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A course redesign project to change faculty orientation toward teaching

Susan Eliason¹ and Christine L. Holmes²

Abstract: This article discusses the development, implementation, and outcomes of a Faculty Course Redesign Camp for full-time and adjunct faculty members. The purpose of the camp was to educate and coach faculty in effective strategies to promote learner-centered teaching skills. Evaluation results show that the participants changed their orientation toward teaching in the dimension of their role in instruction, but they made little change in balance of power and responsibility for learning.

Keywords: faculty development, learner-centered teaching, college teaching, change strategies, teaching effectiveness.

As a function of our leadership roles in the Center for Teaching Excellence at Anna Maria College, a small Catholic-based liberal arts institution, we developed, implemented, and facilitated a Faculty Course Redesign Camp for full-time and adjunct faculty members. The purpose of the camp was to educate and coach faculty in effective strategies to promote learner-centered teaching skills while generating student excitement for course content. Participants in the camp produced a revised course syllabus. In courses with multiple sections, faculty members from all sections were encouraged to attend. This article will describe the development, implementation, and outcomes of the Faculty Course Redesign Camp.

I. Development.

During the initial development we primarily used the work of Barr and Tagg (1995), Blumberg (2009), Fink (2003), Tagg (2003), and Weimer (2002) to shape the focus of and inform the goals for the camp. Barr and Tagg (1995) described a learner-centered model where faculty and students work as a team to promote substantive learning. The model encourages students to discover and construct knowledge and to have control over the learning process. Faculty are primarily designers of learning methods and environments using both formative and summative assessment. "In learner-centered teaching, the instructor focuses on what the students are learning, how they are learning, and how they can use the learning" (Weimer, 2002, as cited in Blumberg, 2009, p. 3). It is an approach to teaching that focuses on student learning rather than on what the teacher is teaching. Fink (2003) defined significant learning as having a process and an outcome dimension. The process of learning begins by activating prior knowledge. During the process of learning, students are highly engaged. The outcomes include significant and meaningful change.

Using a learner-centered approach can present a potential challenge because faculty develop conceptions about teaching based on their experiences as a student or novice teacher and

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may have established an orientation to teaching that could limit the way they provide instruction (Holmes, 2004; Northcote, 2009). Because we are both from the field of education, research from Bloom (1956), Chickering and Gamson (1987), Darling-Hammond and Bransford (2005), Vygotsky (1934/1986), and Wiggins and McTighe (1998) informed the content of the camp.

From informal conversations with faculty, guided conversations with mentors, and feedback from adjunct professional development days, we knew that learner-centered teaching would need to be taught, and that participants may resist the idea due to prior expectations about learning and teaching (Michael, 2007). We assumed that adjunct faculty would have the same needs for professional development regarding effective teaching strategies as full-time faculty members. Research supports that the quality of instruction from adjunct faculty does not seem to influence student learning. The difference appears to be in faculty support and the feeling of inclusiveness, which could impact the achievement of student learning objectives (Reichard, 2003). In addition, there is no significant difference in the teaching capability of adjunct faculty as compared to full-time faculty (Leslie & Gappa, 2002; Reichard, 2003). Thus, the camp was opened to both full-time and adjunct faculty members.

Learner-centered teaching is not one specific teaching method; rather, many different instructional methods can lead to a learning-centered approach (Blumberg, 2009). We decided to promote reflective practice as a foundation for the camp and provide resources and support to faculty interested in learning more about active learning strategies, multiple ways to assess student learning, and Universal Design for Learning (UDL). We gathered resources and developed intellectually stimulating activities to promote a deeper understanding of active teaching and learning to allow participants to explore assessment strategies, pedagogy, reflective teaching and learning, and innovative practices. We designed a learning experience where faculty could work together as a community of reflective practitioners with one-to-one support as needed.

