



Comparing student and faculty perceptions of online and traditional courses



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ABSTRACT

The use of online courses on college campuses has grown substantially in recent years, despite limited information on how these courses are perceived by faculty and students, compared to traditional (classroom) classes. In this study, two separate, but equivalent, surveys were developed to compare the perceptions of faculty and students. Comparisons were made between the perceptions of faculty who have taught the same course using online and traditional formats to the perceptions of students who have taken online and traditional courses using a series of 7-point Likert scales. Both surveys measured: 1) perceptions of online versus traditional courses, 2) perceptions of students who take online courses and students' motivations for taking online courses, 3) perceptions of faculty members who teach online courses; and 4) demographic characteristics. Analysis of data included the comparison of mean values between faculty and students and Pearson correlation analysis to determine relationships between questions. Of the 25 questions investigated in this study, 12 showed significant differences in means between faculty and student perceptions ($p < 0.001$). Significant findings from this research showed that compared to faculty perceptions, students tend to see online courses as more self-directed and believe that online students must be more willing to teach themselves. Students in online courses feel more disconnected from professors and fellow students than professors believe them to be. In addition, faculty tend to see the role of the professor as more critical to the success of online courses than students do.

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1. Introduction

Many US colleges and universities have spent significant time and effort increasing the number of online course options available to their students (Adams & Eveland, 2007; Allen, 2010; Allen & Seaman, 2005; Allen, Seaman, Lederman, & Jaschik, 2012; Artino, 2010; Conceição, 2007). The growth rate of online enrollment in the US now exceeds that of traditional enrollment (Rich & Dereshiwsky, 2011) and is becoming more accepted by academic leaders in higher education (Allen & Seaman, 2010). According to Allen and Seaman (2010) nearly 39% of students in higher education take at least one online course during their degree program. Online education and distance learning allows a university to reach a greater number of students who otherwise might not be able to attend classes or work toward a degree.

As technology continues to be integrated into higher education the perceptions of students and faculty members regarding online courses (as well as traditional courses) are important when determining future course offerings. But, what exactly are perceptions and how are they formed? According to Wood (2012), perception is the process of creating meaning by selecting, organizing, and interpreting information. Initial perception (first information) has been shown to influence the processing of new information and requires strong validity to change. Forming perceptions is a dynamic process that is influenced by a multitude of factors within one's learning environment. So what do perceptions have to do with online education? Most would acknowledge that in many cases 'perception is reality.' As such, a person's perceptions, and subsequently expectations, can significantly influence decisions and behaviors (Bhattacharya, 2012; Reimann & Bechara, 2010). Students and faculty members' course-related behaviors are driven by perceptions. Students' decisions to enroll in online courses are often guided by their perceptions of the quality of the learning experience, their perceptions of the faculty member teaching the online course, and their perceptions of other students taking online courses and the motivations

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of those students. Once formed, such perceptions can be difficult to change. Johnson (2013) claims that faculty perceptions of technology drive the implementation of technology in the classroom. In his analysis of faculty perceptions at research-intensive institutions, he finds that “faculty view technology is of limited or no functional relevance to instruction. When technology is used, it is rarely driven by expert knowledge and is more frequently employed either to attract the attention of students or to cope with constraints of large classes” (Johnson, 2013). As such, it is vital that faculty members and university administrators understand the perceptions of all groups involved in the delivery of online education.

With the growing emphasis placed on online and distance education come a number of questions dealing with the effectiveness of such education models. For example, how are online education courses viewed by students? Do students view online courses as educationally equivalent to traditional classes? Compared to traditional courses, do students view online courses as easier, better, more interactive, or less interactive? How do students view other students who take online courses and the motivations of those students for taking online courses? Do students perceive any differences in the faculty members who teach online courses versus those who teach traditional courses? How do students view synchronous versus asynchronous online instruction? How do faculty members view online courses compared to traditional courses? How do faculty members view the students who take online courses and the motivations of those students? And, how do faculty members view fellow faculty members who teach online courses? Answers to these questions can provide university administrators with important information for planning and managing the online courses that are offered. Previous research has addressed multiple of these questions, however, major gaps still exist in the literature (Chen, Lambert, & Guidry, 2010; Ferguson & DeFelice, 2010; Huang & Hsiao, 2012; Palmer & Holt, 2009; Sher, 2009; Song, Singleton, Hill, & Koh, 2004; Ward, Peters, & Shelley, 2010).

