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Innovative Teaching Methods: Evolutions Spanning a 25-Year Career

Mary A. Marchant

I begin my presentation at today's "Southern Agricultural Economics Association's (SAEA) Lifetime Achievement Award Winners' Symposium" by thanking those who made this award possible. Thank you to members of the selection committee and to my nominator, Dr. Michael Wetzstein, and recommenders, Drs. Steve BIank, Eduardo Seggara, and Gail Cramer. These individuals have seen me "grow up" in the agricultural economics profession and I am grateful for their guidance, wisdom, and friendship. I am also grateful to the members of the SAEA and the many opportunities the Association has provided, including serving as an officer for six years and coeditor of the Association's *Journal of Agricultural and Applied Economics* with Virginia Tech (VT) colleague, Darrell Bosch, for the past three years.

In reflecting on my 25 years in the agricultural economics profession and in deciding on my topic for this Symposium, I came across one of my very first articles—"Beginning Teaching at a University: The Ultimate On-the-job Training" published by the North American Colleges and Teachers of Agriculture (NACTA). My intent in writing this article was to share my "lessons learned" with others who faced similar circumstances as I had, transitioning from a graduate student who primarily conducted research with little teaching experience at one major land grant university (University of California at Davis), to an assistant professor responsible for teaching university classes within weeks of arrival at another major land grant institution (University of Kentucky). Fast forward to 2014 and this presentation, where I compare how teaching and teaching innovations have changed over the last 25 years (1989–2014) and reflect on my teaching "lessons learned" through time.

Teaching Context

To provide context for historic changes in teaching innovations, it is important to remember what teaching was like in the late 1980s/early 1990s. Back then, personal computers were big, heavy, and slow, whereas smart classrooms were in their infancy, if they existed at all. The World Wide Web had yet to be created, nor had YouTube, streaming videos, and many other teaching resources we use today been created. Microsoft Office (Word, PowerPoint, Excel) did not exist. Instead we used WordPerfect, Harvard Graphics, and Lotus, each owned by different companies with little compatibility. Harvard Graphics was considered "cutting edge" for computer-generated graphics.

For classroom teaching methods, many faculty used a lecture format, often with little student interaction, and wrote on chalkboards; dry erase boards were just starting to replace them. Many faculty also taught using an overhead projector by writing course material on transparencies, often with great fear of the

Mary A. Marchant is a professor in the Department of Agricultural and Applied Economics at Virginia Tech, Blacksburg, Virginia.

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light bulb burning out in class without a replacement bulb.

I characterize this lecture format similar to the ancient concept that "learning was once visualized as filling of an empty vessel (a student) with knowledge" (Cunnings, 2002). In contrast, today we hear of "flipping the classroom" with student-centered teaching, massive open online courses, experiential learning, internationalizing the curriculum, assessments to quantify student learning, and teaching accountability by government agencies and accreditation associations.

Evolution of Teaching Innovations—Then

For teaching innovations from 25 years ago, I refer back to my 1993 *NACTA Journal* article, which NACTA reprinted in 2007 (Marchant, 2007/1993). To this day, as each new semester begins and I prepare for teaching, I go back and reread that article. Topics covered include first day of class activities, classroom mechanics, course materials, grading, student learning methods as well as expectations and feedback. Innovations that I used back then came from listening to my University of Kentucky (UK) faculty colleagues. Subsequently I highlight these early innovations and how I have built on them over time.

First Day of Class

The first day of class sets the stage for the rest of the semester. I begin by distributing two handouts: the syllabus and three-by-five-inch cards. I ask students to provide their contact information, major, and year in school. Most recently, I have requested that students identify what they hope to gain from this class, their biggest fear, and whether they consider themselves an extrovert or introvert (used later to diversify student groups as described subsequently). Once cards are returned, I introduce myself and my teaching assistant (TA); then we both describe our respective backgrounds. For me, I include growing up on a farm in the Central Valley of California, my degrees, and awards received, especially teaching awards. Providing background establishes credibility, particularly important for young female assistant professors. In recent years, I now include a brief biography of myself and my TA at the end of the syllabus. Additionally, I emphasize to students that teaching matters to me and that my philosophy of teaching is to enhance their academic success and professional development.

Next, we review the syllabus. I believe it is important that the syllabus be specific by not only including the typical items such as course description, learning objectives, textbook, class meeting times and grading policies, but also including policies on absences, disagreements with grades, and no late homework. In addition, the syllabus includes a calendar specifying due dates for assignments and tests. More recently, I do provide flexibility in my syllabus, specifying that due dates are tentative. Also, I now include a separate calendar of university administrative dates (e.g., add/drop, course withdrawal) as well as helpful university links (e.g., Honor code, Services for Students with Disabilities, and the Counseling Center).

