

Innovative Classroom Strategies that Prepare College Graduates for Workplace Success

Richard J. Rateau¹, Eric K. Kaufman², and D. Adam Cletzer³

Abstract

In our increasingly competitive and rapidly changing world, it is critical that college graduates enter the workforce with the requisite skills for lasting success. However, recent studies suggest employers increasingly identify a workforce readiness gap in core applied skills, which must be bridged by company investment. Teaching strategies that develop applied skills will better prepare graduates for the workforce. The purpose of this study was to describe the classroom strategies of faculty instructors at Virginia Tech who received recognition for teaching excellence. Each participant took part in a semi-structured interview. After analysis, several themes emerged: (a) demonstration of enthusiasm for student learning; (b) willingness to experiment actively with new ideas for practice; (c) approaching teaching with a guiding mentality rather than directing; (d) fostering student ownership of learning; (e) keeping abreast of new developments and practices; and (f) investing the time and resources to overcome barriers to change. These themes signal an underlying trend: Instructors should focus on helping students become life-long learners by teaching how to prioritize and assess information, work in groups, solve problems, and understand divergent perspectives.

Keywords: innovative instructors; applied skills; higher education; classroom strategies

In our highly competitive and rapidly changing world, it is increasingly critical that college graduates enter the workforce with skills for lasting success. Yet, according to numerous studies, today's college graduates often venture into the workplace unprepared to meet the demands of today's employers (Casner-Lotto, Barrington, & Wright, 2006; Cunningham & Villasenor, 2014; Finch, Hamilton, Baldwin, & Zehner, 2013; Flores, Matkin, Burbach, Quinn, & Harding, 2012; Noel & Qenani, 2013; Rateau & Kaufman, 2009; Soares & Perna, 2014).

Memorization of content-specific knowledge is no longer what students will need to compete (Rateau & Kaufman, 2009). "Employers are more satisfied with graduates who possess skills such as critical and creative thinking, interpersonal, and leadership skills, than those who simply possess skills specific to their vocation" (Paranto & Kelkar, 2000, p. 84). These applied skills, including problem solving, communication, and life-long learning, are now the requirements to compete and be successful (Paranto & Kelkar, 2000). Unfortunately, "when it comes to soft-skills, there is an increasing gap between the content and skills taught in educational institutions and the needs of industry" (Finch et al., 2013, p. 696). "Employers report hiring substantial numbers of new entrants who are poorly prepared, requiring additional

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company investment to improve workforce readiness”; employers also report a “workforce readiness gap” (Casner-Lotto, Rosenblum, & Wright, 2009, p. 4).

Employability skills of graduates are grouped into two distinct categories: basic and applied (Table 1). College graduates’ proficiency in basic skills (also called cognitive skills) is generally rated higher than applied skills (also called behavioral skills) by employers (Casner-Lotto et al., 2006). However, it is applied skills that employers seek in today’s employees. Both quantitative and qualitative research studies reveal that employers prioritize soft skills and problem solving over the basic, job-specific skills (Finch et al., 2013).

Table 1

Basic and Applied Skills Categories

Basic Knowledge / Skills or Cognitive Skills	Applied Skills or Behavioral Skills
English Language (spoken)	Critical Thinking / Problem Solving
Reading Comprehension (in English)	Oral Communications
Writing in English	Written Communications
Mathematics	Teamwork / Collaboration
Science	Diversity
Government / Economics	Information Technology
Humanities / Arts	Leadership
Foreign Languages	Creativity / Innovation
History / Geography	Lifelong Learning
	Work Ethic
	Ethics / Social Responsibility

Note. Adapted from “Are they really ready to work? Employer’s perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce,” by J. Casner-Lotto, L. Barrington, and M. Wright, 2006, The Conference Board, p. 9.

The Conference Board noted the five most desirable applied skills for four-year college graduates are: (a) oral communications, (b) teamwork/collaboration, (c) professionalism/work ethic, (d) written communications, and (e) critical thinking/problem solving (Casner-Lotto et al., 2006). A literature review by Rateau and Kaufman (2009) confirms the required skills: critical thinking, problem solving, the ability to apply knowledge, communications, effective team abilities, and the ability and willingness to become life-long learners.

