

FACULTY PERCEPTIONS RELATED TO TEACHING ONLINE: A STARTING POINT FOR DESIGNING FACULTY DEVELOPMENT INITIATIVES

Shelly WALTERS
Instructional Design and Support Services
University of Arkansas
Fayetteville, Arkansas, USA

Dr. Kenda S. GROVER
Department of Rehabilitation, Human Resources, and Communication Disorders
University of Arkansas
Fayetteville, Arkansas, USA

Dr. Ronna C. TURNER
Department of Rehabilitation, Human Resources, and Communication Disorders
University of Arkansas
Fayetteville, Arkansas, USA

Jackson C. ALEXANDER
Arkansas Cooperative Extension Service
University of Arkansas System Division of Agriculture
Little Rock, Arkansas, USA

ABSTRACT

To design and deliver meaningful professional development programs for faculty who teach online, the unit responsible for these activities should have a clear idea of what content participants might find most beneficial to their practice, as well as what can improve instructor and student satisfaction. Using an online survey, this study explored the perceptions of 314 faculty members at a mid-southern university as they relate to the online environment and institutional factors, personal factors, and student engagement and active learning. Faculty reported high levels of satisfaction with the accessibility of their courses and the technical support they receive, but reported lower levels of satisfaction with the effectiveness of online communication tools. The results also revealed a significant difference in how faculty rated their satisfaction with student engagement and active learning based on their level of experience, indicating that alternative approaches to faculty development might be necessary for those new to online teaching and learning.

Keywords: Distance education, online teaching, faculty satisfaction, faculty development.

INTRODUCTION

The profile of students in higher education is becoming increasingly non-traditional in terms of age, life roles, and reasons for participation. This shift requires more diversified learning opportunities, and forces institutions of higher learning to introduce new ways to meet student needs (Shea, 2007). One way institutions have responded to the changing demographic is by expanding online course offerings (Allen & Seaman, 2013). Online course offerings provide a way to address the needs of nontraditional students who have work, childcare, and social responsibilities, live off campus and must make long commutes, and want more flexibility in terms of study time (Dutton, Dutton, & Perry,

2002). The National Center for Education Statistics (2006) predicted that from the year 2007 to 2015, the number of students enrolled in online courses would continue to increase in the United States, and in fact, in the fall of 2013 an unprecedented 5.5 million students were enrolled in at least one distance education course at a postsecondary institution.

Today, institutions across the country are including distance education as part of their mission and strategic plan and as a result, many faculty are under increased pressure to adapt their teaching methods to include online delivery and other technology-enhanced methods. In 2009, it was estimated that up to approximately one-fourth of all post-secondary faculty members were teaching some type of online course (Mayadas, Bourne, & Bacsich, 2009; Seaman, 2009). While some faculty embraced these methods, others are slower to adapt (McQuiggan, 2012). Teaching online has become an expectation of faculty members in recent years, and online instruction is a complex undertaking which requires higher levels of commitment from faculty (Bolliger & Wasilik, 2009). However, research indicates that some faculty do feel satisfied with their online teaching experiences. Bolliger and Wasilik (2009) found that satisfaction is generally related to three areas: 1) student-related, which includes active communication with the instructor, and student access to online technology, 2) instructor-related, which includes reliable technology, and 3) institution-related such as a higher workload and compensation.

While many faculty are satisfied with their online instructional experiences (Bolliger, Inan, & Wasilik, 2014) and perceptions of the quality of online courses have generally improved, a number of higher learning faculty have remained skeptical about online education (Allen & Seaman, 2013). To ensure high-quality learning experiences, routine evaluation must be conducted at all levels of higher education that analyzes student satisfaction, faculty competency, teaching and evaluation methods, and best practices for online education (Meyer & Murrell, 2014). The Online Learning Consortium (OLC), a leader in researching and establishing guidelines to ensure the progression of high quality online education, emphasizes faculty satisfaction as integral to the success of online learning. OLC defines faculty satisfaction with online teaching as "personally rewarding and professionally beneficial" (Online Learning Consortium, n.d. para 9) and claims that institutions have a role to play in faculty satisfaction through the provision of professional development opportunities.

As a first step in that direction, institutions can consider conducting a gap analysis prior to developing the specific content of training that gages the climate of online learning from the perspective of faculty who are currently engaged in teaching. To measure the impact or outcomes of training and professional development initiatives it is important to establish the current state of faculty experiences with issues related to online teaching. The purpose of this study was to examine faculty perceptions of, and satisfaction with, online teaching as they relate to the online environment, the institution, personal factors, and student engagement and active learning. Awareness of faculty perceptions of the institutional climate, whether online teaching is valued, satisfaction with the reliability of technology, and concern about the effectiveness of their instruction, can help shape the content and format of faculty development initiatives.

BACKGROUND OF THE STUDY

With the use of online instruction on an upward trajectory, the number of faculty members who find themselves teaching online and adapting to the shift from face-to-face instruction has increased (Allen & Seaman, 2003). A growing body of research exists on the factors that motivate faculty to teach online, the specific challenges they face when

developing new online courses, and the factors that play into their satisfaction with online teaching. There is also mounting evidence that supports the notion that faculty development initiatives play a role in satisfaction with online teaching. In a survey of 386 faculty from a state university system in the Northeastern United States, the flexibility of teaching schedules was rated highest among motivating factors for teaching online (Shea, 2007). Green, Alejandro, and Brown (2009) found that 82.2% of respondents reported flexible working conditions as a motivator for teaching online. The study also found that faculty were motivated by the fact that online education provided access for students who might not otherwise be able to continue their education. Additionally, in a survey of 49 instructors teaching online or blended courses, Roby, Ashe, Singh, and Clark (2013) found that 85% of the respondents indicated that exposure to a variety of teaching delivery modes or pedagogies was a positive factor in their decision to teach online. The learning opportunity resulting from teaching online was echoed as a motivating factor in a qualitative survey of 138 online instructors (Nicklin, McNall, Cerasoli, Varga, & McGivney, 2016). Faculty also described finding personal satisfaction with online teaching when they were involved with the design of the course, expanded their skills in teaching and technology, reflected on their teaching practice, and were engaged with and learned from the learners (Conceicao, 2006).