The syllabus also includes a list of expectations—my expectations of them, including classroom behavior and etiquette—and their expectations of me through my teaching objectives, e.g., to give fair examinations, be prepared for class, and be accessible to students. The key is mutual respect among the students and me, the TA, guest lecturers, and their classmates.

Over the years various challenges have arisen as student cohort characteristics and technology have changed. Correspondingly, my classroom behavior policy has evolved over time. Early on, use of tobacco products and reading the campus newspaper in the classroom were issues. In the new millennium, it was ringing cell phones. On teaching at VT and consulting with faculty colleagues, my electronic device policy became quite severe—if a phone goes off in class, it is five points off a student's final course grade. Needless to say, this was effective. More recent classroom distractions include Facebook, surfing the web, and checking e-mail, which distracts surrounding students in the classroom (McCoy, 2013). As a result, this past Fall, for the first time, I no longer allowed laptops in class. Some students thanked me for this policy. Now, once class starts, all electronic devices are "powered down." On some occasions, we do use laptops in class for an activity. If so, I let students know before class so that they can bring their laptops.

This Spring, my TA and I asked students for input on our classroom electronic device policy. The consensus was to continue our no laptop/tablet policy, but with the exception of individual students asking approval to use them in class exclusively for note-taking or other class-related activities. So far it is working and only a handful of students use them. (Please note that for this senior-level international economics course, class PowerPoints are posted on our course Scholar site on chapter completion.)

So up to point, the first day of class is a bit heavy—laying the class ground rules for the rest of the semester. We end the first class session with a fun activity. In the 1990s, I would ask students to introduce themselves to those around them. Now, most of my classes are at the junior and senior level. I now initiate this exercise by asking students to look around the room to see how many classmates they know. Sadly, the majority of students know five or fewer students. Because my classes now involve group projects, it is important that students get to know each other. We end the first day by having students introduce themselves to three to five students that they do not know, saying their name, major, and one fun fact, e.g., what they did for Summer or Christmas break. This is always a big hit and helps build community.

Learning Student Names

I enjoy teaching most through interacting with students by putting names and faces together. This can be hard, particularly for large classes. Since my first course taught in 1989, I have always sought to know my students' names by taking their pictures. Back then, the photographer from the agricultural communication unit would come to class and take student pictures. Historically, my TA would create a picture board, basically a seating chart from the front to the back of the classroom by row, noting that students tend to sit in or near the same seat. While lecturing I could glance down at this seating chart to quickly verify student names. It really helps!

Now student pictures are available from the University Registrar on the course enrollment site but with limited use as a result of the Family Educational Rights and Privacy Act (FERPA). Currently, my TA takes pictures of student groups from their first presentation to our class. They stand in front of their title PowerPoint slide, which lists their names. This helps me make valued connections with students.

Teaching Portfolio

Early in my career, the UK required all teaching faculty to develop a teaching portfolio as part of our annual evaluation. Teaching portfolios were particularly important for assistant professors, who had yet to go up for tenure. They document teaching efforts and outcomes beyond a summary score for "instructor effectiveness" and "course value" on students' course evaluations. Teaching portfolio content included a description of one's teaching and advising responsibilities, teaching philosophy, sample syllabi and selected assignments, a full listing of students' course evaluations for each course taught, out-of-class activities (e.g., student clubs and teaching committees) and teaching publications, presentations, awards, and grants. Teaching portfolios are one way to document the scholarship of teaching and learning, a concept that has become more visible with a growing demand, especially at research universities (McKinney, 2007).

Other Early Teaching Innovations

Classroom Mechanics. From my first teaching experiences to today, I begin each class with two key outlines on the board: 1) announcements, e.g., upcoming due dates and relevant university and college activities; and 2) a list of today's topics and activities. These stay on the board as long as possible throughout the class session. I now also use our course Scholar site to send out announcements through Scholar's message feature and post due dates on its calendar. That way all students are kept informed.

Review Sessions. Based on my teaching philosophy to enhance student's academic success, I hold two review sessions before upcoming examinations. I typically give my examinations on a Wednesday and hold an optional out-of-class review session early Sunday evening. I provide pizza. This is one of my favorite activities of teaching and a great way to get to know students. I typically have 50% of my class show up—feed them and they will attend! No new material is covered, but we use this time to go over any questions students may have as well as supplemental questions available with the textbook, of which at least some questions are included on the examination.