Unfortunately, previous research has not been able to provide us with answers to all of the above questions. Scant research has taken a holistic view by examining all of the above questions in a single study. The majority of previous research tends to focus on only one of the three core components of instruction when examining differences in online versus traditional courses: 1) perceptions of differences in the course content; 2) perceptions of the instructor; or 3) perceptions of students and students' motivations for taking online courses (Bristow, Shepherd, Humphreys, & Ziebell, 2011; Daugherty & Funke, 1998; Dobbs, Waid, & Carmen, 2009; Lee, Srinivasan, Trail, Lewis, & Lopez, 2011; May, Acquaviva, Dorfman, & Posey, 2009; Mortagy & Boghikian-Whitby, 2010; Overbaugh & Nickel, 2011; Palmer & Holt, 2008; Smart & Cappel, 2006; Tanner, Noser, & Totaro, 2009). For example, Bristow et al. (2011) studied student perception of online education in college and reported that approximately one-third of the students who had completed at least one online course expressed negative attitudes toward online education. Seok, DaCosta, Kinsell, and Chan (2010), in a survey about online instruction at community colleges found that instructors had more favorable perceptions of online course effectiveness compared to students and that positive instructor perception was linked to gender, number of years teaching online, and technology skill. Gallagher-Lepak, Reilly, and Killon (2009) evaluated the effectiveness of different components of online courses in building community and found that a variety of structural, procedural, and emotional factors contribute to (or detract from) community building in the online environment.

Obtaining a clear understanding of student and faculty perceptions of online education is essential if online education is going to be an effective component of higher education. Common approaches to measuring the effectiveness of on-line courses are to assess student performances after course completion (e.g., grade distribution; Rich & Dereshiwsky, 2011), and to assess student satisfaction with the online experience (Kromrey et al., 2005; Lee et al., 2011), or a combination of both (Fredericksen, Swan, Pelz, Pickett, & Shea, 2012). However, what these approaches

(and other post hoc approaches) fail to address is the question of student choice between online and traditional courses. Ferreira and Santoso (2008) maintains that perceptions impact attitudes regarding learning, and subsequently; influence performance. Examining similarities and differences in student and faculty perceptions allows for the interpretation of factors that may directly or indirectly influence participation (taking/not taking online classes for students; teaching/not teaching online courses for faculty), effort, and learning.

As previously stated, past research investigating students' and faculty members' perceptions of online courses at universities has been relatively narrow in focus and aimed at addressing only one of the three core components of instruction. The purpose of the present study was to directly compare faculty members' and students' perceptions of online courses to traditional courses across and among all three core components: 1) course content; 2) students; and 3) professors. This is based on the assumption that differences in perceptions across these areas will affect a student's decision to participate in online instruction and faculty member's willingness to invest time and effort creating online instructional resources.

2. Methodology

To understand the differences in perceptions between faculty members and students, a survey was developed containing questions measuring perceptions of the three core components of instruction. Based on a review of previous research and discussions with students and faculty members, topics about each of these components and their impact on the online experience were identified. From this list of topics, specific items were generated and given to students and faculty members in a pretest. Items were subsequently eliminated due to redundancy, irrelevance, or their inability to apply to both populations under study. The specific language of the questions was then formulated such that the same phrasing (or a close equivalent) could be asked of students and faculty members without a change in interpretation. Two identical versions of the survey were developed — one for students and one for faculty members. The surveys measured: 1) perceptions of online versus traditional courses, 2) perceptions of students who take online courses and students' motivations for taking online courses, 3) perceptions of faculty members who teach online courses, and 4) demographics. The specific questions asked on the survey are shown in Table 1. Responses to these items were recorded using a 7-point scale, where 1 = “strongly disagree” and 7 = “strongly agree.”