Other factors that impact faculty perceptions of teaching online include issues related to workload and technology. In a 2006 phenomenological study by Conceicao, faculty members discussed the increasingly intense work required before and during delivery of online courses due to the level of engagement needed to provide quality student learning experiences. Van de Vord and Pogue (2012) found, however, that although there is a perception of online courses requiring larger time commitments than traditional courses, it may only be certain aspects of a course, such as evaluation and feedback that take significantly more time than do face-to-face courses. The increased reliance on technology in the online setting also introduces new responsibilities for online instructors. Instructors must be able to access required technological resources, evaluate and select instructional technology, develop learning resources, and point students to technological resources (Bawane & Spector, 2009). Although the opportunity to learn new technology is cited as a motivation for teaching online (Betts, 1998; Shea, 2007), Bonk and Dennen (2007) caution that in addition to simply learning how to use new tools themselves, instructors may be asked to assist students with technology or troubleshoot problems as they occur.

Another factor that needs to be considered in terms of new challenges is learning how to foster student interaction when the learners are geographically dispersed and working asynchronously. According to Bernard et al. (2009), increased interaction in distance education courses has a positive effect on student outcomes. Three types of interaction in the distance education setting are student-student, student-content, and student-teacher (Anderson & Garrison, 1998). The theory of transactional distance, one of the first theories of distance education, acknowledged the importance of interactions between learners and teachers (Moore, 1993). Physical, psychological and communication separation can be mitigated by dialogue, which Moore described as the positive interactions in a course shaped by the choice of communication tools, faculty and student personalities, and content. In a multiple case study, Wingo, Peters, Ivankova, and Gurley (2016) found that instructors cited the lack of physical presence as a challenge despite the view from instructional designers that it was not. The administrators interviewed as part of the study understood the challenge of not seeing visible cues from the students and offered web conferencing and occasional face-to-face meetings as possible solutions.

Faculty face challenges of new roles and the implications of a changing environment on their pedagogical practices and existing research supports the notion that faculty developers play a role in helping with this transition. McQuiggan (2012) discussed the need for professional development opportunities to be customized to make pedagogical and technical decisions based on course content. Meyer and Murrell (2014) suggested institutions of higher learning should conduct regularly-scheduled, standardized faculty

training exercises to promote a variety of areas, such as growing professional development skills related to online teaching; working to further enhance and diversify student learning outcomes; and assist with administrators' knowledge of faculty members' ability to teach high-quality, credible, readily-accessible online courses. Faculty might resist standardized training because this approach does not always address the instructor's individual needs as one-on-one meetings with instructional designers would (Wingo, Peters, Ivankova, & Gurley, 2016). Regardless of the mode of delivery, Allen and Seaman (2013) and Bolliger and Wasilik (2009) acknowledged that faculty who teach online courses appreciate institutional buy-in to professional development, and they prefer to work for administrators and institutions who value professional growth and skill-building regarding online instruction, as well as the unique circumstances surrounding that environment.

Faculty development initiatives designed to support and facilitate learning for faculty teaching online require organized program planning. For example, institutions can adopt a model like the Adult Learning Model of Faculty Development, a practical, integrated framework for practitioners, coupling principles of adult learning with four stages of program development: preplanning, planning, delivery, and follow-up (Lawler & King, 2000). Lawler and King make the distinction that an adult learning approach emphasizes acknowledging faculty members' experiences.

The current study was designed to explore faculty perceptions of factors associated with the facilitation of online learning. This descriptive study, using survey method, was informed by a review of the literature and earlier instruments designed to measure online faculty satisfaction (Bolliger and Wasilik, 2009; Bolliger, Inan, & Wasilik, 2014). The research was shaped by five overarching questions:

- How important are various types of technology, resources, and online course characteristics to faculty who teach online courses?
- How satisfied are faculty with the previous types of technology, resources, and online course characteristics?
- What are faculty's perceptions of institutional factors related to their online teaching, personal factors that contribute to online teaching facilitation, and student engagement and active learning in online classes?
- Do faculty's perceptions of institutional and online environmental factors differ for faculty with different levels of teaching experience in online classes, different levels of experience in online course development, and for faculty in online-only versus mixed format programs?
- Do faculty's perceptions of personal factors and student engagement/active learning differ for faculty with different levels of teaching experience in online classes, different levels of experience in online course development, and for faculty in online-only versus mixed format programs?

MATERIAL AND METHODS

Participants and Sampling

All faculty who had taught at least one online course at a mid-southern university during the 2014-2015 academic year were invited to participate in a survey about their online teaching experience. This population included faculty from engineering, agriculture, business, education, allied health, social sciences, humanities, and sciences. After approval was obtained from the institution's research board, emails with links to an online survey were sent to faculty with two follow-up emails over the course of three weeks. Of the 314 faculty members invited to participate, 107 completed the survey for a 34% response rate. The respondents included faculty with a wide range of teaching experience at the university (from 0 to 50 years; $M = 13.00$, $SD = 9.96$). The number of

years the respondents had taught online courses ranged from 0.30 to 15 years ($M = 4.84$, $SD = 3.67$), with 34% having taught online for less than three years. The number of online courses developed by each faculty respondent ranged from 0 to 41 courses ($M = 3.04$, $SD = 4.71$), with the value of 41 being an extreme outlier. The next largest reported number of courses developed by a faculty member was 16. The percentage of the respondents who had developed between one and three online classes was 77.45%. Of the 107 faculty respondents, 49 (46.23%) indicated they teach in a fully online program.