The second in-class review session is held during Monday's regular class time. I break the session into two parts: 1) I summarize course material covered on the examination from start to finish, highlighting key points. I ask students for absolute silence and to either sit back and listen and/or take occasional notes. This takes approximately 20 minutes; and 2) the TA and I conduct a jeopardy competition over tested course material by dividing the class into two groups. For each group, students work in pairs to "answer the question," open note and open book. Students receive five points for attending this session added to one of their homework assignments. Again, some of the questions on the examination come from jeopardy questions. Students are so competitive; they truly enjoy this activity.

Midsemester Evaluation. I conduct my own midsemester evaluation to obtain student feedback and make any needed course corrections. Questions asked have evolved over time. Early on, I used the university's evaluation form. Now I typically ask students three questions: 1) What aspects of this course do you most enjoy? 2) What would you most like to change to improve this course for the rest of the semester? 3) Additional comments.

Once student feedback is obtained, I report back on what they said and how I will address any concerns. This shows responsiveness and, if problems exist, provides a forum for dialogue.

Evolution of Teaching Innovations—Now

Teaching Conferences and Books

Throughout my career I strive to improve my teaching through professional development by attending teaching conferences sponsored by a variety of organizations identified subsequently. It is an inspiration to be around others who also care about teaching. I always learn relevant teaching concepts at these meetings and often apply these new innovations to my classes.

The Agricultural and Applied Economics Association–Teaching and Learning Committee (AAEA-TLC, 2014) hosts teaching workshops on a variety of themes as a preconference to the annual AAEA summer meeting (web site: www.aaea.org/membership/sections/tlc). Examples include workshops on teaching strategies, learning styles, and teaching technologies and innovations. In addition to workshops, the TLC sponsors a teaching track throughout the annual AAEA meetings, where participants can share their knowledge, frustrations, and successes.

The North American Colleges and Teachers of Agriculture (NACTA, 2014) is a unique group that includes members across all agriculture disciplines, whose passion is teaching (web site: www.nactateachers.org/). NACTA's annual conference is typically held mid- to late June at land-grant universities. They also have conference themes. Examples include the Scholarship of Teaching and Learning, Crossing Disciplinary Boundaries, and Celebrating and Sustaining Agriculture. In recent years, the U.S. Department of Agriculture–National Institute of Food and Agriculture (USDA-NIFA) hosts a NACTA preconference where principal directors report on funded projects from their higher education grant programs. In addition to its annual conference, NACTA publishes a journal. I strongly encourage teaching faculty to publish in the *NACTA Journal*.

The Association of Public Land-grant Universities-Academic Program Section (APLU-APS, 2014) consists of academic deans from U.S. land-grant colleges and universities (web site: www.aplu.org/page.aspx?pid=446). The APLU-APS has hosted a series of academic summits. The first held in 2006 at the National Academy of Sciences resulted in a corresponding book, *Transforming Agricultural Education for a Changing World* (National Research Council of the National Academies, 2009). Academic summits since then have had themes. The *Creating Change* series included *Enabling Excellence in Teaching and Advising* in 2012, *Reforming Curricula for a 21st Century Education* in 2011, and *Building Human Capacity for a Sustainable Future* in 2010. Academic summits typically occur in the Summer and are often a pre- or postconference to the NACTA annual meeting.

Closer to home, Virginia Tech's *Conference on Higher Education Pedagogy,* sponsored by the VT's Center for Instructional Development and Educational Research (VT-CIDER, 2014), is now in its sixth year (web site: www.cider.vt.edu/conference/). This conference has grown from a university event to an international conference with over 1200 attendees from 48 countries. It provides a forum to present teaching innovations through presentations and posters. Here the keynote addresses follow a theme, but attending presenters are not limited to this theme. The conference typically occurs in early February at VT. If you have not visited our campus, consider yourself invited to upcoming conferences.

In regard to valuable teaching reference books, I strongly encourage the seminal book by McKeachie entitled *Teaching Tips: Strategies, Research, and Theory for College and University Teachers,* now in its 12th edition (McKeachie and Svinicki, 2006). I was first introduced to this book as a graduate student, through a University of California at Davis certificate program on university teaching. Other books to consider are *Enhancing Learning through the Scholarship of Teaching and Learning* (McKinney, 2007)*, What the Best College Teachers Do* (Bain, 2004)*, Teaching with Your Mouth Shut* (Finkel, 2000) and *The Power of Problem-based Learning* (Duch, Groh, and Allen, 2001).

