Overview of the Project

Background
Recent literature in college teaching and learning supports that learner-centered teaching methods are an effective way to facilitate student engagement and hence benefit the student learning process (Abrams, 2003; Gonzales & Nelson, 2005; Ramsden, 1992). Shifting away from the traditional teacher-directed lecture-based model, active learning, inquiry learning, and service learning are three common approaches to learner-centered teaching and learning.

In this study, we considered two factors that demonstrated to influence how teaching behaviors are viewed by teachers and ultimately delivered in college classrooms. Typically, professors organize and teach content based on their academic disciplines, personal beliefs, and backgrounds (Stark et al., 1988). As such, professors’ teaching conceptualizations inform how they teach (Kember, 1997) and the teaching methods they select to achieve their instructional goals (Hativa, 1999). Additionally, motivation plays a major role in professors’ willingness to change how they teach or to expend more time and energy into their teaching (Feldman & Paulsen, 1999). In brief, this study aims to understand how motivational and conceptual factors relate to learner-centered teaching practices among college professors.

Definitions
- **Active learning** is defined as strategies that involve students in the classroom and challenge them to think about the activities that they are doing (Bonwell & Eison, 1991).
- **Inquiry learning**, also referred to as **problem-based learning**, is an instructional approach where students use a variation of the scientific method as a means to study a problem in depth (Jonassen, 2000).
- **Service learning** is a teaching approach that engages students to learn and develop through thoughtfully organized service to others (Brown, 1998; Swick, 2001).

Purpose of the Study
We intend to explore the relationship between college instructors’ teaching conceptualizations and motivation and the use of learner-centered teaching methods. Using a random cluster sample, over 300 teaching faculty from food, agricultural, applied life, and environmental sciences departments from 19 land-grant universities and state colleges participated in our national online exploratory survey.
Methods

Survey Instrument
The web-based questionnaire was comprised of the following sections:

- Basic demographic information,
- Faculty conceptualizations of teaching and learning,
- Faculty motivation for utilizing learner-centered approaches to teaching, and
- Learner-centered teaching methods and approaches.

Data Collection
Our national status survey was designed to collect data from teaching faculty in environmental, agricultural, food, and applied and life sciences in higher education institutions across the states. A random cluster sample of 1,553 teaching faculty nationwide from a total of 19, 1862 and 1890 land-grant universities and state colleges participated in the study. Data were collected based on Dillman’s (2000) tailored design method using a web-based questionnaire.

Overview of Survey Respondents
Of the 1,553 of in the original sample, 329 teaching faculty completed the online survey. Of the respondents, 69% were tenured, 25% were on tenure-track but untenured, and the remaining 6% held non-tenure track appointments. Three percent were appointed as lecturers or academic professionals, 25% were assistant professors, 27% were associate professors, 42% held full professor status, and the rest (3%) were appointed in administrative positions. Fifteen percent of the respondents worked in non-research institutions; the other 85% were employed in research intensive universities. Of the respondents, 221 were male (74%) and 78 were female (26%).

Results

Teaching Conceptualization and Motivation to Use LCT

This section presents the results of descriptive statistical analyses of teaching conceptualization, task value motivation, and the three LCT approaches. The results of the measure of teaching conceptualization indicate that the professors tended to view their teaching as development ($M = 3.36; SD = 0.45$), apprenticeship ($M = 3.28; SD = 0.50$), and nurturing ($M = 2.92; SD = 0.58$) processes. However, the faculty participants did not see their teaching as a social change ($M = 2.33, SD = 0.63$). The professors were interested in and motivated to use learner-centered teaching methods ($M = 3.03; SD = 0.58$). Most (85%) of the professors strongly agreed or somewhat agreed that they were interested in using LCT teaching approaches.
The majority of university instructors responded that they used active learning teaching methods “Some” or more of the time in their instruction ($M = 3.74, SD = 0.86$). Overall, 95% of the respondents indicated that they used some active learning methods in their classroom, while only 5% responded that they used little to none.

Nearly three quarters of the professors used inquiry learning teaching methods “Quite a Bit” or “A Great Deal” of the time in their instruction ($M = 3.95, SD = 0.79$), while only 3% of the college instructors use little or none in their instruction.

The majority (64%) of the professors used service learning teaching methods “Very Little” or “Not at All” in their instruction ($M = 2.25, SD = 1.13$). This result indicates that service learning methods are under-utilized by college instructors when compared to active and inquiry learner-centered teaching approach.
Teaching Methods Used for Three LCT Approaches

The following two tables illustrate the extent to which professors used two of the three learner-centered approaches, active and inquiry learning.

Table 1. Teaching Methods used for Active Learning ($N = 329$)

<table>
<thead>
<tr>
<th></th>
<th>Not at All</th>
<th>Very Little</th>
<th>Some</th>
<th>Quite a Bit</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Cooperative Learning</td>
<td>30</td>
<td>9.2</td>
<td>63</td>
<td>19.3</td>
<td>128</td>
</tr>
<tr>
<td>Team Projects</td>
<td>33</td>
<td>10.2</td>
<td>52</td>
<td>16.0</td>
<td>130</td>
</tr>
<tr>
<td>Student Presentations</td>
<td>23</td>
<td>7.0</td>
<td>40</td>
<td>12.2</td>
<td>118</td>
</tr>
</tbody>
</table>

As shown in Table 1, about one-third of the professors (32.4%) used cooperative learning quite-a-bit or always. One-third of the professors (33.9%) used team projects outside of the classroom quite-a-bit or always. Nearly half of the professors (45.0%) used student presentations quite-a-bit or always.