An open invitation was electronically delivered to all faculty to complete an application for the camp (see Appendix 1). We reviewed each application to ascertain prior knowledge, record areas faculty wished to explore, and note additional resources to provide participants based on their interests (see Appendix 2). Faculty wished to explore assumptions, making connections between courses, service-learning, cooperative learning strategies, motivation, using current events, and technology as a teaching tool. As an incentive, faculty participating in the three-day camp received a stipend and lunch daily. The incentive may be a stronger motivator for attendance than the desire to learn a new skill, which could bias the results of the camp.

II. Implementation.

The Faculty Course Redesign Camp I was held in June 2010 and Camp II in January 2011, with Camp Reunions in January and May 2011. The camp was presented using a face-to-face model with resources and discussions available online through the college course management system. Camp II was revised to better meet faculty needs and to model effective teaching practices.

Camp I had more scheduled individual work time than Camp II. Participants seemed to want more instruction and guidance as determined by the questions they asked during individual work time. To increase the level of instruction and guidance during Camp II, we more clearly defined and described the opening activity and the self-assessment, and we used Fink's (2003) Self-Directed Guide to Designing Courses for Significant Learning as a framework for course redesign. We modeled the use of organizing schema, techniques for actively engaging

participants, and the use of course content to facilitate future learning. We were more explicit as to how the camp was concrete, real, and relevant to college teaching. In addition, we included a guest speaker on day two to highlight campus resources for assessment and the role of assessment in their courses. On day three we added content to include the use of Poll Everywhere as a tool for active engagement.

Both camp sessions included guided activities, individual working time, a working lunch, and a closing activity. On the first day of camp, participants completed a self-assessment to reflect on their practice as it relates to the five dimensions of learner-centered teaching: the function of content, the role of the instructor, the responsibility for learning, the purposes and processes for assessment, and the balance of power (Blumberg, 2009; Weimer, 2002). Using a think-pair-share model, we encouraged participants to discuss areas for improvement and share effective teaching and learning strategies that promote learner-centered teaching. The self-assessment was revisited during the Camp Reunion when faculty reflected on the changes they made in their courses post camp.

On day one, we provided instructional design resources to include writing measurable learning objectives using Bloom's (1956) cognitive taxonomy and Fink's (2003) taxonomy for significant learning. After a self-assessment and goal-setting activity, participants worked on their course redesign project. We encouraged participants to reflect on several factors such as knowledge of students, discipline-specific methods, and course goals. These areas are included in the framework for understanding teaching and learning from Darling-Hammond and Bransford (2005). As they created their syllabi, participants were urged to discuss their thinking with others while we provided one-on-one coaching. Discussion with others is critical to changing thinking and behaviors. Vygotsky (1934/1986) believed cognition was primarily a social experience. A zone of proximal development occurs when an individual transfers abilities from a shared environment to knowledge within the self.

The closing activity for day one consisted of viewing a case story video on UDL through the Multimedia Educational Resources for Learning and Online Teaching (MERLOT) website. After viewing the video, participants completed a self-assessment on implementing UDL in their classroom, with our goal being to develop reflective faculty (Brookfield, 1995; Darling-Hammond & Bransford, 2005). A discussion of the ramifications of implementing UDL followed.

On the second day of camp, the focus was on assessment of student learning. Resources shared included a Clarity Grid (Huston, 2009), reflective assignment prompts, prior knowledge activities, the design of tests and projects, and the use of formative assessment to inform instruction to include the Critical Incident Questionnaire (Brookfield, 1995). We met with participants during individual work time to discuss the application of assessment strategies as they redesigned their courses. At the end of the second day participants discussed strategies for the use of formative assessment and to provide effective feedback to their students. We included techniques that would clearly communicate high but attainable expectations, explicitly relate current learning to prior learning, offer a variety of ways to learn, encourage hands-on practice, present information visually, support reflection, provide prompt and concrete feedback, and assign tasks to include revisions (Chickering & Gamson, 1987; Suskie, 2009).