2.1. Participants

The survey was administered to faculty members and students at a large public university in the southeastern United States. To obtain informed opinions about online courses versus traditional courses, only those faculty members and students who had recent experience with online courses were included in the sample.

To find faculty members with recent experience teaching online courses, a search was first conducted to identify those faculty members who had taught the exact same course in both online and traditional formats within the past two years. The purpose of this was to eliminate any effects of differences in courses. For example, if a faculty member teaches only certain courses online, and teaches different courses in traditional formats, differences in their perceptions of online versus traditional formats are confounded with differences in the courses themselves. Of the 1360 total tenured and tenure-track professors, instructors, and adjuncts at the university, 147 qualified for inclusion in the study (i.e., they taught the same course in both formats within the past two years).

Emails were sent to all 147 qualified faculty members. The email included a description of the study and its purpose, as well as a link to the online survey. To increase the response rate, eight \$20 grocery store gift cards were offered as incentives to be given to eight randomly selected faculty respondents. All identifying information used for the drawing

Table 1
Comparison of student and faculty item responses.

Item	Statement	Student sample		Faculty sample		Diff in sample means			
		M	SD	M	SD	D	p	Stu	Fac
Perceptions of online versus traditional courses									
1	Online courses provide a better learning experience than traditional courses.	2.97	1.61	3.38	1.50	0.42	<.05		X
2	Online courses require more of a student's time than traditional courses.	4.30	1.79	4.86	1.72	0.56	<.01		X
3	An online course does not really need a teacher – it usually ends up being "self-directed learning."	4.87	1.78	2.09	1.54	-2.78	<.001	X	
4	The overall quality of online courses is better than that of traditional courses.	3.01	1.62	3.19	1.50	0.18	n.s.		
5	The amount of material that is presented to students in an online course is greater than in a traditional course.	3.95	1.68	3.96	1.83	0.00	n.s.		
6	Online courses are easier than traditional courses.	3.87	1.77	2.44	1.62	-1.42	<.001	X	
7	Students receive better quality teaching from online courses than they receive from traditional courses.	2.74	1.55	2.98	1.47	0.24	n.s.		
8	It is easier for students to cheat in online courses than in traditional courses.	5.02	1.70	4.50	2.09	-0.52	<.05		X
9	Students learn more in online courses than they learn in traditional courses.	3.22	1.51	3.34	1.42	0.12	n.s.		
Perceptions of students who take online versus traditional courses									
10	Students feel more disconnected from other students when taking online courses than when taking traditional courses.	5.02	1.65	4.33	1.65	-0.69	<.001	X	
11	Students feel more disconnected from their teachers when taking online courses than when taking traditional courses.	5.27	1.59	4.23	1.79	-1.04	<.001	X	
12	Students are more satisfied with online courses than they are with traditional courses.	3.71	1.52	3.86	1.30	0.14	n.s.		
13	Students must be more self-motivated when taking online courses than when taking traditional courses.	5.61	1.48	6.23	1.18	0.62	<.001		X
14	Students must be more willing to "teach themselves" when taking online courses than when taking traditional courses.	5.82	1.23	5.37	1.37	-0.45	<.001	X	
15	Students who take online classes are more willing to spend the time on coursework than students in traditional classes.	4.15	1.68	4.20	1.79	0.06	n.s.		
16	Students must spend more time reading course materials on their own when taking online courses than when taking traditional courses.	5.23	1.51	5.56	1.32	0.33	<.05		X
17	Most students take online courses because they believe that online courses are easier than traditional courses.	4.82	1.69	4.11	1.70	-0.70	<.001	X	
18	Students who take online courses must be more disciplined in their studying than students who take traditional courses.	5.18	1.62	5.99	1.19	0.81	<.001		X
Perceptions of professors who teach online versus traditional courses									
19	Professors are more available to students in online courses than in traditional courses.	3.24	1.63	4.38	1.59	1.14	<.001		X
20	Professors give feedback to students quicker in online courses than in traditional courses.	3.95	1.63	4.47	1.70	0.52	<.01		X
21	Professors give better quality instruction in online courses than in traditional courses.	3.26	1.56	3.51	1.52	0.25	n.s.		
22	Online courses are usually taught by professors who are poor teachers.	2.93	1.59	1.61	1.03	-1.32	<.001	X	
23	Professors like teaching online courses.	4.05	1.18	4.20	1.42	0.15	n.s.		
24	It takes more of a professor's time to teach an online course than it does to teach a traditional course.	3.63	1.55	5.44	1.73	1.81	<.001		X
25	The better professors teach traditional courses, whereas the "weaker" (lesser) professors teach online courses.	3.30	1.69	1.75	1.11	-1.55	<.001	X	