Despite the consensus on skills needed for success, there remains a workforce readiness gap, which signals a deficiency in higher education’s preparation of college graduates for the workplace. The connection between employability skills and economic success of the graduate is reflected in employers’ willingness to pay a premium for such skills (Knight & Mantz, 2002). Therefore, enhancing students’ employability is vital to competing in the knowledge-driven economy (Hawkrige, 2005). Higher education, future employers, and students must collaborate to ensure college graduates have the needed skills for employability and success (Rateau & Kaufman, 2009).

Preparing students for employability is a fundamental role of higher education (Nabi & Bagley, 1999). Nearly 70% of people feel it is the responsibility of the four-year institution to provide graduates with the necessary applied skills for success in the workplace (Casner-Lotto, et

al., 2006). Historically, the role of the university in career preparation has often been to improve and increase students' content knowledge. Although this approach has been successful for many years, the ability to synthesize, analyze, and think has recently become more important to the long-term success of the graduates (Casner-Lotto et al., 2006; Cunningham & Villasenor, 2014; McManus, 2005; Noel & Qenani, 2013; Paranto & Kelkar, 2000; Soares & Perna, 2014). "Educators and employers need to work together to prepare students for the complexities they will encounter as they leave school and enter the workplace" (Evers, Rush, & Berdrow, 1998, p. 4).

The role of higher education in preparing students for employability is a theme throughout many studies of higher education, and the apparent gap presents a need for change in various areas, particularly teaching methods (Committee on a Leadership Summit to Effect Change in Teaching, 2009; Rateau & Kaufman, 2009). "During the next ten (sic) years, colleges of agriculture will be challenged to transform their role in higher education..." (National Research Council, 2009, p. 1). Preparing teachers in colleges of agriculture to teach effectively so that graduates are equipped to solve complex global problems is a "key piece of the mechanism for this transformation" (Roberts, Conner, Estep, Giorgi, & Stripling, 2012, p. 21). This means fostering a student-friendly persona, using lecture and questioning effectively to reach higher levels of cognition, and creating a "psychologically inviting learning environment" (Roberts, et al., 2012, p. 27). Additionally, new teaching methods and strategies must be integrated into the college classroom, where emphasis is placed on: "learning to learn . . . with a shift in pedagogy from 'knowing what' to 'knowing how to find out'" (Harvey, 2005, p. 17); "learning how to learn" (Atkins, 1999, p. 267); and the need for graduates that "know 'how' rather than simply knowing 'what'" (Robinson, Garton, & Vaughn, 2007, p. 19). Although educators are making changes to teaching methods to provide the required skills, these changes must happen at a faster pace (Finch et al., 2013). Recognizing this need, the National Research Agenda for Agricultural Education highlights a priority to provide a "sufficient scientific and professional workforce that addresses the challenges of the 21st century" (Doerfert, 2011, p. 9).

Conceptual Framework

Maxwell, Vincent, and Ball (2011) conducted a qualitative study of nine award winning faculty instructors at the University of Missouri to determine what characteristics typify an effective teacher and what effective instructors do inside and outside the classroom that make them effective. The resulting framework for effective college teaching helped exemplary teaching faculty conceptualize effective teaching (Figure 1). The framework focuses on two broad themes: (1) the act of effective teaching, and (2) the act of becoming and evolving as an effective teacher (Maxwell et al., 2011). Each of these themes has component sub-themes, which add depth to the teacher's understanding.