Fifty-nine percent of the respondents to the survey were instructors (32.04% part time; 27.18% full time), 11.65% were assistant professors, 16.5% were associate professors, and 12.62% were full professors (including university and distinguished professors). The majority of respondents teach at least one undergraduate course per year (60.75%) with 31.78% teaching four or more undergraduate courses annually. A similar percentage teaches at least one graduate level course per year (59.81%) with 18.69% teaching four or more graduate courses annually.

Instrumentation

The survey, designed as part of a larger study, included five scales measuring faculty perceptions related to online teaching, two sets of questions measuring preferences regarding the use of 10 types of instructional learning delivery formats, one set of questions asking faculty about their interest in participating in an online professional learning community, and a set of seven demographic questions.

For this study, the operational definitions for the five groups of items are listed, along with a table of items for each scale (see table 1).

- **Online Environment Factors – Importance**
Faculty perception of the importance of resource effectiveness and reliability, in addition to the accessibility of the class (score range of 1 representing 'not important to me' to 4 representing 'extremely important to me');
- **Online Environment Factors – Satisfaction**
Faculty satisfaction with resource effectiveness and reliability in addition to the accessibility of the class (scale score range of 1 representing 'strongly dissatisfied' to 4 representing 'highly satisfied');
- **Institutional Factors**
Faculty perception of the value the institution places on online instruction and the resources they allocate to it (including technical support, instructional support, hardware and software), and the processes for evaluation and compensation (scale score range of 1 to 5 representing strongly disagree to strongly agree with higher scores interpreted as a higher perception of value);
- **Personal (Faculty) Factors**
Faculty confidence and enjoyment with online teaching and concern about the effectiveness of instruction in their course including providing feedback, building relationships, and providing access to students (scale score range of 1 to 5 representing strongly disagree to strongly agree with higher scores indicating higher confidence and lower levels of concern);
- **Student Engagement/Active Learning**
Faculty perception of student participation, motivation, and collaboration in the online course environment (scale score range of 1 to 5 representing strongly disagree to strongly agree with higher scores indicating higher perception of participation and collaboration).

Table 1. Item Sets for the Online Faculty Survey Scales

Online Environment Factors (These items are used to measure Importance^a and Satisfaction^b)
Flexibility of online environment
Reliability of online environment
Effectiveness of communication tools
Accessibility of online class for students
Accessibility of online class for me
Institutional Factors
Online instruction is valued.
The quality of online courses is important to this institution.
Adequate/reliable technical support is provided to instructors.
Adequate/reliable technical support is provided to students.
Adequate support is provided to help me design my online courses.
Adequate support is provided on the use of new and emerging technologies.
Appropriate hardware and software resources are provided.
I receive fair compensation for online teaching.
I receive fair student evaluation for online teaching.
I receive fair departmental evaluation for online teaching.
Personal Factors
I feel confident in my ability to teach online.
I worry about providing feedback to students quickly enough.
I am able to build relationships with my online students.
I feel my online persona is an accurate reflection of who I am as an instructor.
I enjoy teaching online.
Online teaching is gratifying because it provides me with an opportunity to reach students who otherwise would not be able to take courses.
Student Engagement/Active Learning Factors
My online students are actively involved in their learning.
There is a low level of student participation in class discussions or student learning activities.
I have difficulty keeping my students involved throughout the course.
My students are enthusiastic about their learning.
Students feel comfortable asking questions about course content.
It is difficult to motivate my students in the online class.
Students contribute to each others' learning.

^a Item directions are "How important are the following to your online teaching?"

^b Item directions are "How satisfied are you with the following for your online teaching?"

Four of the perception scales had moderate to high internal consistency reliability values ranging from 0.796 to 0.898 (see Table 2). The first set of items asking faculty about the importance of five online course resources and characteristics was not sufficiently internally consistent for use as a scale (coefficient alpha = 0.672) and was only used for item-level feedback regarding which online environmental factors were deemed important by faculty.

A principal axis factor analysis was conducted for the four satisfaction and confidence scales to assess the degree to which they function as separate characteristics related to online teaching. An oblique solution was utilized due to factors hypothesized to be correlated. A four-factor solution accounted for 81.7% of the variability in the set of common factors. The items on the online environmental factors, institutional factors, and student engagement and active learning scales loaded as hypothesized with factor loadings ranging from .44 to .85, .41 to .73, and .50 to .91, respectively. There were originally eight items on the personal [faculty] factors scale. However, two of the items did not load significantly. These items were removed from the analyses and the personal factors scale was reduced to six items. These remaining items had factor loadings ranging from .44 to .69. Item communalities ranged from .363 to .745.

Table 2. Psychometric and Descriptive Properties of the Four Perceptual Scales

	N _{participants}	N _{items}	M (SD)	Min	Max	Internal Consistency	SEM
Online Environmental Factors - Satisfaction	105	5	3.341 (0.502)	1.800	4.000	0.838	0.274
Institutional Factors	104	10	3.817 (0.678)	2.300	5.000	0.867	0.338
Personal [Faculty] Factors	103	7	3.699 (0.735)	1.333	5.000	0.796	0.332
Student Engagement/Active Learning	104	7	3.551 (0.784)	1.429	5.000	0.898	0.345

** The importance ratings for the online environmental factors were not sufficiently internally consistent to be used as a scale and were maintained for item-level analyses.*

Data Analysis

There were two primary goals of the study. First, sets of items representing the four characteristics related to online teaching (measured by online environmental factors, institutional factors, personal [faculty-related] factors, and student engagement/active learning) were compared for all faculty respondents (along with the importance scale for online environmental factors) in order to obtain an understanding of what they consider important, what they are comfortable with, and with what characteristics they tend to be most dissatisfied and/or least confident. Descriptive statistics at the scale and item levels were used with the complete sample of online faculty.