Table 2. Teaching Methods used for Inquiry Learning ($N = 329$)

<table>
<thead>
<tr>
<th></th>
<th>Not at All</th>
<th>Very Little</th>
<th>Some</th>
<th>Quite a Bit</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Problem-Based Learning</td>
<td>3</td>
<td>0.9</td>
<td>28</td>
<td>8.6</td>
<td>122</td>
</tr>
<tr>
<td>Cases</td>
<td>27</td>
<td>8.3</td>
<td>57</td>
<td>17.5</td>
<td>125</td>
</tr>
<tr>
<td>Simulations</td>
<td>47</td>
<td>14.4</td>
<td>81</td>
<td>24.8</td>
<td>114</td>
</tr>
</tbody>
</table>

As shown in Table 2, more than half of the professors (52.9%) used problem-based learning quite-a-bit and always. More than one-third of the professors (35.9%) used cases quite-a-bit or always. One-fourth of the professors (25.8%) used simulations quite-a-bit or always. The professors used community-based service learning “very little” of the time in their courses ($M = 1.78$, $SD = 1.04$).

There was only a single question on the survey relating to teaching methods used for service learning. Fifteen percent of the professors used community-based service learning quite-a-bit or always in their courses.
Teaching Conceptualization, Motivation, & LCT

Results of this survey indicated that college teachers’ conceptualizations of teaching and motivation were related to their teaching behaviors and practices. Overall, among the three LCT approaches, active learning was more positively associated with teaching conceptualization and faculty motivation. The following points highlight the major findings of our study:

- Professors used teaching methods and approaches for inquiry learning quite a bit of the time, active learning some of the time, and service learning very little in their courses. College faculty who were motivated students to learn were more likely to use an active learning approach.
- Professors who were motivated to foster students’ critical thinking were more likely to use an active learning approach. For example, of those professors (N = 95) who strongly agreed that LCT approaches engage their students in critical thinking, over three quarters (N = 72) used active learning teaching methods in their instruction quite a bit or a great deal of the time.
- Professors who expected students to develop applied career skills about the subject matter were more likely to use inquiry learning approaches in their instruction.
- Professors who were motivated to empower their students to change society and communities were more likely to use a service learning approach.

Implications and Conclusions

- The practical nature of the agriculture, food, and natural resources disciplines studied may influence faculty to use teaching methods that promote inquiry learning.
- The alignment of teaching conceptualizations with learner-centered teaching methods supports that professors use teaching methods that help them reach intended outcomes.
- Results of the study suggests that the teaching methods faculty use influence student learning experiences.
- The way professors think and feel about teaching is related what they do in their courses.
- The motivation of professors played an important role in their use of learner-centered teaching methods.
- Although professors were motivated and confident in their abilities to utilize learner-centered teaching approaches, professors in higher education institutions across the nation continue to use the traditional the teacher-driven lecture-based paradigm more than learner-centered teaching approaches.
- Professors who use active learning teaching methods are more likely to have a developmental teaching conceptualization, accept the benefit of using LCT methods, and be confident in their ability to teach using LCT methods.

Suggestions for Practice

- Consider creating programs to understand and enhance professors’ conceptualizations of teaching as well as their motivational beliefs.
- More attention should be given to helping professors understand the assumptions behind using various teaching methods and the benefits of learning-centered teaching methods.
- Graduate students and professors should be provided assistance to help them develop confidence in their abilities to teach using learner-centered teaching methods.
References


End Notes

About the methodology
Of the sample of 1,553, 20% (329 respondents) completed the survey. This response rate may be associated with administering the survey questionnaire two weeks prior to the end of the 2004 spring semester. A comparison of early-to-late respondents was utilized to control for non-response error. No significant differences were noted between the two groups.

About the survey instrument and measures
Faculty Conceptualizations of Teaching construct consisted of 25 items adapted from Pratt and Collins’ (2001) Teaching Perspectives Inventory. Some example survey items that measured teaching conceptualizations were: “To be an effective teacher, one must be an effective practitioner” (apprenticeship), “Teaching should build upon what students already know” (developmental), “In my teaching, building self-confidence in learners is a priority” (nurturing), and “My teaching focuses on societal change, not the individual learner” (social reform). Faculty Motivation constructs comprised of 24 items, which were created by the researchers based upon expectancy-value and teaching self-efficacy theories. The teaching methods and approaches section of the instrument consisted of 13 items adapted from McKeachie (2002). Teaching methods and approaches were measured using a 5-point scale: (1) Not At All, (2) Very Little, (3) Some, (4) Quite A Bit, and (5) Always.

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If you have comments or suggestions for this or other LCT project products, please direct your comments to LCT Project Director

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