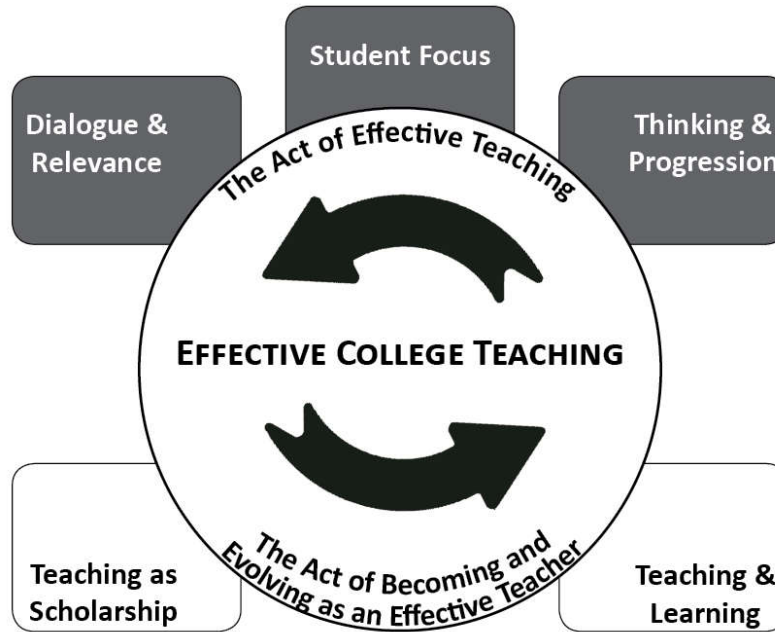


Figure 1. Framework for effective college teaching. Adaptive from “Teaching effectively: Award winning faculty share their views,” by L. D. Maxwell, S. K. Vincent, and A. L. Ball, 2011, *Journal of Agricultural Education*, 52(4), p. 171. Copyright by the American Association for Agricultural Education.

The Act of Teaching

The act of teaching includes three parts. First, “dialogue and relevance,” refers to instructors fostering an environment where “students feel they are an active participant in the learning process” (Maxwell et al., 2011, p. 167). Second, “thinking and progression” is concerned with creating students who are critical thinkers and not mere content consumers. The purpose of which is to cause students to think about content in new ways. “By encouraging students to discover and utilize their critical thinking skills, effective teachers focused on helping students progress from where they are currently in their learning to some new point” (Maxwell et al., p. 168). Finally, by maintaining a “focus on students,” instructors “place the student as the central focal point in thinking about teaching” (Maxwell et al., p. 166). In doing so, faculty prevent making “one of the biggest mistakes that ineffective teachers make”: focusing on content first, rather than the student (Maxwell et al., p. 166).

The Act of Becoming & Evolving as an Effective Teacher

The second theme is comprised of two sub themes. First, “teaching as scholarship,” reflects a sentiment among all participants that teaching is a scholarly endeavor. Effective teachers used a scholarly approach when planning for their teaching, citing similarities between teaching and research methodology. Second, “teaching and learning as growth” reflects a consensus in the study that effective teachers approach teaching as though it is a continuous process of improvement and growth. Central to this theme was that effective teachers seek out local, regional, and national professional development activities, as well as collaborate with colleagues (Maxwell et al., 2011).

Purpose

The purpose of this study was to describe innovative instructors' classroom strategies for developing core applied skills in their students. This includes: (a) the exploration of how they address the shift from content to learning; (b) specific strategies for allowing skills to develop; (c) strategies for enhancing communication, critical thinking, and problem-solving skills; and (d) strategies for enhancing students' ability to contribute to a team effort.

Methods and Procedures

Qualitative inquiry guided the research design. The process of designing a qualitative study begins not with the methods, but instead with the "broad assumptions central to qualitative inquiry, and an interpretive/theoretical lens and a topic of inquiry" (Creswell, 2013, p. 65). The assumptions emerged from the review of the literature and resulted in several *a priori* propositions. *A priori* propositions are the study component that "directs attention to something that should be examined..." (Yin, 2003, p. 22). These propositions (Table 2) yielded research questions. Interview guidelines were created to ensure that the semi-structured interviews explored the phenomenon under study. Interviews were conducted because "at the root of in-depth interviewing is an interest in understanding experience of other people and the meaning they make of that experience" (Seidman, 1998, p. 3). The goal of the open-ended interview format was to explore the experiences of instructors using interpretive, constructivist, and naturalistic approaches. Maxwell et al.'s (2011) framework for effective teaching was published after this study was constructed. So, while it did not influence the *a priori* propositions, it did influence interpretation of the findings.