M = mean, SD = standard deviation, D = effect size, p = p-value, Stu = higher for students, Fac = higher for faculty, n.s. = not significant at the .05 level, shaded entries show items of disagreement.

was stripped from the data prior to analysis. Sixty-six faculty members responded to the initial email request. A follow-up email resulted in an additional 34 respondents. Of the total 100 faculty surveys submitted, one survey was subsequently excluded due to limited completion. The online survey was available for 4 weeks. Demographics for the faculty sample are shown in Table 2.

The student survey was administered as a paper-and-pencil survey completed at the beginning of class. A list of classes (not directly related to the faculty surveyed) was identified to include a representative sample of students in various colleges and departments, as well as in various years (freshman, sophomore, junior, senior). Instructors of these courses were then approached and asked to administer the survey to their students. As the surveys were being distributed, students were informed about the nature of the study, that their participation was voluntary, and that no identifying information was measured on the survey. Participation by students was extremely high, exceeding 80%. A total of 1377 students participated in the survey. However, 42 respondents were eventually removed from the analysis due to lack of significant completion or invariable responses (i.e. straight line responding indicating apathy bias). Of the 1335 usable student surveys, 715 were completed by students who indicated that they had taken at least one online

course. To maintain a sample of informed opinions, only these 715 responses were used in this research. Demographics for the student sample are shown in Table 3.

3. Results

3.1. Differences in perceptions

The analysis began by comparing the mean responses of students to those of faculty members. Of the 25 items on the survey that measured perceptions of online courses, online students, and online professors, 12 were identified as having significantly different means at the .001 level (Table 1). Additional two items were significant at the .01 level and two at the .05 level. An overall .05 alpha at the study level used in conjunction with the conservative Bonferroni correction would suggest that only those differences significant at the .001 level be fully explored. Two-way *t*-tests assuming equal variance (unless homoscedasticity tests suggested otherwise) were used in this analysis. No gender effects were found in the differences when demographic data was considered. Additionally, since the midpoint of the 7-point Likert scale is 4, differences in means were considered in terms of magnitude as well as

Table 2
Demographic profile of faculty.

Variable	Percent at university	Sample	Percent in sample
Academic rank			
Adjunct	16.3	6	6.1
Full-time instructor	11.2	12	12.2
Assistant professor	21.0	24	24.5
Associate professor	21.1	27	27.6
Professor	30.4	29	29.6
Total	100.0	98	100.0
No response		1	
College			
Basic and Applied Sciences	21.4	11	11.3
Behavioral and Health Sciences	14.9	24	24.7
Business	13.5	23	23.7
Education	6.0	3	3.1
University College	2.5	2	2.1
Liberal Arts	34.8	29	29.9
Mass Communication	6.9	5	5.2
Total	100.0	97	100.0
No response		2	
Gender			
Male	55.3	39	40.2
Female	44.7	58	59.8
Total	100.0	97	100.0
No response		2	

