based systems that support teaching and learning that will transform the enterprise of education fostering self-awareness, passion for lifelong learning, strong connections between learners and their instructors, and a deep commitment to solving problems that will positively impact the world and the people in it.

Within the next five years I will have accomplished the following:

- Published a book on the history and theory of grades with concrete strategies for educators on how to use them most effectively and minimize their negative impacts upon learning and motivation for students
- Released a free, open-source web application that can support agile learning environments; environments where students, instructors, and external constituencies collaborate on goal-driven projects that solve practical problems while enriching the lives of the collaborators; this product will form the center of an active open-source community of educator-developers whose wisdom and expertise will guide the ongoing maintenance and development of the project

One of the primary deficiencies of current web-based learning management systems, such as Blackboard, is that they have failed to bring any real transformation to the pedagogical practices of the instructors who use them. Rather the primary use of such systems has been to move the delivery of course materials from traditional paper-based systems to online systems. Although innovative models like hybrid courses are beginning to become more prevalent, for the most part teachers continue to teach in the ways that they have always taught. Our tools have failed to have a transformative influence that would take full advantage of the capabilities of the tools.

Web-based technologies have the potential to shift the locus of control in the classroom from passive, teacher-centered experiences to active, learner-centered ones. One of the core tenets of my philosophy is that learners are essentially capable of learning anything they choose to. A key question of my approach has always been: **What value does the instructor add to the classroom?** It doesn't take a PhD to buy search Amazon for a textbook in any given area and devote oneself to mastering the content inside of it. There are online learning communities devoted to most every subject imaginable. My goal is to leverage our existing social and information networks to free up instructors to delivering real value through intense, personal interaction with students. The value that instructors have to add is wisdom and experience, an appreciation for the broader context of their fields, and a keener sense of how disciplinary knowledge can be applied to solving problems relevant and important to their students. My goal is to free instructors

from a number of time-consuming tasks that in the past have prevented them from delivering the highest value to their students. In the process, it should also make the practice of teaching that much more fun.

Let me summarize some of the technical development work I've done to date in this area. I built my first [system to automate online oral reports and peer evaluation](#) in 2005. I also built an online class attendance tracker that provided students with dynamically generated graphical summaries of their attendance, provided an online interface for students to notify the instructor either ahead of or after an absence or tardiness, and automated the task of sending emails to students who had been absent more than a certain number of times. While at NJIT I created a complete set of video lectures for my Computers & Society course that allowed us to spend class time on discussion as opposed to lecture. My next major work was my dissertation, which I described above along with the papers published as a result of that effort. Since that time I have continued to develop [websites and online course videos](#). I have also experimented with a variety of online systems for course management such as [Moodle](#) and [Basecamp](#). I mentored two senior projects devoted to working on the [UMatter2Us](#) project, and another one designed to build OnTrack, an online curricular advising/planning system. Two years ago I began using Qualtrics to deliver pre-course questionnaires in connection with my Madison Teaching Fellowship. Most recently I've been building WordPress plugins that interact with Qualtrics to automate the generation, collection, analysis, and reporting of weekly progress reports by students in programming courses. I've also been working with Eric and Jesse Pappas to integrate WordPress and Qualtrics to build systems that lead students through intentional self-development processes using 360 feedback. In short, I have been continuously active in the development of online software tools to improve teaching and learning.

In parallel with my technological development, I've been developing my theoretical understanding of learning and motivation and also producing and disseminating scholarship in this area. I have been a frequent participant in workshops, conferences, and symposia such as CSEE&T 2010, Agile 2010, and those conducted by [JMU's CFI](#). I have also been continuously engaged in a [rigorous self-study program](#) keeping me current on the technologies that may be employed in the building of my systems. I've published papers at conferences for the American Educational Research Association (2008), the Americas Conference on Information Systems (2008, 2011), and the Association of Technology, Management, and Applied Engineering. I've been invited to present talks and seminars as part of the Bridging the Valley's Brown Bag Talk series, a CFI workshop on understanding "millennials," and the keynote for the first ISAT Mini-Symposium on Pedagogical Innovation. I ran a pilot [study of a choose-your-own-grade](#) scenario for college courses. I've been working with Nicole Radziwill to develop a theory around the Agile Organizing Framework in education about which we've published two papers and made one other conference presentation. In short, I've been continuously active in building a coherent set of theoretical constraints that will guide the development of my

learning management system and have published and asked to share my work in this area on a regular basis.

To conclude the research section of my narrative, I've built a coherent set of activities and artifacts over the past years in the service of my research mission, which is to help teachers teach and learners learn in the most effective way possible using technology. This demonstrates clearly satisfactory, if not excellent, scholarly activity over the course of my academic career.

Making Sense of My [Service Portfolio](#)

I have been a consistent and energetic participant in service that serves students, ISAT, JMU, my profession, and my community. Wherever possible, I have sought to use my particular strengths and talents in my service, i.e. my technical abilities, and my understanding of learning, motivation, and pedagogy. I will summarize my activities and accomplishments here.

I have served as the ISAT Department's webmaster for the last four years. I managed the transition from our old departmental site to the creation of our new web presence that includes six main websites: one for the department and one for each of our degree programs (SERM has its own site in addition to the MSISAT site). Three years ago when the CISAT Dean's office was planning to redesign all of the websites for the entire college, I was ready with a detailed specification for the architecture of departmental and program-level websites that was adopted by the entire college. I collaborated with Lynn Radocha and Creative Services to make this come about. I worked to make sure that detailed website traffic statistics would be collected for the new sites and that there would be a schedule for analyzing the statistics and revising the site accordingly in response. I have advocated for the creation of resources for faculty to create their own dynamic web pages and have made slow progress in this direction.