Table 2

A priori propositions and prompts for surfacing innovative classroom strategies

Propositions	Supporting Literature	Interview Prompts
Educators need to partner with future employers to better understand the desired learning outcomes.	Research highlights the need to keep curriculum current with the changing world (Garton & Robinson, 2006; Hawkrige, 2005; Rae, 2007; Conference Board, 2006).	Please describe how you maintain and develop curriculums that are relevant to today’s changing world.
The world is rapidly changing and becoming more complex.	New teaching strategies must emphasize “learning to learn...with a shift in pedagogy from ‘knowing what’ to ‘knowing how to find out’” (Harvey, 2005, p. 17) and the need for graduates to “know how rather than simply knowing that” (Robinson et al., 2007, p. 19).	Describe what teaching strategies you typically use in the classroom. Describe teaching strategies that you have implemented or plan to implement that will address the shift from content to learning.
Employers are frustrated that graduates are not properly prepared in skills development.	The Conference Board (2006) findings “reflect employers’ growing frustrations over the lack of skills they see in new workforce entrants” (p. 10). Common deficiencies include critical thinking, work ethic, problem solving, verbal and written communications, and the ability to effectively contribute to a team effort.	Describe strategies you employ in the classroom that allow skills development. Describe what strategies you employ to enhance problem solving and communications skills development. Describe the strategies you employ in the classroom that enhance critical thinking skills development.
Workplace success requires the ability to successfully interact on a team.	Specific areas of deficiencies typically noted are the ability to effectively contribute to a team effort (Conference Board, 2006).	Describe for me what strategies you employ in the classroom that enhances the ability to successfully contribute to a team effort.
Workplace success requires lifelong learning.	Life-long learning skills increasingly important to maintain pace in our diverse and rapidly changing world (Down, 2003).	Please describe how you foster an attitude of learning every day.
Barriers to educational change must be removed.	“Educators and employers need to work together to prepare students for the complexities they will encounter as they leave school and enter the workplace” (Evers et al., 1998, p. 4).	What barriers to change do you encounter (from the institution, your department, your peers, students, and employers)?

Procedure

To identify a potential sample of innovative instructors, we worked with Virginia Tech's College of Agriculture and Life Sciences' Office of Academic Programs. Sample selection was purposeful "to show different perspectives on the problem" (Creswell, 2013, p. 100). Selection was based on being recognized for teaching excellence by fellow faculty and administrators. Additional criteria included participants' willingness and ability to richly and effectively share their experience with the phenomenon. The initial sample size was eight instructors from seven different departments within the College. Recruitment was accomplished through written correspondence. We explained to potential participants the purpose of the study, IRB approval, confidentiality, and voluntary participation. Two instructors declined participation, citing time commitments; and one did not reply to recruitment communication, leaving five total participants. However, the sample size included enough instructors for saturation, "a point of study at which the interviewer begins to hear the same information reported" by the participants (Seidman, 1998, p. 58).

Data was collected through open-ended, semi-structured interviews. This format allows the participant to respond in his or her own words (Patton, 2002). It also allows the researcher to probe ideas, opinions, feelings, and facts related to the phenomenon, as lived by the participant (Yin, 2014). To ensure consistency, a single researcher conducted all interviews. Data collection occurred in two phases: (1) soliciting interest, introducing the phenomenon being researched, describing the process, and discussing ethical issues, including confidentiality; and (2) the actual interview to explore the phenomenon itself. There were several days between interviews, allowing participants time to reflect upon their experience with the phenomenon, better preparing them to share their experiences. Each data-gathering interview lasted approximately 50 minutes. We recorded interviews with a digital audio recording device, allowing for complete verbatim transcription. Interviews began with general questions and moved increasingly deeper to better explore the phenomenon. The interviewer took rich, written field notes to ensure that small but important details were not overlooked during analysis. Interview guides from *a priori* propositions offered sequencing of research questions while remaining flexible to allow for probing and follow-up

Data Analysis

Data was processed through whole text analysis, as developed by Glaser and Strauss (1967). The "fluid and generative" process includes identifying, coding, and categorizing data into patterns, all while remaining aware of the researcher's standpoint on the phenomenon (Corbin & Strauss, 2015, p. 215). The researcher engaged in an inductive process in reviewing the interview audio recordings, transcripts, and rich field notes to move from small, specific details to higher and more general findings. Data was first coded and then sorted it into various categories "that organize it and render it meaningful" (Lofland, Snow, Anderson, & Lofland, 2006, p. 200). These categories, or themes, place concepts with shared meaning together, allowing the consolidation of a large amount of data into a few broad, manageable categories — a process known as categorical aggregation (Creswell, 2013). Trustworthiness and credibility were ensured, in part, through member checks, where participants were allowed to review findings and researcher interpretations of interview data (Creswell, 2013; Seidman, 2013). The themes that emerged through this process informed the results of the study. While efforts were made to maintain the trustworthiness and credibility of the study, the findings are limited to the subjects of this study, and readers should use caution when extrapolating the findings to other contexts (Lincoln & Guba, 1985).

Results

Based on thematic analysis of the data, six themes emerged describing innovative instructors' strategies for developing applied core skills, and the ability to continuously learn and thrive in our rapidly changing world:

- 1) Demonstrate an enthusiasm for student learning;
- 2) Experiment actively with new ideas for educational practice;
- 3) Approach teaching with a guiding mentality more than a directing mentality;
- 4) Foster student ownership of learning;
- 5) Stay abreast of new developments in recommended educational practices; and
- 6) Invest time and resources to overcome barriers to change.