Second, comparisons across the four satisfaction and confidence scales were made for online faculty based on background characteristics of number of years teaching online, number of online courses developed, and whether the faculty member teaches in a purely online program or an on-campus or blended program. These analyses were conducted to investigate whether online teaching experience may be related to faculty self-reported satisfaction and comfort levels with components of online teaching. Multivariate analysis of variance was used to make comparisons for each of the three teaching experience variables. It was hypothesized that online environmental factors and institutional factors would be independent of a faculty member's influence and might be correlated based on institutional support. Additionally, personal [faculty-related] factors and student engagement/active learning were hypothesized to be influenced by faculty engagement and oversight and thus would be correlated. These two scales were analyzed using a second set of manovas. Inter-factor correlations between the two sets of factors representing these item groupings were 0.33 and 0.34, providing support for the combination of the online environmental and institutional scales into one set of manovas and the personal factors and student engagement/active learning scales into a second set of manovas.

RESULTS

Importance of Online Environmental Characteristics for All Online Faculty

Faculty members were asked about the importance of five components of the online teaching environment with responses ranging from 1 to 4 with higher scores representing a higher level of importance. Of the five characteristics, the one rated as most important was "reliability of online technology" with an average rating of 3.896 (with 90.57% indicating it is extremely important; see Table 3). The next highest rated characteristic was "accessibility of online class for students" with an average of 3.802. The lowest rated characteristic in terms of importance was "flexibility of online environment" which still had an extremely high average rating of 3.500.

Table 3. Importance Ratings of Selected Online Environment Characteristics

	N	M	Frequency			
			1*	2	3	4
Flexibility of online environment	106	3.500	2	5	37	62
Reliability of online technology	106	3.896	0	1	9	96
Effectiveness of communication tools	106	3.726	0	2	25	79
Accessibility of online class for students	106	3.802	0	1	19	86
Accessibility of online class for me	106	3.736	1	3	19	83

*1=not important to me, 2=slightly important, 3=moderately important, 4=extremely important to me

Satisfaction with Online Environmental Characteristics for All Faculty

Next, faculty rated their satisfaction levels on the same five online environment characteristics. Overall, faculty responded that they were satisfied with the online environmental resources listed with an overall average on the five items of 3.341 (1 = strongly dissatisfied to 4 = highly satisfied). The characteristics with the highest ratings were online accessibility for faculty and online accessibility for students with average satisfaction ratings of 3.543 and 3.419, respectively (see Table 4). The characteristic rated the lowest was the effectiveness of communication tools ($M = 3.143$) with 13 of 105 faculty indicating they were slightly dissatisfied and one faculty member strongly dissatisfied. The second lowest rated characteristic was reliability of online technology ($M = 3.248$) which was the characteristic faculty identified as being the most important of the five. Although this characteristic was one of the lowest rated, faculty satisfaction levels were still positive for the majority of respondents with only 9 of 105 indicating that they were somewhat dissatisfied (and 35 of 105 indicating high satisfaction).

Table 4. Satisfaction Ratings of Selected Online Environment Characteristics

	N	M	Frequency			
			1*	2	3	4
Flexibility of online environment	105	3.352	1	10	45	50
Reliability of online technology	105	3.248	0	9	61	35
Effectiveness of communication tools	105	3.143	1	13	61	31
Accessibility of online class for students	105	3.419	0	9	43	54
Accessibility of online class for me	105	3.543	0	7	34	65

*1=strongly dissatisfied, 2=somewhat dissatisfied, 3= somewhat satisfied, 4=highly satisfied

Comparing All Faculty on Online Satisfaction and Confidence Scales

There were three remaining scales developed to measure faculty satisfaction and confidence with institutional factors, personal faculty factors, and student engagement/active learning. These three scales have a score range of 1 to 5. Higher scores indicate a more positive response to the scale such as greater effectiveness, higher confidence, and higher perceived value.

Of these three scales, the lowest average score was on student engagement/active learning ($M = 3.551$, $SD = 0.784$; see Table 2). The individual items rated the lowest on the student engagement/active learning scale were the ability to motivate students and student participation in class discussions or learning activities. Items rated the highest included online students being actively involved in their learning and students feeling comfortable asking questions about course content.

The personal factors scale that addresses faculty confidence in facilitating online courses had slightly higher ratings than the student engagement/active learning scale with an average scale score of 3.699. This average is still below the "slightly agree" rating value with person-level scale scores ranging from 1.333 to 5.000. Faculty indicated the highest confidence with general ability to teach in an online environment; the area rated lowest was the ability to provide feedback to students quickly enough.

The scale with the highest overall average rating was the institutional factors scale with a mean of 3.817. The areas rated highest were the adequacy/reliability of the technical support and the support provided to help design online courses. The areas with the lowest ratings were receiving fair department evaluations for online teaching and receiving fair student evaluations for online teaching.

Differences in Online Environmental and Institutional Factors based on Online Faculty Experience

The first three set of manovas were conducted to investigate if there are differences in faculty satisfaction with online environmental factors and their perception of institution-related online course factors based on the number of years the faculty have been teaching online, the number of online courses developed, and whether the faculty teach in a fully online program versus on-campus or blended programs. Years teaching online were categorized into three value ranges (< 3 years, 3-5 years, 6 or more years). Number of online courses taught was categorized into three categories (1, 2-3, 4 or more). Type of program (online versus on-campus/blended) was dichotomous.