Student Group Projects

It was at the 2011 (APLU-APS) Academic Summit on *Creating Change*: *Reforming Curricula for a 21st Century Education* that inspired me to change my teaching style. Results of a nationwide survey of 8000 land-grant university students, faculty, alumni, and employers of our agricultural graduates were presented, identifying different perspectives of the top skills employers want our graduates to possess as they enter the workforce after obtaining their bachelor's degree: communications and teamwork are at the top, assuming graduates possess disciplinary knowledge (Crawford et al., 2011). Similar results have been consistently obtained through annual surveys of employers of recent college graduates by the National Association of Colleges and Employers (NACE, 2014). As a result, I now include group presentations in all my classes as a means to incorporate both essential skills, as described subsequently.

As an example, in my international economics course, students present two group projects. For the first presentation, early in the semester, presentation grades count less toward their final course grade than the second presentation, at the end of the semester, which comprises 20% of their final grade—equivalent to a midterm. I provide context for this assignment by telling the students my motivation, namely the previously mentioned research results and that this assignment develops both communication and teamwork skills. I also encourage them to include this group project on their resume.

In regard to the mechanics of this assignment, my TA and I choose student group members. We tell the students, who are mostly graduating seniors, that when they enter the workforce, they do not get to choose their coworkers. Currently, we have 10 groups consisting of four members per group. To select group members, we seek to obtain diverse groups by gender, major, ethnicity, and extrovert/introvert personality type, obtained from their student information cards on the first day of class.

For each group project, we develop instructions that include milestone deadlines before their final presentation (Sample group projects are available to readers of this article on request.). All groups have the same due dates for these intermediate products, the first product being respective group ground rules, or agreed-on rules by group members regarding how their group will operate, e.g., attend and be on time for group meetings, no free-riding. Groups are given some in-class time to work together. Group ground rules are due the same day that the project is announced. The next deadline is the project outline, a detailed outline of their respective presentation. Each group brings one hard copy to class and also posts it on our course Scholar site under assignments. Each of these components is part of the students' participation grade for the course.

The final milestone is a draft PowerPoint (PPT), due approximately one week before the first set of group presentations—again, hard copy in class and posted on Scholar by the contact person for the respective group. We tell students that they can change this draft PPT up to 10 AM the day of their presentation, when they submit their final PPT to the TA and post on Scholar. It is preloaded before class to ease transition between groups. We typically have three to four presentations per day the last three class sessions of the semester. Finally the group project instructions include presentation resource links, e.g., a presentation checklist and information on proper dress.

In terms of the group presentation topics, we select a different theme for each presentation day. To avoid duplication among the three to four presenting groups, we provide a brief outline and assign groups to each specific section as part of the instructions. For example, the proposed free trade agreement Trans-Atlantic Trade and Investment Partnership (TTIP) is one theme used in Spring 2014, which is disaggregated for three respective groups: 1) United States–European Union (U.S.-E.U.) historic economic issues; 2) potential impacts of the U.S.-E.U. TTIP agreement; and 3) recent relations between U.S.-E.U.–Russia.

On the day of the presentation, presenting students also distribute a one-page executive summary. Also, group pictures are taken in front of their title slide. Students conduct two types of peer evaluations: 1) internal peer evaluation: each presenting student grades their own group members and provides comments on their experience. Through peer evaluations, I find students are honest; very few free-riders have occurred. Most often students comment on what a good experience they had working in their group, in contrast to their fear of group work expressed on the first day of class; and 2) external peer evaluation: for observing students, students assess group presentations on content, clarity of presentation, professionalism—including dress, timing—eight to 11 minutes per group and teamwork. They also comment on the executive summary. Additionally, we ask students for the main theme of each presentation. External evaluations are done in student groups so one evaluation form per group is submitted, easing the amount of paper work to review.

Once complete, the TA and I provide feedback to all members of presenting groups listing comments from group members, their classmates, and our comments. Typically, there is real improvement between presentations at the beginning and end of the semester. Additionally, this project corresponds to my teaching philosophy of enhancing students' academic success and professional development. I am amazed at the sophistication of their presentations and, given their feedback, virtually all students truly enjoy their groups and the valuable skills that this project provides them, especially as graduating seniors.

Scholar Course Shell Web Site

On my return to teaching at VT after serving in administration, VT was transitioning from BlackBoard to Scholar around 2010. Based on a USDA-NIFA higher education challenge grant to support undergraduate research received while academic dean, I cotaught a Summer course with VT faculty colleagues Deborah Good and Christina McIntyre, offered through our College's Human Nutrition Foods and Exercise Department. We made the decision to be an early-adopter of Scholar, an open-source software that was not intuitive at all. VT has invested in faculty professional development courses and staff to improve faculty experiences with Scholar.