On the third day of camp, participants identified goals for the day and discussed lingering questions based on their first two days of course redesign. Participants worked on their courses with guidance from us as needed. The day closed with the sharing of technology resources to include instruction on creating presentations that inform, motivate, and inspire

(Atkinson, creating Builder 2008). course materials with MERLOT Content (http://taste.merlot.org/Programs and Projects/ContentBuilder.html), increasing student participation with Poll Everywhere (http://www.polleverywhere.com/), discussions on literacy and critical thinking in a digital age, and creating an in-class computer use policy. On the final day of Camp I it was agreed that there would be a Camp Reunion in January 2011 so that participants could share their experiences after implementing the changes they had made to their courses. At the end of Camp II, a reunion was scheduled for June 2011 to include Camp I and II participants.

III. Camp Reunion.

The Camp Reunion agenda included the sharing of successes and discussion of further revisions. The opening activity was a written reflection on the five dimensions of learner-centered teaching (Blumberg, 2009). Charts, labeled with each of the five dimensions—the function of content, the role of the instructor, the responsibility for learning, the purposes and processes for assessment, and the balance of power—were posted on the walls and participants recorded their responses. A guided discussion followed and participants were asked to consider how they:

- Made use of technology
- Made content clear and accessible
- Organized content
- Made use of examples and illustrations
- Made use of questioning strategies
- Used writing to enhance learning and thinking
- Incorporated diversity into teaching, learning, and assessment
- Created concrete, real, and relevant curricula
- Fostered a safe and collaborative classroom community

The final agenda item for the Camp Reunion was for participants to identify resources and professional development opportunities they may need to support their teaching and learning. Again, it was agreed that reunion meetings should continue at the end of each semester and that participants from all camp sessions would be invited to participate.

IV. Outcomes.

To date, 13 faculty members, 5 full-time and 8 adjunct faculty, participated in the Faculty Course Redesign Camp experience (see Table 1). The academic status of the 5 full-time faculty participants included 2 tenured and 3 non-tenured faculty. Faculty members (3 males and 10 females) represent a variety of academic disciplines: core curriculum (n = 4: two from freshman-level and two from junior-level courses), criminal justice (n = 3), legal studies (n = 1), business (n = 1), history (n = 1), English (n = 1), psychology (n = 1), and education (n = 1).

Table 1. Participation summary.

	Camp I	Camp II
Reunion I	7/8	0/5
Reunion II	5/8	3/5

Eight faculty members participated in the June 2010 Camp I and seven of the eight attended the Camp I Reunion held in January 2011. Of the eight participants, five attended both *Journal of the Scholarship of Teaching and Learning*, Vol. 12, No. 1, February 2012.

Camp Reunions. Five faculty members attended the January 2011 Camp II. The May 2011 Camp I and Camp II Reunion included eight participants, five from Camp I and three from Camp II.

At the reunion camps, we used Blumberg's self-assessment (2009) to structure the discussion with participants about perceived changes in their students' experiences or their own teaching behavior as a result of the course redesign. The self-assessment relates to the five dimensions of learner-centered teaching: the function of content, the role of the instructor, the responsibility for learning, the purposes and processes for assessment, and the balance of power (Blumberg, 2009; Weimer, 2002). The participants recorded their ideas on charts. The responses were coded using five questions developed from Blumberg's framework that would demonstrate a higher level of adopting learner-centered approaches:

- 1. Did the participants assist students to transform and reflect on some of the content to make their own meaning?
- 2. Did the participants use some teaching and learning methods appropriate for student learning goals?
- 3. Did the participants provide some opportunities for students to assume responsibility for their own learning?
- 4. Did the participants integrate some assessment into the learning process?
- 5. Were the participants flexible on some course policies, assessment methods, learning methods, and deadlines?

The participants showed some transitioning toward more learner-centered teaching in the dimension of the function of the content (question 1). For instance, participants shared examples of solving real-world problems, using organizing schemes such as templates, facilitating future learning, and providing students with reasons for learning the content. The participants reported a more learner-centered orientation in the use of some teaching and learning methods appropriate for student learning goals (question 2). They aligned the course objectives to activities and assessment, used engaging activities, and created an environment for learning. The responses indicated participants were using learner-centered assessment in their courses, primarily formative assessment and authentic assessment techniques (question 4). Wiggins (1993) defined authentic assessment as:

Engaging and worthy problems or questions of importance, in which students must use knowledge to fashion performances effectively and creatively. The tasks are either replicas of or analogous to the kinds of problems faced by adult citizens and consumers or professionals in the field. (p. 229)

Examples of authentic assessment that the participants shared were creating a brochure for families about an aspect of child development and creating a resume in a freshman writing course.