Years Teaching Online

There was not a significant difference in the satisfaction with online environmental and institutional factors for faculty based on years teaching online courses ($\Lambda = 0.948$; $F(4, 198) = 1.33$, $p = .260$). Faculty teaching 6 to 15 years had the highest ratings on satisfaction with environmental factors related to online teaching and the highest perception of support with institutional factors ($M = 3.477$ and $M = 3.981$, respectively; see Table 5). The faculty who had taught less than 3 years online had the lowest ratings on both scales. Effect size differences between faculty with less than 3 years of experience versus those with 6 or more years of experience were .517 and .478, respectively for environmental and institutional factors indicating moderate differences. Overall, the mean trends indicated that years of experience with online teaching appeared to be positively related to satisfaction and perception levels with online environmental and institutional factors for the current sample; however, this difference was not statistically significant and would need to be investigated further in other samples.

Table 5. Environmental and Institution-Related Factors of Online Courses

Background Variable	<i>N</i>	Environmental Factors <i>M (SD)</i>	Institutional Factors <i>M (SD)</i>
Years Experience Teaching Online			
0.3 - 2 Years Experience	36	3.222 (0.604)	3.658 (0.639)
3 - 5 Years Experience	36	3.350 (0.431)	3.828 (0.688)
6 - 15 Years Experience	31	3.477 (0.412)	3.981 (0.697)
Online Course Development			
1 Online Course	34	3.171 (0.517)	3.647 (0.725)
2 - 3 Online Courses	36	3.439 (0.519)	3.942 (0.642)
4 or More Courses	22	3.327 (0.383)	3.755 (0.680)
Type of Program			
Online Only	48	3.358 (0.528)	3.892 (0.616)
On-Campus/Blended	55	3.331 (0.478)	3.747 (0.731)

Number of Online Courses Developed

There was no significant difference in satisfaction levels with environmental and institutional factors for faculty based on how many online courses they had developed ($\Lambda = 0.938$; $F(4, 176) = 1.44$, $p = 0.22$). The group with the highest ratings on both variables was faculty who had developed 2-3 online courses, while the faculty who had only developed one course had the lowest ratings. Effect size differences were moderate between these two groups for the environmental and institutional factors ($d = .55$ and $.43$, respectively), with small effect sizes for all other pairwise comparisons ($d < .32$).

Type of Program Format

There was also no significant difference between importance and satisfaction levels with environmental and institutional factors for faculty based on whether they work in a purely online program versus an on-campus or blended program ($\Lambda = 0.987$; $F(2, 100) = 0.64$, $p = 0.53$). Effect size differences between the two groups were very small.

Faculty Personal Factors and Student Engagement Comparisons by Online Teaching Experience

Years Teaching Online Courses

There was a significant difference in perception of personal-related [faculty] factors and student engagement for faculty based on years teaching online courses ($\Lambda = 0.739$; $F(4, 196) = 7.98$, $p < .01$). Post-hoc manovas indicated that there were significant differences between those teaching less than three years and those teaching 3 to 5 years ($\Lambda = 0.866$; $F(2, 68) = 5.27$, $p = .008$); a significant difference between those teaching less than three years versus those teaching six years or more ($\Lambda = 0.666$; $F(2, 64) = 16.06$, $p < .01$); and a significant difference between those teaching 3 to 5 years versus those teaching six years or more ($\Lambda = 0.886$; $F(2, 63) = 4.07$, $p = .022$). Faculty teaching six or more years had significantly higher personal factor scale scores than faculty teaching fewer than 3 years ($M = 4.022$ and $M = 3.380$, respectively). Univariate effect size differences were large ranging from 0.424 to 0.949 for personal factors. There was a similar trend observed for the student engagement/active learning scale with greater experience being related to higher confidence. Faculty teaching online six or more years and faculty teaching three to five years had significantly higher scores than the faculty teaching online less than three years (see Table 6.) Univariate effect size differences were again large ranging from 0.554 to 1.368 for student engagement and active learning.

Table 6. Personal and Student Engagement/Active Learning Factors of Online Courses

Background Variable	Personal Faculty Factors		Student Engagement Factors
	<i>N</i>	<i>M (SD)</i>	<i>M (SD)</i>
Years Experience Teaching Online			
0.3 - 2 Years Experience	36	3.380 (0.791)	3.063 (0.800)
3 - 5 Years Experience	35	3.667 (0.681)	3.629 (0.647)
6 - 15 Years Experience	31	4.022 (0.503)	4.014 (0.610)
Online Course Development			
1 Online Course	32	3.297 (0.673)	3.183 (0.754)
2 - 3 Online Courses	36	3.764 (0.614)	3.544 (0.739)
4 or More Courses	23	4.014 (0.548)	4.087 (0.579)
Type of Program			
Online Only	47	3.851 (0.609)	3.754 (0.718)
On-Campus/Blended	55	3.521 (0.774)	3.369 (0.813)

Number of Online Courses Developed

There was a significant difference in perceptions of personal faculty factors and student engagement for faculty based on how many online courses the faculty had developed ($\Lambda = 0.736$; $F(4, 174) = 7.20$, $p < 0.01$). Faculty who had developed two to three online courses had significantly higher perceptions than faculty who had only developed one ($\Lambda = 0.871$; $F(2, 65) = 4.80$, $p = 0.011$). The faculty developing four or more classes also had significantly higher perceptual scores than faculty developing one class ($\Lambda = 0.652$; $F(2, 52) = 13.86$, $p < 0.01$). There was also a significant difference between the faculty developing 4 or more classes and those developing 2 to 3 ($\Lambda = 0.856$; $F(2, 56) = 4.72$, $p = 0.013$). The faculty groups developing 2 to 3 online courses and four or more online courses had significantly higher personal perceptions regarding their online classes than faculty developing one online class ($d = 0.753$ and 1.156 , respectively). In addition, the

faculty developing 4 or more online classes had significantly higher perceptions of student engagement and active learning than faculty who had developed either 2 to 3 online classes or only 1 online class ($d = 0.767$ and 1.277 , respectively; see Table 6). Those new to course development who will continue in the development of additional courses may learn processes or identify resources that facilitate student engagement processes. However, those who have only developed one course and may not develop additional courses could benefit from assistance of professionals in exposing them to other types of online courses that use tools, resources, or procedures that could benefit them as well.