Enthusiasm for Learning

Recruitment letters sent to the potential participants stated: "You have been identified as an innovative instructor by others." With this statement, participants had an opportunity to reflect on their own definition of an innovative instructor. Leading up to the interviews, no formal definition was given to the participants, with the goal of hearing how they would define innovative. Interviews opened with the question: "You have been identified as an innovative instructor by others. Please tell me why you think they feel you are an innovative instructor?"

Participant reaction to the question ranged from facial expressions of uncertainty to smiles indicating some pleasure in this recognition. Initial verbal responses included Flor stating she was "curious to know what that means," followed by a laugh. Jean responded, "I have no idea," while Sam indicated "That's a good question.... I am not 100% sure." These initial statements of surprise and curiosity were followed by more detailed responses including Deb stating, "I think probably because I incorporate different things in my classes. They're not static. They change." Liz responded, "We're doing things a little bit differently... the collaborative teaching approach, and our commitment to both experiential learning and interdisciplinary learning." Flor stated, "I don't just get up and talk about content... so many of my classes are discussion based."

Jean had a statement that best summed up the comments of all instructors:

I would have to say it's because I make an effort to be on the same level as my students. So I make an effort to have rapport with them that enables them to see me as a human. And what I mean by that is someone who has deadlines, and expectations, just like they do, and whatever I expect from them works both ways. And, I think they relate to that and hopefully learn from it.

Passion for teaching was noted in each of the five interviews as well as the satisfaction of seeing students learn. As Sam stated, it is very rewarding to see students "get it." Researcher field notes from each interview noted various body language, including hand gestures, facial expressions, and smiles as additional indication of participants' passion for teaching.

When asked, "What is it that you do that is innovative?", the responses were rich. One commonality between all five instructors was their continual effort at trying new strategies in the classroom. Jean best summed the continual efforts by stating she was trying a new strategy this year: "I'm hoping, and obviously I'm excited, and I'm hoping it goes well." And when discussing her strategies she regularly "tweaks it just a little bit here and there." Themes that follow detail key findings of what defines the instructors as innovative.

Experiment with New Ideas

Innovative instructors continually noted their willingness to try new classroom teaching and learning strategies. During the interviews, rich field notes were taken of the environment

where the interviews took place, which was each innovative instructor's office. In every case, there were books or papers about teaching and new teaching methods. These books were not stored in a bookcase to give the appearance of a scholarly office. Instead, they were laying on working tables and desks, and it was apparent the readings were actively being used for instructors to explore new methods. In one interview, the researcher had to actually lay his notepad on top of three new books about different teaching strategies and methods, and the books appeared to have been used extensively.

Jean stated, "This year I've tried something totally different, which I'm a little scared of." She indicated that she found the new teaching method while reading "a blurb on teaching." Jean went on to state, "So I'm hoping, and obviously I'm excited, and I'm hoping it goes well. I have no idea." Jean, in her excited tone of voice and smile, went on with her on-going work in implementing another new strategy:

So right now, this is my third or fourth semester teaching [the class], and this was when in my head I had planned to revamp it, because up until now it's been getting the material. It's a new course. It was a new course when I started getting new books, getting it under my belt, figuring out what it was, we needed out of it, and now it's at a point where I've gotten all that down.... I'm uploading new material, but I'm able to change it, tweak it just a little bit here and there, and respond to the comments the students have given in the past. So that's what I'm trying to do.

Flor noted she had just implemented a new teaching strategy that "is sufficiently novel for most undergraduates" and now would like to continually review the new method to ensure it is meeting the learning objectives. Flor also noted the value in attending other professors' classes and professional development opportunities to pick up new ideas.

Similarly, Sam sought to learn from others. In his effort to improve and implement new strategies, he said:

[I] go around talking to different faculty members identified as being good teachers mostly by word of mouth or from staff members and students just asking questions. How do you approach a course? What do you think is important? What kind of things are you trying to achieve?

In summary, innovative instructors were willing to spend the required time for new strategies and to make informed choices concerning what to implement for the desired learning outcome. The instructors all recognized new strategies take time, but they also recognized they could not be stagnate in their strategies.