The dimensions of responsibility for learning (question 3) and balance of power (question 5) did not appear to be as learner-centered, with little evidence to support learner-centered teaching in these dimensions. The reported changes were determined to be substantial by how the participants defended their written responses and their ability to elaborate and provide examples.

In addition, participants reflected on the resources and professional development opportunities needed to support learner-centered teaching at Anna Maria College. Participants requested a paradigm shift on campus and more sharing with colleagues in order to move away from the college's perceived transmission orientation toward teaching to a learner-centered orientation. The list of professional development requests is included in Table 2.

Table 2. Requested professional development.

The functions of content

• Including diversity and social justice

The role of the instructor

- Using technology effectively
- Involving all students during student presentations
- Designing questions
- Developing effective assessment tools that measure mastery of course objectives, making expectations clear, creating rubrics, measuring mastery of content rather than effort
- Conveying learning objectives versus content
- Accommodating all learners

The responsibility of learning

The processes and purposes of assessment

- Providing effective peer feedback
- Using assessment data
- Using student portfolios to assess learning

The balance of power

- Including more choice on assignments
- Exploring the balance of power, especially how to give up power when you don't know the content well

Participants were most interested in learning more about the role of the instructor and assessment. There was some interest in the balance of power and functions of content; however, there was no interest expressed in learning more about the responsibility for learning.

Following Camp II, the authors reviewed completed syllabi and assignments created by participants during the weekend after the camp. The Blumberg Rubric for the Function of Content Dimension of Learner-Centered Teaching was used to evaluate the documents for learner centeredness. The documents included the following information:

- A Reading Reflection Form assignment (RR)
- Critical Thinking and Writing syllabus (CWT)
- A Comparative Assignment (CA)
- Origins of Literature in Myth and Folklore syllabus (OMF)
- Human Life Span Development syllabus (HLD)

Four of the five assignments were in humanities courses: RR, CWT, CA, and OMF. HLD is from the social sciences. The rubric evaluates four components of the content (see Table 3).

The participants were able to add components to engage students and they used organizing schemes. Three participants used a technique described in the camp, the dialogue table, which encourages students to connect learning to prior experiences, find ways to apply learning, and develop areas of further study. Additional work is needed to assist participants in communicating the importance of learning content, acquire discipline-specific learning methodologies, the ways of thinking in the discipline, and how to solve real-world problems. It was interesting to note that there was more evidence of learner-centered approaches in the psychology course as opposed to the other humanities courses.

Table 3. Results of function of content dimension of learner-centered teaching.

	Rubric for the function of content dimension of learner-centered teaching				
		Employs instructor- centered	→ Transitioning to learner- centered approaches →		Employs learner- centered approaches
	COMPONENT	approaches →	Lower level of transitioning	Higher level of transitioning	
1.	Varied uses of content	RR	CA, OMF, CWT	0	HLD
2.	Level to which students engage in content	0	CWT	OMF, HLD	RR, CA
3.	Use of organizing schemes	0	CWT	OMF	RR, CA, HDL
4.	Use of content to facilitate future learning	CWT	RR, CA, OMF	HDL	0

V. Interpretation.

Reflecting on the results of the Camp Reunion discussion, the focus of the camp was on the dimension of the role of the instructor. We provided instruction and coaching on creating a positive classroom community, aligning course objectives, assessment and activities, use of formative assessment, and teaching methods and strategies. Were participants most likely to change their role as this was the instructional focus of the Faculty Course Redesign Camp? Interestingly, the role of instruction was also the most requested area for future learning, marking a change in participants' attitudes and acknowledging that they should have a different role in instruction.