Type of Program Format

There was a significant difference between personal faculty factors and student engagement/active learning for the faculty working in a purely online program versus an on-campus or blended program ($\Lambda = 0.926$; $F(2, 99) = 3.93$, $p = 0.023$). The scale score for personal factors was significantly higher for faculty in online only programs as compared to faculty in on-campus or blended programs ($F(1, 100) = 5.58$, $p = .020$; see table 5). The online-only program faculty had significantly higher perceived student engagement and active learning scores ($F(1, 100) = 6.32$, $p = .014$). Effect size differences on personal factors and student engagement were moderate at .469 and .499, respectively.

DISCUSSION

There was a very high level of satisfaction with the five online environmental factors presented to the online faculty respondents as a whole. Generally positive levels of satisfaction with teaching online have also been reported in recent studies (Bolliger, Inan, & Wasilik, 2014). The highest levels of satisfaction were with accessibility for the teacher and the students. The lowest level of satisfaction was with effectiveness of communication tools, with the second lowest overall satisfaction rate being with the reliability of online technology. In comparison, the characteristics faculty considered most important were reliability of online technology and accessibility for students which were also rated fairly high on satisfaction as a whole. Only 9 out of 105 (8.6%) were slightly dissatisfied with these two factors. Online support personnel may want to focus a substantial amount of their efforts on the reliability of online technology and the effectiveness of communication tools for both the faculty and students. These seem to be the areas faculty deem a priority but with which they are the least satisfied. Further investigation in these areas is needed to determine where online technologies are not reliable and if dissatisfaction with online communication tools requires further training in the use of tools or a search for more appropriate tools. Both may increase faculty satisfaction as the opportunity to learn about new technologies has been cited as a motivating factor for teaching online (Betts, 1998; Shea, 2007).

Regarding institutional support, the online faculty responding in this study feel the institution values online education and have a very positive perception of support via technological resources and professional assistance. According to previous studies, institutional buy-in is important to online faculty (Allen & Seaman, 2013; Bolliger & Wasilik, 2009). There were no significant differences in perceptions based on the online teaching experience variables indicating that institutional support is considered positive by the majority of the instructors, regardless of how long they have been teaching online classes or how many they have developed. However, it should be noted that the effect size increase in perception of institutional factors was moderate at each incremental step in years of online teaching experience. Thus, we recommend that this be investigated further in other samples due to the small group sizes in the current study. In addition, this sample may not be representative because at this particular institution there is a unit dedicated to online education which is positioned to advocate for resources and provide extensive support for course design for faculty.

Faculty also had a relatively positive perception of their personal faculty characteristics related to teaching online. Although there were some faculty who did not rate themselves positively, the majority of faculty reported feeling confident in their ability to teach online, provide quick feedback to students, build relationships with students, and reach students they would not otherwise be able to teach. When comparing the personal factors scale for faculty with different types of online teaching experience, it was observed that faculty with greater experience had higher confidence and satisfaction levels than faculty with fewer years of online teaching. In fact, for faculty teaching six or more years or faculty developing more than four online courses, the average rating was above 4.0 on a 5.0 scale indicating a relatively high perception for many faculty in these groups (a value of 4 indicating agreement). The difference between faculty in a completely online program versus those in blended or on-campus programs was not as large; however, the online program faculty rated themselves higher on the personal factor scale.

Another area with low rated perceptions was the student engagement and active learning scale with an average score halfway between the unsure and slightly agree response options ($M = 3.551$); however, with the largest standard deviation ($SD = .784$) indicating there was more variation in faculty's responses to this scale than any other in this study. Bolliger, Inan, and Wasilik (2014) also found lower levels of satisfaction in factors related to interaction. One explanation for lower self-reported scores of satisfaction could be the level of experience teaching online for faculty. Student engagement and active learning scores were very high (> 4.0) for faculty teaching six or more years online and for those who had developed four or more courses. However, faculty teaching fewer than three years or developing only one course had much lower scores near a mean of 3.0 ($M = 3.06$ and 3.18 , respectively), indicating their agreement and confidence was either mixed or in the middle of the distribution where they were somewhat unsure of their abilities, satisfaction, or confidence.

Shea (2007) found that less experienced faculty rated unfamiliarity with online pedagogy as more of a demotivating factor than more experienced faculty did. This result might encourage online programs to focus resources for instructional designers and/or instructional facilitators toward faculty who are relatively new to the online teaching arena, which very likely happens at most institutions. It might also be encouraging that confidence in obtaining more effective student engagement and active learning in online courses appears to increase with experience both in years of teaching online and the number of different courses developed. In a sense, this may be an affirmation that current online instructional training may be working with online faculty, or that faculty are developing increased confidence themselves through the learning process and repeated experiences. This result may also allow us to consider the positive impact that experienced online mentor instructors could have in working with new online instructors. They may be able to provide specific content-area and instructional design feedback that would be most helpful to others in their field who are developing online courses.

Last, the faculty teaching in the online-only programs appeared to be significantly more confident or comfortable with student engagement/active learning than faculty in blended or primarily on-campus programs. Although everyone at this institution typically has access to an instructional designer at the university level, faculty in online-only programs tend to also have access to colleagues who are teaching online in their field. Faculty who teach in blended or primarily on-campus programs may have few or no colleagues in their content area with whom they can collaborate or discuss online issues.