Adopt a Guiding Mentality

Throughout the interviews, participants continually referenced the critical role they play in guiding students in their learning. As Flor shared, students commonly reacted with: "You want me to what? How do I do that?" Because they just have had no practice... and so reassurance is really my main strategy for responding." Liz notes the importance of a safe environment where the instructor can challenge the student, "but not to disrupt them to the point where they're not able to move forward." Multiple instructors noted giving students choices and options as one method to guide student learning through shared power. Flor noted authority is shared "when students practice critiquing others' work, and to see that I'm not the sole authority in the class."

The limitations of lecture and the function of content were noted as important concepts in creating a learning environment. Flor bluntly stated, "People don't learn by lecturing." Sam noted lecturing, "just throws that body of knowledge out there" without any chance for discussion and real student learning. Flor noted that instructors must make the right choices, and if an instructor is "going to spend all that time...crafting that perfect PowerPoint . . . spend it on something that will help students learn instead of crafting the perfect PowerPoint." The value of

content elicited strong feelings from all instructors' starting with Liz and "I hate" the word content, stating that some instructors are teaching only for content in preparation for tests and to get "things done." Jean sums the instructors overriding feeling about teaching for content alone by saying, "I don't care that you can name 23 kinds and not know what they do. I'd like you to be able to tell me what they do."

There was common agreement between all instructors that students must be challenged if they are to learn and become life-long learners. However, as Flor states, "You have to know where your students are, so if you don't know what they know already, how are you going to help them move their knowledge and skills forward?" Multiple instructors stated that large class sizes make this assessment difficult or impossible. Jean sets high expectations for her students and said students know "when I'm disappointed when they haven't met my expectations." Each instructor noted multiple ways to challenge students; however, there was common agreement that asking students questions challenges them to think, and students learn when instructors ask challenging questions followed by discussion. There was also agreement that students want to be challenged. As evidence, Liz shared a statement from a student, noting: "You will learn a lot; it is very hard work, but you will learn a lot." Flor noted she challenges her students continually, but follows the challenges with encouragement and reassurance:

[Students] say 'I've never done this before. Oh my God! What do I do?' 'Well you know what . . . the class before you did it just fine and they've never done it before either. You'll be fine.' I'll give examples from previous years for them to see. 'This is what we're aiming for,' and I actually have them write critiques of previous years' proposals so they get practice writing critiques, they get practice thinking...and some will actually ask me, 'Were those professional proposals?' No this was last year's class. You can do this. I know you can do this.

Instructors stated that for students to become life-long learners, they must know how to find literature, determine what is factual, and construct knowledge. Liz stated:

Students must be able to defend their thoughts; you need to have an argument. It's not just enough to have an idea. 'Where are you learning this? What's the argument about?' It's historically embedded somewhere: 'Well, learn that. Get uncomfortable with it! Challenge it!'

The instructors noted students often find it difficult to determine which data are relevant: how to prioritize and differentiate information. Flor stated she helps students "learn how to prioritize . . . this is where I start . . . this is what I have to do next," and "I try to help them pay attention to this, pay attention to this figure, read this part." Deb sums this best by challenging students to find literature for a written class paper: "They learn to discern, hopefully learn to discern a little bit between good solid information and stuff that belongs off in the trash can somewhere."

Foster Student Ownership of Learning

There was clear and passionate agreement among all innovative instructors that students must accept their responsibility in learning. Key concepts in learning how to become a life-long learner included the value of groups or teams in learning, understanding and respecting different perspectives, the ability to adapt to change and set priorities, the ability to find new information, and the application of knowledge to real world situations.

Innovative instructors continually noted students learn when they see others succeed, review others assignments, listen to different perspectives on the same topic, help other students, and work together to solve a complex problem. The innovative instructors noted many different classroom strategies that address this. Key strategies included the use of discussion, group work, and teams. Liz noted, "Through discussions, they get to see multiple perspectives, and they get to see how other students see problems and identify problems."

Although all instructors noted the positive learning outcomes of group work and teams, there were multiple references noting students do not always know how to successfully function as a group or team. For example, Deb stated she expected students to know how to work in a group or team before coming to her class. She continued by stating:

It's pretty much learning by the seat of your pants, and if it's a dysfunctional team, OK, I'll step in, but otherwise I'm counting on them being able to sort it out.... That's actually one reason I'm not doing as much team activities in my class is, because I didn't feel like I could put the time into it.