Since then, I have independently developed and taught five unique courses numerous semesters for our Department of Agricultural and Applied Economics. In terms of my own courses and use of Scholar, I seek to have the course Scholar site set up when the semester begins. For a typical course site, the homepage welcomes students to the course and includes key information on course location and my contact information. Most recently, I now include a picture or image on the homepage. For my international trade course, it is a world globe. The course site includes a syllabus tab. In conjunction with the due dates outlined in the syllabus, due dates are also posted on the Scholar calendar. Thus, when students open their VT Scholar site, they see due dates in red on the calendar of their opening page.

One of the main ways I use Scholar is to communicate with students. Typically I send an e-mail each week using Scholar's message tab outlining the upcoming week course materials, class activities, and due dates. This way all students have received the relevant information, regardless of class attendance. I use Scholar's resource tab to post class PowerPoints and other items, e.g., supplemental study questions, presentation tips, photographs from group presentations, and international trade data sources for use in their projects. Additionally, I also teach a job success course, required for our majors. Because most of my other courses—agricultural marketing and international economics—are at the upper division level, I include job success materials in the resources tab of these other courses as a resource for graduating seniors.

The assignments tab of Scholar lists class assignments, including instructions. Given that our group projects have multiple milestones associated with them—project outline, draft PPT, final PPT, and executive summary—we provide multiple submissions to the site. Most recently, my TAs have added a grading rubric for group presentations in my agricultural marketing course.

Finally, Scholar includes a gradebook. This is the most maddening part of Scholar, where grades have to be released not once, not twice, but three times for students to see them. I start each semester by working with our VT Scholar expert to ensure that the gradebook is set up properly. Of course, the TA and I keep a separate grade spreadsheet to check that Scholar is doing what we intend it to do and to serve as a backup. One good feature of gradebook occurs at the end of the semester. We are able to release students' final grade through the Scholar site, well ahead of when the Registrar releases course grades.

Sometimes the Old Ways Are the Best Ways

In reflecting on my 25 years of teaching and comparing early teaching innovations with recent innovations, I find that sometimes the old ways are the best. For example, I find that students appreciate it when you know their names and are supportive of their success, yet I think it is important to set boundaries and stick to them, e.g., my electronic device policy. As long as students know the rules, they are fine with them. Just like us, they do not like surprises. Other early innovations that remain effective include review sessions before examinations, both the out-of-class review session and the in-class summary highlighting key points, along with jeopardy.

The Importance of Good Teaching Assistants

Over the years I have been blessed with good TAs. I have used both graduate and undergraduate TAs and now actively recruit undergraduate TAs from the students taught in the prior year's course. That way the TA knows the material and knows me. Since using this strategy of hiring my own, I find it much less work on both of us. In hiring a TA, I talk about the unique relationship between the TA and myself as well as the students in the class. Trust is key to success. I find that the TA leverages my ability to communicate with my students and monitor class progress. For example, students are often more likely to approach the TA rather than me. I ask the TA for guidance on the pulse of the class and feedback on how I am doing. Additionally, I am upfront with the TA in terms of having them "watch my back." I also ask the TA what they want to get out of this experience. Most want teaching experience, especially those applying for graduate school. I always have the TA give at least one lecture during the semester. Before the semester ends, we go out to lunch at The Inn at VT, a nice restaurant that I find many of our students have not visited throughout their four years here.

Rewards of Teaching

The rewards of teaching are many and include the realization of my teaching philosophy: to enhance students' academic success and their professional development. For undergraduates, in addition to developing disciplinary knowledge, this also includes developing the skills employers want them to possess on graduation—communication and teamwork. In-class group projects capture both skill sets. Witnessing student improvement throughout the semester is personally rewarding. One of the most rewarding results received during my career was an unsolicited e-mail from a former VT student who took a job immediately after graduation that semester:

> "...I really want to thank you for how you ran the international econ class last semester–especially the weekly presentations. Forcing us all to stand up every week and talk about something (often something that we weren't entirely sure about) was great practice. On my third day of work this summer, I found myself in a meeting with some of our clients. I had just been brought onto the project about three hours before. Our clients decided they wanted to hear from the new employee, and requested that I present the information. I was definitely blessing those Friday presentations when I made it through without stumbling!
>
> I'm very glad I took that class from you. Not only has it helped me in my job, but it's great to have a professor who is really interested in our lives–even after the semester ended! Thank you...."
>
> —Former student of ECON-AAEC 4135

For graduate students, academic success also includes professional development by giving presentations at professional meetings and ultimately publishing research. Student graduation captures academic success best through the successful completion of a degree program, be it at the undergraduate or graduate level. In closing, thank you for your attention and for this award. It means a lot to me.

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