There are several reasons why providing professional development in the dimension of the role of the instructor is essential. First, college teachers may have limited approaches to teaching due to prior experiences or a lack of pedagogical knowledge. This may prevent them from implementing a full range of teaching strategies and minimize their effectiveness as teachers. Second, teachers need to be encouraged to explore their own orientation to teaching, critically reflect on their own conceptions of the practice of teaching and learning, and focus on strategies that make them most effective. Finally, reflection on their teaching, coupled with the opportunity for discussion with colleagues about teaching, will expand pedagogical understanding and provide support as they grow their teaching repertoire and recognize how various strategies contribute to effective teaching (Holmes, 2004).

Our analysis also showed that the dimension of balance of power is more difficult to change. Blumberg (2009) suggested using a gradual approach for this dimension and to consider many teacher and student characteristics: "The amount of power you give your students depends on their maturity, their motivation, and your own comfort with this redistribution of power" (p. 188). The participants acknowledged the difficulty for students to assume responsibility for learning: "It was scary for them, at least at first." "The students, however, seemed very hesitant when I gave the opportunity of ownership in course and its processes." Shifting the balance of

power can be an uncomfortable process. Zirbel (2008) explained, "This might give the teacher the feeling of temporal disempowerment and make him feel more vulnerable" (p. 17). Perhaps this dimension is the last to change and may need the most support in the form of coaching and shared discussions.

VI. Conclusions and Future Research.

This study was limited in several ways. The results are applicable only to our work setting, and the sample size was relatively small (N=13). A more systematic approach to data collection would strengthen the findings. In future camps we plan to copy the initial self-assessments, collect the syllabi and assignment handouts, use the Blumberg Rubrics for the Dimensions of Learner-Centered Teaching as a framework for analysis, and interview participants at the end of the semester to determine the effectiveness of the project. Interview protocol will be developed prior to the camp.

One limitation of the study was the use of a standardized syllabus template. We wonder if faculty members have an awareness that a syllabus can not only provide information on what to teach, particularly when the curriculum is prescribed, but can also serve as a teaching tool for their students. Perhaps professional development focused on using syllabi as teaching tools would be helpful.

As a result of our analysis we hope to assist humanities faculty in becoming more concrete, real, and relevant in their teaching practice. Dean and Kaiser (2010) suggested that collaboration may not be valued or highly used in the humanities and related fields. Collaboration is an effective pedagogical tool for active learning. Dean and Kaiser found that the "collaborative process of researching and publishing in humanities disciplines offers an ideal setting for active learning, which involves knowledge that students acquire and construct for themselves during the learning process" (p. 43).

The logical next steps based on the results would be to offer professional development on the dimension of balance of power. For example, faculty may benefit from discussions on the use of open-ended assignments, flexible course grading strategies, and the development of syllabi policies.

The college culture may also be a barrier to learner-centered teaching as experiences that most deeply affect students are more often than not outside the classroom, and their tendency to take a deep or surface approach stems from their overall experience over many years of schooling (Tagg, 2003). Barr and Tagg (1995) acknowledged the challenges of learner-centered teaching within a culture that values and reflects an instructional model. During the camp, participants realized that learner-centered teaching is more time consuming than a more transmissive model of teaching.

Our analysis reflects that the two Faculty Course Redesign Camps were successful in engaging full-time and adjunct faculty in community building, teaching skills, active learning strategies, UDL, and assessment. Faculty participants are beginning to focus more on what students are learning rather than on what they are teaching. To enhance the future success of the camp, we plan to research effective faculty development strategies related to attitudinal changes that affect the balance of power, and to investigate whether learner-center teaching produces a difference in student outcomes.

Appendix 1. Application for Faculty Course Redesign Camp. The Center for Teaching Excellence Faculty Course Redesign Camp

When: June 14, 15, and 17, 2010, from 9:30–2:30, plus homework. If there is interest, the Center will offer a second Camp on June 21, 22, and 24. There will be a limit of 10 participants, and participants are required to attend all three days.