Multiple, innovative instructors noted the importance of students taking what they know and learning new things from it. Sam characterized this by saying:

I hope I am preparing them.... I hope they are hearing that message in other places that preparing them to realize that you can't just get comfortable with the information that you have and you need to constantly be processing new information, learning new information to keep what you're doing in contest. That is important to me. Don't think you have memorized this information and you got it — you can run with it and realize that this is important knowledge for you to possess, but your ability to see it in the context that it's in and ability to adapt to changes that are coming, is going to depend on your ability to assimilate new information that is coming down the pipe.

In a world of rapid change, students must have the ability to adapt to change while continuing to learn. Liz noted, "If you're going to be a life-long learner, you certainly have to have the skills of understanding of how to find the information, where to go and look for it." However, the innovative instructors also noted that finding the information alone was not enough; students must know how to analyze the information. Deb stated she regularly challenges students to find new information and as a part of life-long learning: "Once you're forced, then you have to do it." Multiple innovative instructors highlighted the importance of holding the student accountable for analyzing information and coming to class prepared to discuss. Flor stated, "I give them practice doing that over and over and over again."

Stay Abreast of Developments

Innovative instructors recognized the need for effective program planning to stay abreast with the changing world, if students are to become life-long learners. In support, instructor comments of effective program planning ranged from yearly, formal departmental planning meetings to analysis of more personalized comments. As one instructor said, "We look at feedback as critical," further noting that curriculum is like building blocks put together "where if you take that one [class] out this parts going to start falling."

Each instructor reported trying to stay abreast with the changing world through workshops, personal contacts, and working with other instructors. Flor noted that, due to the rapid change in content, she no longer uses textbooks. Liz noted that not only was the content changing but also the need to stay abreast with changing pedagogy was critical in assisting students in their life-long learning. She explained: "Our pedagogy has to change; our scholarship has to change."

On a formal program-planning level, there was variation in responses by the instructors based on their department. One instructor noted good communications between the department and various stakeholders — including employers and former students — due to one person in the department being assigned to this role. The same instructor also noted receiving regular feedback and communications as a result of regularly scheduled curriculum meetings. Another instructor was unaware if there was a functioning advisory board in place and limited communications with stakeholders, including employers.

Informally, four of the five instructors noted regular contact and feedback from former students who are now employed in their respective fields. Sam noted, "The students that go out of

here, at least from the students that I am aware of, have all done pretty well and have moved up.” This suggested that what the department was doing was successful and that former students can be a good source of information in an attempt to stay abreast and make changes where necessary. In her conversations with former students, Jean regularly asks the question “What are you missing?” as a means to better understand where changes to the curriculum may be needed. This valuable feedback from graduates allows Jean to make small but important changes: “We tweak what we hear!”

Barriers to Change

Barriers that would prevent students from becoming life-long learners were a continual theme throughout each of the interviews. There was agreement between the five innovative instructors that time and resources were barriers that prevented them from further assisting their students in their growth. When asked what barriers she faced for learning improvements, Liz stated: “Resources and time. Resources, I mean, the resources to do it and the time to do it well!” Instructors noted they faced decisions daily on how to use their own time, as all had research as well as teaching appointments. They also mentioned time requirements in gaining tenure as a barrier, forcing instructors to make difficult decisions on the amount of time they spend on teaching.

All five instructors noted that time and resource barriers limited their opportunities in developing and implementing new strategies in the classroom. They also noted that with the rapid change in the world there was a need for them to regularly update their strategies or develop completely new strategies. Three instructors also noted that implementing a new strategy takes time, is difficult, and can be “scary,” with Jean stating, “I’ve tried something totally different, which I’m a little scared of.” Various instructors noted that new strategies are often met with student resistance. When discussing with her students the possibility of enacting a new strategy, such as problem solving or the use of teams, Jean noted students’ reactions: “And the first time they heard this, you could see the look on their face, they’re just, pardon but, they’re pissed!”

Four instructors noted that limited resources often result in large class sizes. Each instructor further noted the disadvantages of large class sizes as a barrier to get to know their students, barriers to discussion to hear different perspectives, barriers to use writing as a learning opportunity and evaluation method, and, lastly, a barrier for effective assessment of student learning outcomes.

Conclusions

Based on the findings in this study, being an innovative instructor in today’s higher education system is a demanding and multi-faceted position. The themes that surfaced provide further insight on, and support for, Maxwell and colleagues’ (2011) framework for effective college teaching.