degree of agreement between the two populations. That is, two means can significantly differ from each other, from the midpoint of the scale, or both. Three conditions must be met before it can be concluded that there is disagreement between the two populations: 1) there must be a significant difference between the means; 2) both means must be significantly different from the midpoint; and 3) the means must be on opposing sides of the midpoint. These three conditions were met in only 3 of the 25 items on the survey (items 3, 19, and 24). All other differences were either not significantly different at the .001 level or both sample means were on the same side of the midpoint. The differences in means are summarized in Table 1.

Table 3
Demographic profile of students.

Variable	Percent at university	Sample	Percent in sample
Year			
Freshman	26.1	76	10.9
Sophomore	20.6	140	20.1
Junior	21.2	231	33.2
Senior	32.1	248	35.7
Total	100.0	695	100.0
No response		20	
College of major			
Basic and Applied Sciences	20.5	230	34.1
Behavioral and Health Sciences	23.3	107	15.9
Business	13.5	141	20.9
Education	5.6	58	8.6
Liberal Arts	14.3	73	10.8
Mass Communication	12.1	54	8.0
University College	10.7	12	1.8
Total	100.0	675	100.0
Other/don't know/undecided		33	
No response		7	
Gender			
Male	47.6	358	50.4
Female	52.4	353	49.6
Total	100.0	711	100.0
No response		4	
Age			
17 or less	0.3	2	0.3
18–20	36.6	220	30.9
21–24	39.0	343	48.2
25–34	17.1	112	15.8
35–64	7.0	34	4.8
Total	100.0	711	100.0
No response		4	

3.1.1. Course content

The first set of items (items 1–9, see Table 1) measured perceptions of online courses compared to traditional courses. Of these items, the largest significant difference (and first item of disagreement) in perceptions was related to the need for a teacher in an online course (item 3). Students, on average, believed that online courses do not need a teacher because they end up being self-directed learning ($\text{mean}_{\text{students}} = 4.87$; $\text{mean}_{\text{faculty}} = 2.09$); faculty disagreed. The means for both groups were significantly different from the scale midpoint ($p < .001$).

Faculty and students also differed in their perceptions of the ease of online courses versus traditional courses (item 6). While both groups disagreed with this statement (both means were significantly less than the scale midpoint), faculty more strongly disagreed that online courses are easier than traditional courses ($\text{mean}_{\text{faculty}} = 2.44$; $\text{mean}_{\text{students}} = 3.87$).

3.1.2. Students

Of the three main components measured in this study, the greatest number of significant differences among faculty and students was found in their perceptions of the students who take online courses and those students' motivations for taking online courses – items 10–18 on the survey (see Table 1). Interestingly, these differences were only in magnitude of agreement and tended to be smaller than in the other components.

Both faculty and students agreed that students feel more disconnected from other students and teachers when taking online courses (items 10 and 11). However, for both items, students perceived stronger levels of disconnect than faculty in their relationship with other students ($\text{mean}_{\text{students}} = 5.02$; $\text{mean}_{\text{faculty}} = 4.33$) and their teacher ($\text{mean}_{\text{students}} = 5.27$; $\text{mean}_{\text{faculty}} = 4.23$). Faculty members, on average, appear to underestimate the level of disconnect that students experience in the online environment.

With respect to self-guided teaching and self-motivation, both faculty members and students agreed that students must be willing to teach themselves when taking online courses (item 14) and that students must be self-motivated when taking online courses (item 13). However, students more strongly agreed on average that they must be willing to teach themselves when taking online courses ($\text{mean}_{\text{students}} = 5.82$; $\text{mean}_{\text{faculty}} = 5.37$), whereas faculty agreed more strongly that students must be more self-motivated when taking online courses ($\text{mean}_{\text{faculty}} = 6.23$; $\text{mean}_{\text{students}} = 5.61$). Similarly, faculty agreed more strongly that students must be more disciplined in their studying (item 18) when taking online courses compared to traditional courses ($\text{mean}_{\text{faculty}} = 5.99$; $\text{mean}_{\text{students}} = 5.18$).