The Faculty Course Redesign Camp will address community building, teaching skills, active learning strategies, Universal Design for Learning, and assessment while generating excitement for your course content. The goal is to produce a syllabus to use next year. In courses with multiple sections we encourage as many of those teaching the course to attend together. Faculty participating in the Course Redesign Camp will receive a \$500 stipend and lunch daily.

To apply, complete the enclosed form. This will provide us with valuable information to tailor the course to meet your needs. Applications are due by May 21. Please complete and return to the Center.

In addition to the books in the Center's section of the college library, some resources to help you prepare for course redesign are:

Universal Design for Learning (UDL) is a framework for designing educational environments that enable all learners to gain knowledge, skills, and enthusiasm for learning. Educators can improve educational outcomes for diverse learners by applying the following principles to the development of goals, instructional methods, classroom materials, and assessments:

- Provide multiple and flexible methods of presentation to give students with diverse learning styles various ways of acquiring information and knowledge.
- Provide multiple and flexible means of expression to provide diverse students with alternatives for demonstrating what they have learned.
- Provide multiple and flexible means of engagement to tap into diverse learners' interests, challenge them appropriately, and motivate them to learn. (See CAST at http://www.cast.org)

For information on **active learning strategies**, read *Active Learning*: *Creating Excitement in the Classroom* available at

http://www.oid.ucla.edu/about/units/tatp/old/lounge/pedagogy/downloads/active-learning-eric.pdf, and visit the Illinois State Center for Teaching, Learning, and Technology website at: http://ctlt.illinoisstate.edu/

For information on **assessment strategies** see *Online Assessment Resources for Teachers* at the University of Wisconsin website at http://www.uwstout.edu/soe/profdev/assess.shtml, and read *Effective Online Instructional and Assessment Strategies* at http://edtech.boisestate.edu/elearn/assessment.pdf

Application for Faculty Course Redesign Camp

Criteria	
Name	
Course name	
Course goals and objectives	Your response
What do you want students to learn by the	
end of the course that will still be with them	
several years later?	
When will you teach the course?	
How many students do you expect in the	
class? Is the course lower division, upper	
division, or graduate level? How long and	
frequent are the class meetings? How will the	
course be delivered: live, online, or in a	
classroom or lab? What physical elements of	
the learning environment will affect the	
class?	
What is the special instructional challenge of	
this particular course?	
What is expected of the course by students?	
The department? The institution? The	
profession? Society at large? What learning	
expectations are placed on this course or	
curriculum by the university? The college	
and/or department? The profession? Society?	
Is this subject primarily theoretical, practical,	
or a combination? Is the subject primarily	
convergent or divergent? Are there important	
changes or controversies occurring within the	
field?	
What is the life situation of the learners (e.g.,	
working, family, professional goals)? What	
prior knowledge, experiences, and initial feelings do students usually have about this	
subject? What are their learning goals,	
expectations, and preferred learning styles?	
What beliefs and values do you have about	
teaching and learning? What is your attitude	
toward the subject? Toward students? What	
is your level of knowledge or familiarity	
with this subject? What are your strengths in	
teaching?	
What is the focus area(s) of the course	
redesign? Suggested focus areas for course	
design include but are not limited to:	
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Encouraging active learning	
• Utilizing principles of Universal Design	
for Learning (UDL) so all learners gain	
knowledge, skills, and enthusiasm for	
learning	
• Creating ongoing or formative assessment	
 Developing methods for prompt or 	
automated feedback	
Rationale for focus area	
Which instructional strategies do you want to	
include? This could include instructional	
technology.	
Which assessment techniques might you	
include in this course? Think about what you	
can do that will help students learn, as well	
as give you a basis for issuing a course	
grade.	

Appendix 2. Faculty Course Redesign Camp Additional Resources.