The Act of Becoming & Evolving as an Effective Teacher

In the act of becoming and evolving as an effective teacher, the innovative instructors embraced “teaching as scholarship.” Maxwell and colleagues (2011) noted that scholarly focus on professional development and continued learning was an imperative of effective college teaching. The responses from the subjects of this study aligned with that spirit. They were passionate about testing new teaching methods and strategies, despite the fear of trying something new. In particular, instructors showed an interest in learner-centered pedagogy, which redirects the instructor’s focus from content dissemination to student learning (Harvey, 2005). With this shift, students begin “learning to learn” and “knowing what” to “knowing how to find out”

(Harvey, 2005, p. 17). By creating a more active learning environment, students begin developing the critical thinking skills, problem solving skills, and teamwork abilities that employers report deficient in today's graduates (Casner-Lotto et al., 2006). This focus on learner-centered pedagogy is a step in the right direction toward preparing graduates for careers in a world that is increasingly complex and rapidly changing. Unfortunately, time limitations related to competing expectations limited their opportunities to implement new strategies. Instructors noted the value in formal program planning and assessment as a means of embracing "teaching and learning as growth" (Maxwell et al., 2011, p. 169). The innovative instructors shared a drive to review and implement new teaching methods and strategies. Even when no formal program assessment was in place to evaluate the changes, the instructors appeared to be successfully gathering information through personal contacts.

The Act of Effective Teaching

In the act of effective teaching, the instructors shared a passion for teaching, including a strong desire to assist, or guide, students in their own learning. Innovative instructors motivated their students by challenging them with real-world and relevant assignments and discussions where students could connect their learning to the real world. This was consistent with the Maxwell et al. (2011) theme of "thinking and progression," in which effective instructors challenge students to "progress from where they currently are in their learning to some new point" (p. 168). These instructors understand student learning depends on how much value the student places on the learning outcomes and the degree to which the individual believes the learning goals are attainable. Consistent with Schunk (2012) and Weimer (2013), innovative instructors challenged students beyond their comfort zone, but the goals were always within reach. By encouraging students to take responsibility for their own learning and establish goals, they are better prepared for becoming life-long learners, a skillset that has been identified as necessary to ensure long-term workplace success (Down, 2003).

Further emphasizing student focus, the innovative instructors actively promoted and challenged students to be able to apply the new concepts to real-world issues and problem solving. Passive forms of student learning (e.g., excessive lecturing, memorization of content, and providing students with the needed resources without challenging the student to find the resource) were unacceptable practices in their classrooms. This was consistent with Maxwell and colleagues' (2011) caution against making the mistake of merely disseminating content without regard to the students' experience. It seems everyone agrees: "If you are not thinking in terms of how can I help the students understand the material, you've got a huge barrier to get over" (Maxwell et al., p. 166).

Consistent with the tenets of learner-centered pedagogy (Weimer, 2013), innovative instructors were characterized as guides for their students, creating safe learning environments for students to explore, giving students options and control of classroom decisions, and presenting students with real world and relevant issues for problem solving. Acting as a guide, instructors explained the rationale behind the new strategy, allowing students a better understanding of the positive learning outcomes. As the instructors created safe learning environments, they were receptive to student questions and concerns, while providing students the chance to explore and discuss their thoughts. Innovative instructors communicated to students their responsibility for learning and held students accountable for learning. This is consistent with Maxwell and colleagues' (2011) theme of "dialogue and relevance," in which students feel they are "active participants in the learning process" (p. 167).

Recommendations

Based on the findings and conclusions of this study, we recommend that academic administrators and innovative instructors promote and implement learner-centered teaching into the classroom. Weimer's (2013) book on *Learner-Centered Teaching* could be used as a guide. Furthermore, program assessment should be required if the learning experience is to meet the rapidly changing needs of the world. Cervero and Wilson's (2006) book, *Working the Planning Table*, could be a valuable resource for negotiating the needs of different stakeholders.

While this study provided understanding and awareness of the attitudes and skills necessary for innovative instruction, further research needs to be conducted to fully understand the phenomenon. We recommend this study be replicated at other universities to further explain the differences and similarities between best practices and results. Further investigation could clarify the themes expressed in this study and illuminate other priorities. Classroom observation would be a valuable addition, as that was a clear limitation of this study. However, as more instructors are recognized for their innovative approaches, simple interviews (such as those conducted in this study) could help identify more classroom strategies that promote students' growth and ability to continuously learn and thrive in a world of change.

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