Finally, in terms of students' motivations for taking online courses, students more than faculty agreed that other students take online courses because they believe them to be easier than traditional courses (item 17; $\text{mean}_{\text{students}} = 4.82$; $\text{mean}_{\text{faculty}} = 4.11$). This appears to be inconsistent with the earlier finding that online courses were not perceived by students to be easier. The difference may be best explained as a disconnect between the actual and perceived demands of an online course.

3.1.3. Professors

Two of the three disagreements in the study between faculty and students concerned perceptions of faculty who teach online courses. The disagreements across the two groups specifically addressed the perceived time and effort that teachers expend when teaching online courses. Faculty members believe that professors are more available to students in online courses versus traditional courses (item 19; $\text{mean}_{\text{faculty}} = 4.38$; $\text{mean}_{\text{students}} = 3.24$) and that it takes more of a professor's time to teach online versus traditional courses (item 24; $\text{mean}_{\text{faculty}} = 5.44$; $\text{mean}_{\text{students}} = 3.63$). Students on average disagreed with both of these statements. Interestingly, the difference in averages concerning the amount of a professor's time taken by online courses was the second largest in the study. As professors are in a better position to judge this

statement, there appears be a clear perception problem among students concerning this issue.

There were also differences in the perceived quality of teachers for online versus traditional courses, but these differences in the groups were only in magnitude of agreement. Faculty more strongly disagreed with the statement that online courses are taught by professors who are poor teachers (item 22; mean_{students} = 2.93; mean_{faculty} = 1.61), and that the better professors teach traditional course, whereas the weaker professors teach online courses (item 25; mean_{students} = 3.30; mean_{faculty} = 1.75).

3.2. Differences in correlations

Just as people are often defined by other people that they associate with, perceptions can be defined by other perceptions which are related, or correlated. To address these relationships and their differences, Pearson correlation coefficients were calculated between the items in each of the three main components within the student and faculty samples. Hypothesis tests were also performed evaluating differences in item correlations between the two populations. The results for the three components (perception of online courses, online students, and online professors) are shown respectively in Tables 4, 5, and 6. The differences between corresponding correlations for the two samples are shown in the bottom correlation matrix in each of these tables.

As with the comparison of means, the Bonferroni correction for an overall alpha of .05 overall would suggest using an alpha level of approximately .001 for individual comparisons of correlations. However, the nature of correlations and the inspection of multiple pairwise associations with each item suggest that the Bonferroni assumption of independent tests is not reasonable. To adjust for this, the emphasis was placed on differences in correlations that are significant at the .001 level, but consideration was also given to differences in correlations that were significant at the .01 level.

The association among items in course content was the most extensive of the three course components with 20 and 21 statistically significant correlations ($p < .001$) among items within the student and faculty samples respectively (there were a total of 36 pairwise correlations in this component). This component provided the most interesting and extensive patterns of differences in the associations by these two populations. Of the 36 correlations of items concerning the online student component, 25 were statistically significant in the student sample while only 5 correlations were significant in the faculty sample. Finally, 13 of the 21 correlations addressing the online professors component were statistically significant in the student sample, whereas only 4 were significant in the faculty sample. While many of these individual correlations are interesting, the main focus of this research is on the differences in perceptions of students and faculty. Thus, these individual correlations will only be discussed as they pertain to the understanding of the differences between correlations in the two groups.