McQuiggan (2012) discussed the importance of faculty development practices that promote including content considerations, as well as technology and pedagogy, when developing and delivering an online course. This type of support is important because the design of an online course can be very different for faculty who teach in areas such as English, history, biology, chemistry, or math. The learning activities and student interactions that a history teacher uses to engage students in the online class might vary

from what a math teacher finds effective in a math class. Thus, it might be recommended that collaborative groups of online faculty from similar types of programs across campus be identified to provide faculty in primarily on-campus programs (or blended programs) greater opportunities for collaboration with colleagues teaching online in similar fields.

CONCLUSION

This study was designed to measure faculty perceptions of factors related to the online environment at their institution, as well as their satisfaction with these same factors. These factors included resource effectiveness and reliability, and course accessibility for both students and faculty. Faculty also rated their perception of institutional factors such as whether the institution values and provides support for online instruction. The study also explored how faculty rated their confidence with aspects of online teaching such as providing feedback to students, and their perception of student participation and collaboration in their courses. Before meaningful training can be designed, units that are responsible for faculty development initiatives must have a clear idea of faculty perceptions of factors that influence confidence and satisfaction with online teaching.

This study revealed that of the factors examined in the study, faculty were least satisfied with the level of student engagement in their classes/active learning. Faculty with more experience, however, rated satisfaction with student engagement significantly higher than those with less experience. This could indicate that a different approach to development is necessary, depending on the experience of the faculty member. For example, initiatives designed for more experienced faculty with higher levels of confidence can move beyond the basics of the learning management system (LMS), and fundamentals of course design such as developing course objectives. Instead, faculty developers can provide opportunities for faculty to tap into one another's expertise and explore together how to implement new teaching technologies and solve pedagogical challenges associated with teaching online. Faculty learning communities might focus on higher-order learning, incorporating reflective and integrated learning activities, and encouraging collaboration between students in online classes. Less experienced faculty may require more individualized attention from instructional designers in areas where they have indicated less confidence and satisfaction. Novices may feel overwhelmed when negotiating the challenges of the learning system and teaching in a foreign environment and require more one-on-one support. While addressing more basic ideas of course design, instructional designers can simultaneously help novices consider strategies to increase student-student, student-faculty, and student-content interactions.

Even though research in the area of online teaching is advancing, development initiatives, especially for increasingly experienced faculty, and the topics addressed may not be evolving with new discoveries in the field. Professional development planning that is based on the expressed needs of faculty rather than what faculty developers determine they should know may be more effective in meeting the needs of advanced faculty. Future research needs to hone in on some of the areas where we have just scratched the surface like communication and active learning. Periodic assessment provides a global snapshot of where faculty members are overall in terms of satisfaction with the online environment, and may provide insight into the concerns of individual groups categorized by individual rank and experience.

BIODATA and CONTACT ADDRESSES of AUTHORS



Shelly WALTERS is the Associate Director of Instructional Design and Support Services at the University of Arkansas. In this position, Shelly leads a team of academic technologists, student engagement specialists, and faculty development staff charged with providing learning technology support for students and faculty. She also serves as an adjunct instructor in the Department of Adult and Lifelong Learning at the University of Arkansas. Her research interests Communities of Practice (CoP), instructional design, and faculty development in higher education. She earned a Masters in Educational Technology in 2013 and is currently pursuing her Ed.D. in Educational Technology from Boise State University.

Shelly WALTERS

Instructional Design and Support Services

University of Arkansas, 72701, Fayetteville, Arkansas, USA

Phone: +14795753800,

E-mail: saw034@uark.edu



Kenda S. GROVER is an assistant professor in the Adult and Lifelong Learning program at the University of Arkansas. She earned her Ed.D. in Adult Education in 2003. In addition to faculty responsibilities, she serves as the program coordinator for the master's program in ADLL. Dr. Grover's research interests include self-directed learning and community engagement (SDL), SDL as it relates to health and wellness, Communities of Practice (CoP), serious leisure and professional development for faculty. She has published over 15 articles and has made more than 40 presentations nationally / internationally. Dr. Grover is involved with several professional

organizations including the American Association for Continuing and Adult Education and the Eastern Educational Research Association.

Kenda S. GROVER

Rehabilitation, Human Resources, and Communication Disorders, Faculty

University of Arkansas, 72701, Fayetteville, Arkansas, USA

Phone: +1 4795752675,

E-mail: kgrover@uark.edu



Ronna C. TURNER is an Associate Professor of Educational Statistics and Research Methods at the University of Arkansas. Dr. Turner earned her Ph.D. in Educational Psychology in 2000. Her academic interests are in psychometrics and quantitative research methods, specializing in differential item functioning, item response theory modeling, and program evaluation. She has published 23 articles, 1 book chapter, and made over 80 presentations at national / international conferences. She is also active in conducting externally funded research including serving as co-PI on 5 National Science Foundation (NSF) and U.S. Department of Education grants, and evaluator on 4 NSF grants.

Ronna C. TURNER

Rehabilitation, Human Resources, and Communication Disorders, Faculty

University of Arkansas, 72701, Fayetteville, Arkansas, USA

Phone: +14795754143,

E-mail: rcturner@uark.edu



Jackson C. ALEXANDER serves as the Program Associate for the Adult Volunteerism, Leadership, and Development program in the Department of 4-H Youth Development with the University of Arkansas System's Division of Agriculture and Cooperative Extension Service. A graduate of Oklahoma State University and the University of Arkansas, he earned his B.S. in Agricultural Communications and Economics in 2013, M.S. in Agricultural and Extension Education in 2015, and M.Ed. in Adult and Lifelong Learning in 2017. Jackson's research interests include the intersection of adult education and cooperative extension programming, as well as the impact of agricultural leadership and cooperative extension on rural development. Through Jackson's time with the University of Arkansas System, he's had numerous journal article publications and national research conference presentations. Along with his professional responsibilities, Jackson is involved in a number of professional organizations and associations, such as the National Association of Extension 4-H Agents, American Association for Agricultural Education, Association of Leadership Educators, North American Colleges and Teachers of Agriculture, Arkansas Association of Cooperative Extension Specialists, and the Arkansas Farm Bureau President's Leadership Council.