Multimedia Educational Resources for Learning and Online Teaching (MERLOT) http://www.merlot.org

The National Service-Learning Clearinghouse

http://www.servicelearning.org/

Formative Assessment

- Angelo, T. A., & Cross, K. P. (1993). Classroom assessment techniques: A handbook for college teachers (2nd ed.). San Francisco, CA: Jossey-Bass.
- 50 CATS by Angelo and Cross http://www.lanecc.edu/assessment/documents/fifty cats.pdf

Integrative Learning and Motivation

http://www.fairfield.edu/documents/academic/cae conf09 fink.ppt

References

Atkinson, C. (2008). Beyond bullet points: Using Microsoft Office PowerPoint 2007 to create presentations that inform, motivate, and inspire. Redmond, WA: Microsoft Press.

Barr, R. B., & Tagg, J. (1995, November/December). From teaching to learning—A new paradigm for undergraduate education. *Change*, 27(6), 12–25.

Bloom, B. (1956). *Taxonomy of educational objectives: The classification of educational goals, handbook 1: Cognitive domain.* New York, NY: Longman.

Blumberg, P. (2009). *Developing learner-centered teaching: A practical guide for faculty*. San Francisco, CA: Jossey-Bass.

Brookfield, S. (1995). Becoming a critically reflective teacher. San Francisco, CA: Jossey-Bass.

Chickering, A. W., & Gamson, Z. F. (1987, March). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, *39*(7), 3–7.

Darling-Hammond, L., & Bransford, J. (Eds.). (2005). *Preparing teachers for a changing world:* What teachers should learn and be able to do. San Francisco, CA: Jossey-Bass.

Dean, J. M., & Kaiser, M. L. (2010). Faculty-student collaborative research in the humanities. *Council on Undergraduate Research Quarterly*, *30*(3), 43–47.

Fink, L. D. (2003). Creating significant learning experiences: An integrated approach to designing college courses. San Francisco, CA: Jossey-Bass.

Holmes, C. L. (2004). *College teachers' orientation to teaching: A comparative case study* (Unpublished doctoral dissertation). University of Massachusetts Amherst. (UMI No. 3152707)

Huston, T. (2009). Teaching what you don't know. Cambridge, MA: Harvard University Press.

Leslie, D. W., & Gappa, J. M. (2002). Adjunct faculty: Competent and committed. In C. L. Outcalt (Ed.), *New directions for community colleges: No. 118. Community college faculty: Characteristics, practices, and challenges* (pp. 59–67). San Francisco, CA: Jossey-Bass.

Michael, J. (2007). Faculty perceptions about barriers to active learning. *College Teaching*, 55(2), 42–47. doi:10.3200/CTCH.55.2.42-47

Northcote, M. (2009). Educational beliefs of higher education teachers and students: Implications for teacher education. *Australian Journal of Teacher Education*, 34(3), 69–81.

Reichard, G. W. (2003). The choices before us: An administrator's perspective on faculty staffing and student learning in general education courses. In E. Benjamin (Ed.), *New directions for higher education: No. 123. Exploring the role of contingent instructional staff in undergraduate learning* (pp. 61–69). San Francisco, CA: Jossey-Bass.

Suskie, L. (2009). Assessing student learning: A common sense guide (2nd ed.). San Francisco, CA: Jossey-Bass.

Tagg, J. (2003). The learning paradigm college. San Francisco, CA: Jossey-Bass.

Vygotsky, L. S. (1986). *Thought and language*. A. Kozulin, (Ed.). Cambridge: Massachusetts Institute of Technology Press. (Original work published 1934)

Weimer, M. (2002). *Learner-centered teaching: Five key changes to practice*. San Francisco, CA: Jossey-Bass.

Wiggins, G., & McTighe, J. (1998). *Understanding by design*. Alexandria, VA: Association for Supervision and Curriculum Development.

Wiggins, G. P. (1993). Assessing student performance. San Francisco, CA: Jossey-Bass.

Zirbel, E. L. (2008). *Teaching to promote deep understanding and instigate conceptual change*. Retrieved from http://cosmos.phy.tufts.edu/~zirbel/ScienceEd/Teaching-for-Conceptual-Change.pdf