3.2.1. Course content

Although significant correlations within the student and faculty samples are widespread in the course content component, the differences in correlations have a distinct pattern that coalesce around items 2, 3, and 6. Differences between faculty and students in the way that they relate item 2 (online courses take more of a student's time) with items 4, 7, and 9 were statistically significant. In the first case, faculty associate a class that takes more of a student's time with a class that is of better overall quality (item 4). Students make no such association, hence the difference in correlation. Students also do not associate a class that takes more time with a class that has better quality teaching (item 7), while faculty make this connection. This is also true about the association of "a class taking more of a student's time" with "learning more" (item 9). In that case, the correlation for students was significant at the .01 level, but was still statistically different than the much higher faculty correlation. Taken in conjunction, these correlations indicate that faculty and

Table 4
Comparison of student and professor correlation of items concerning online courses.

Item	Variable	1	2	3	4	5	6	7	8	
Student perception (n > 707).										
1	Better experience	-								
2	More time	.12**	-							
3	Self learning	.04	.11**	-						
4	Overall quality	.74***	.05	.06	-					
5	More material	.28***	.37***	.19***	.31***	-				
6	Easier	.37***	-.26***	.15***	.33***	-.06	-			
7	Better teaching	.68***	.08*	.01	.71***	.31***	.32***	-		
8	Easier to cheat	-.09*	-.02	.23***	-.10**	-.04	.14***	.12**	-	
9	Learn more	.63***	.10**	-.01	.68***	.30***	.28***	.67***	-.11**	
Professor perception (n > 96)										
1	Better experience	-								
2	More time	.41***	-							
3	Self learning	-.34**	-.15	-						
4	Overall quality	.77***	.42***	-.33**	-					
5	More material	.36***	.36***	-.11	.31**	-				
6	Easier	-.34**	-.54***	.54***	.33**	-.21	-			
7	Better teaching	.74***	.46***	-.37***	.78***	.37***	-.39***	-		
8	Easier to cheat	-.31**	-.32***	.35***	-.18	-.19	.46***	-.28**	-	
9	Learn more	.73***	.45***	-.33**	.70***	.43***	-.38***	.79***	-.28**	
Difference in correlation ("-" indicates that professor correlation is more positive)										
1	Better experience	-								
2	More time	-.29**	-							
3	Self learning	.38***	.25*	-						
4	Overall quality	-.03	-.37***	.39***	-					
5	More material	-.07	.01	.29**	.00	-				
6	Easier	.71***	.28**	-.40***	.66***	.15	-			
7	Better teaching	-.06	-.38***	.36***	-.07	-.06	.71***	-		
8	Easier to cheat	.23*	.29**	-.12	.08	.15	-.31**	.17	-	
9	Learn more	-.10	-.35***	.33**	-.03	-.13	.66***	-.13*	.16	

* p < .05.
** p < .01.
*** p < .001.

Table 5
Comparison of student and professor correlation of items concerning online students.

Item	Variable	10	11	12	13	14	15	16	17	
Student perception (n > 711)										
10	Disconnect students	–								
11	Disconnect teachers	.68***	–							
12	More satisfied	–.14***	–.19***	–						
13	More motivated	.16***	.20***	.09*	–					
14	Teach themselves	.24***	.34***	.01	.54***	–				
15	Spend time	–.11**	–.09*	.37***	.33***	.21***	–			
16	More time reading	.13***	.16***	–.03	.37***	.43***	.34***	–		
17	Online is easier	.18***	.26***	.07*	.13***	.23***	.02	.12**	–	
18	More disciplined	.12**	.13***	.09*	.45***	.39***	.38***	.42***	.08*	
Professor perception (n > 96)										
10	Disconnect students	–								
11	Disconnect teachers	.72***	–							
12	More satisfied	–.31**	–.47***	–						
13	More motivated	–.08	–.08	–.01	–					
14	Teach themselves	.30**	.11	–.10	.36	–				
15	Spend time	–.11	–.24*	.24*	.10	–.08	–			
16	More time reading	–.03	–.11	.21*	.32**	.18	.07	–		
17	Online is easier	.24*	.23*	.12	–.07	.03	–.18	–.02	–	
18	More disciplined	.00	–.09	.00	.50***	.26**	.11	.41***	–.04	
Difference in correlation (“–” indicates that professor correlation is more positive)										
10	Disconnect students	–								
11	Disconnect teachers	–.04	–							
12	More satisfied	.17	.27**	–						
13	More motivated	.24*	.28**	.10	–					
14	Teach themselves	–.06	.23*	.11	.19*	–				
15	Spend time	.00	.15	.13	.23*	.29**	–			
16	More time reading	.16	.27*	–.24*	.05	.25*	.27**	–		
17	Online is easier	–.05	.03	–.05	.20	.20	.20	.13	–	
18	More disciplined	.12	.22*	.09	–.06	.13	.27**	.02	.12	