Jackson C. ALEXANDER
Department of 4-H Youth Development,
2301 South University Ave., 72704, Little Rock, Arkansas, USA
Phone: +1 4059332072,
E-mail: jalexander@uaex.edu

REFERENCES

- Allen, I. E., & Seaman, J. (2013). Changing course: Ten years of tracking online education in the United States. Online Learning Consortium. Retrieved from <http://files.eric.ed.gov/fulltext/ED541571.pdf>.
- Allen, I. E., & Seaman, J. (2003). *Seizing the opportunity: The quality and extent of online education in the United States, 2003 and 2003*. Needham, MA: The Sloan Consortium. Retrieved from <http://files.eric.ed.gov/fulltext/ED530060.pdf>.
- Anderson, T., & Garrison, D. R. (1998). Learning in a networked world: New roles and responsibilities. *Distance Learners in Higher Education: Institutional responses for quality outcomes*. Madison, WI: Atwood.
- Baran, E., Correia, A. P., & Thompson, A. (2011). Transforming online teaching practice: Critical analysis of the literature on the roles and competencies of online teachers. *Distance Education, 32*(3), 421–439.
- Bawane, J., & Spector, J. M. (2009). Prioritization of online instructor roles: Implications for competency-based teacher education programs. *Distance Education, 30*(3), 383–397. doi:10.1080/01587910903236536
- Bernard, R. M., Abrami, P. C., Borokhovski, E., Wade, C. A., Tamim, R. M., Surkes, M. A., & Bethel, E. C. (2009). A meta-analysis of three types of interaction treatments in distance education. *Review of Educational Research, 79*(3), 1243-1289
- Betts, K. S. (1998). An institutional overview: Factors influencing faculty participation in distance education in postsecondary education in the United States: An institutional study. *Online Journal of Distance Learning Administration, 1*(3).
- Bolliger, D. & Wasilik, O. (2009). Factors influencing faculty satisfaction with online teaching and learning in higher education. *Distance Education, 30*(1), 103-116.
- Bolliger, D. U., Inan, F. A., & Wasilik, O. (2014). Development and validation of the online instructor satisfaction measure (OISM). *Educational Technology & Society, 17*(2), 183-195.

- Bonk, C. J., & Dennen, V. P. (2007). Frameworks for design and instruction. In M. G. Moore (Ed.). *Handbook of Distance Education*. (2nd Ed.). Mahwah, NJ: Routledge.
- Conciecao, S. C. (2006). Faculty lived experiences in the online environment. *Adult Education Quarterly*, 56(3), 223-224.
- Dutton, J., Dutton, M., & Perry, J. (2002). *How do online students differ from lecture students?* *Journal of Asynchronous Learning Networks*, 6(1), 1-20.
- Green, T., Alejandro, J., & Brown, A. H. (2009). The retention of experienced faculty in online distance education programs: Understanding factors that impact their involvement. *The International Review of Research in Open and Distributed Learning*, 10(3).
- Lawler, P. A., & King, K. P. (2000). *Planning for Effective Faculty Development: Using Adult Learning Strategies*. Malabar, FL: Krieger Publishing Company.
- Mayadas, A. F., Bourne, J., & Bacsich, P. (2009). Online education today. *Science*, 323(5910) 85-89.
- McQuiggan, C. A. (2012). Faculty development for online teaching as a catalyst for change. *Journal of Asynchronous Learning Networks*. 16(2), 27-61.
- Meyer, K. A., & Murrell, V. S. (2014). A national study of training content and activities for faculty development for online teaching. *Journal of Asynchronous Learning Networks*. 18(1), 3-18.
- Moore, M. G. (1993). Theory of transactional distance. In D. Keegan (Ed.), *Theoretical Principles of Distance Education*. Routledge.
- National Center for Educational Statistics. (2006). *The Condition of Education 2006*. In: U.S. Department of Education, National Center for Educational Statistics, NCES 2006-071, Washington, DC: U.S. Government Printing Office. Retrieved from <http://nces.ed.gov/pubs2006/2006071.pdf>.
- Nicklin, J. M., McNall, L. A., Cersoli, C. P., Varga, C. M., & McGivney, R. J. (2016). Teaching online: Applying need theory to the work-family interface. *American Journal of Distance Education*, 30(3), 167-179.
- Online Learning Consortium. (n.d.). Quality framework. Retrieved from <http://onlinelearningconsortium.org/about/quality-framework-five-pillars/>
- Roby, T., Ashe, S., Singh, N., & Clark, C. (2013). Shaping the online experience: How administrators can influence student and instructor perceptions through policy and practice. *The Internet and Higher Education*, 17, 29-37.
- Seaman, J. (2009). *Online learning as a strategic asset*. Volume II. The paradox faculty voices: Views and experiences with online learning. Washington, DC: Association of Public and Land-Grant Universities and Babson Survey Research Group. Retrieved from <http://www.aplu.org/document.doc?id=1879>.
- Shea, P. (2007). Bridges and barriers to teaching online college courses: A study of experienced faculty in thirty-six colleges. *Online Learning Consortium*, 11(2), 73-128.
- Van de Vord, R. & Pogue, K. (2012). Teaching time investment: Does online really take more time than face-to-face? *The International Review of Research in Open and Distance Learning*. 13(3), 132-146.
- Wingo, N. P., Peters, G. B., Ivankova, N. V., & Gurley, D. K. (2016). Benefits and challenges of teaching nursing online: Exploring perspectives of different stakeholders. *The Journal of Nursing Education*, 55(8), 433-440.