I have served on a large number of [academic teams and committees](#) at the departmental level. I have chaired both the IKM Academic Team and also the Recruiting Committee. Notable accomplishments that I have led or spearheaded in my service have been the revision of IKM course descriptions, and a larger strategic discussion about the IKM upper-division courses. I also wrote the successful ETF Request in 2007 that resulted in the College agreeing to replace all the computers in the 3rd floor ISAT computer labs one lab per year on a three-year rotating cycle. On the Recruiting Committee, as chair I facilitated the Fall Recruiting Events that we hosted, conceived of and ran the ISAT Video Contest, represented ISAT at the TechExpo in Lynchburg, VA, and successfully won an IDEA Grant for \$4000 to bring minority students from Huguenot High School in Richmond, VA to campus.

I served on the search committee that successfully hired Nicole Radziwill, and was an unofficial participant in the applied biotechnology team search that hired Stephanie Stockwell. I was also the external member on a Computer Science

Department search committee that unfortunately couldn't make a hire due to budget shortfall that year. I have represented the IKM Team on the C&I Committee every year and spoken on behalf of IKM initiatives that have gone to the C&I during my time. As a member of the Foundations Committee I revised and won approval for the ISAT 252 CAR. As a member of the SCOTS Team I participated in the revision of BSISAT goals F and H (ongoing), and have been an active participant in their discussions for my entire time here. I also chaired the Integration Team in the spring of 2008 that successfully wrote and passed BSISAT Program Goal K.

As a member of the Assessment Committee I have brought my expertise in academic assessment to bear in the generation, delivery and analysis of the various instruments we have developed over the last five years. I also have taken notes at senior exit interviews and have been a core member of the group working to incorporate portfolio-based evaluation to our assessment regime, including contacting software vendors, and experimenting with various portfolio-management systems. I've been a member of the ISAT Golf Challenge Committee every year and have handled the website for that organization as well as being liaison to the ISAT Honor Society who has supported that event every year. I have been the faculty sponsor for the ISAT Honor Society for the last three years. I have been the main advisor to fifteen ISAT senior projects and have assisted on three more. Finally, I've been the minutes-taker at all of the ISAT Department and BSISAT Program Faculty meetings over the past five years. Originally begun strictly for my own benefit, that has morphed into an official capacity over the years.

At the College and University level, the number of committees I have served on has not been the same as within ISAT, but my involvement has been equally energetic. I am a member of the Asian Studies Minor committee and contribute to that program through the running of a summer study abroad program in Japan. I also serve as the faculty sponsor to the Japan club. I represented CISAT as spokesman and emcee at the CHOICES event in the spring of 2008. I submitted a QEP Proposal with Eric Pappas last year, and also served on one of the QEP Whitepaper Teams that fleshed out the five proposals that made it to the second round of consideration. I represented ISAT in the Provost's Academic Rigor workshop that was held this past June. I have run a workshop for the Center for Faculty Innovation, and also served as a judge for a debate competition that was held here in 2010. I have participated in Freshman Orientation as a Preface/Conversations with Professors professor for the past three years. This year, I was asked by the CISAT Dean to represent JMU as one of three JMU faculty on the 4-VA Consortium between JMU, UVA, George Mason, and VA Tech to increase college completion rates in Virginia as well as maximizing the use of our teaching resources through telepresence technology.

However, my strongest contribution comes from my involvement as a [CFI TAP Consultant](#). I have visited at least five classrooms per semester since the spring of 2007, meaning that I've observed over 45 courses, consulted with nearly 40 different faculty members, and discussed learning with well over 1000 students. Other than my teaching and research, there is probably no more direct contribution

that I make to the mission of JMU than my work as a TAP consultant and it is one of the ways I most enjoy serving.

In service to my profession, I have been a reviewer for the Journal of Information Systems Education, the journal Computers & Society and for the Americas Conference in Information Systems. I am the regional coordinator for the Software Division of the American Society Quality, and also internationally as the Japan Area Regional Coordinator. In this capacity I have traveled to ASQ Executive Committee meetings in Columbus and soon to Nashville.

In Service to the Harrisonburg community I have been a representative to the Harrisonburg City Schools Gifted Advisory Committee from fall 2009 to the present. I've helped move the city schools to modify their definition of "gifted" from one recognizing general ability (i.e. math and English), to one that recognizes giftedness in multiple areas including math, language arts, fine art and dance, athletics, and industrial arts. The city school's budget for gifted education has been reorganized accordingly. I also helped make the move to a School-wide Enrichment model that will benefit more students and recognize talent in a broader cross-section of the student body. I also have helped develop the Thomas Harrison Middle School PTO website. Begun last year, I'm helping the THMS PTO to build a multi-lingual website that will be able to reach out to parents in non-English language groups such as Russian, Arabic, and Spanish.

In summary, I have been a continuous and active participant in service at all levels and have made valuable contributions in the areas in which I have served. I consider this service to be extremely satisfactory if not excellent.

Conclusion

Thank you again for taking the time to read and evaluate my portfolio. I feel very lucky to have been invited to join the ISAT and JMU communities. I have worked hard to use my talents in technology and in learning, pedagogy, motivation and assessment to the benefit of all that I have interacted with. I have been a collegial colleague as is demonstrated in the letters of support that will follow this portfolio submission. I have demonstrated leadership and commitment and would very much like to be granted tenure and promotion so that I can continue in the pursuits that I have developed here.