* p < .05.

** p < .01.

*** p < .001.

students place a different value on the time a student spends engaged in a course.

Item 3, the idea that an online course is self-taught and does not really need a teacher, is associated differently by faculty and students with regard to item 1 (a better learning experience), item 4 (better overall quality), item 5 (more material), item 6 (easier), item 7 (better quality teaching), and item 9 (learning more). Students do not relate (positively or negatively) a better learning experience with a course being perceived as not needing a teacher. Faculty negatively associate these items, indicating that they believe that self-taught courses do not provide a better learning experience. The same situation holds in the second correlational difference. Faculty negatively relate “better overall quality” with a “course that is self-taught” ($p < .01$) whereas students make no such connection. “More material coverage” (item 5) is not seen as associated with self-taught courses by faculty, but students do positively relate the two items. Faculty and students both positively correlate a self-taught course with an easier course (item 6), with faculty associating the two items at a much higher level. Understandably, faculty negatively relate “better teaching” (item 7) with “self-taught courses.” Interestingly students make no connection between these two items, nor with the relationship between a self-taught course and “learning more” (item 9). Overall, it appears that faculty believe that their involvement in the online teaching process is more critical than it is seen by students. In all of the items save one (item 6), students more positively associate self-learning in an online course with ideal outcomes (better experience, better overall quality, greater material coverage, better teaching, and learning more.) The only exception is where faculty more positively associate self-taught courses with easier courses, although students agree with that sentiment but to a lesser extent.

Item 6, “online courses are easier than traditional courses” showed the greatest divergence of faculty and student association with other items. Seven of the eight correlations differed between the groups with half of these differences resulting in a disagreement in the direction of the

association (i.e. positively or negatively). Differences in correlations between the samples where there was divergence in the direction of association involved item 6 with item 1 (better experience), item 4 (better overall quality), item 7 (better quality teaching), and item 9 (learning more). In each of these pairwise correlations, students positively associated these beneficial items with an easier course while faculty negatively associated these items. This suggests that students’ definition of an easier course differs from that of faculty; an easier course may be defined by students as a course where learning is easier rather than where a high grade is easier to obtain.

Both faculty and students associated “easier course” (item 6) in the same way with items 2, 3, and 8. Faculty and students believe that “self-learning” (item 3) and “easier to cheat” (item 8) are positively related to an easier course; however faculty consider these relationships to be much stronger. The positive relationship between “easier to cheat” and easier course seems to contradict the student definition of “easier course” defined as ease in learning. However, the strength of the correlation of “easier to cheat” to “easier course” was weak ($r = .14$) but statistically significant. Faculty and students also both relate “more time” negatively with “easier course,” with the faculty correlation significantly more negative.

3.2.2. Students

Table 5 shows the correlations of items regarding perceptions of online students. Although 25 correlations in the student sample and four in the faculty sample were significant at the .001 level, no differences in correlations were found when tested at the .001 level. At the .01 level, there were five correlational differences, all concerning either item 11 or item 15. Both students and faculty relate item 11, addressing the disconnect of students from professors in online classes, negatively to “more satisfaction with online classes” (item 12). Faculty, however, relate the two items more negatively. Students associate item 13 (online students must be more self-motivated) positively with item 11, but

Table 6
Comparison of student and professor correlation of items concerning online professor.

Item	Variable	19	20	21	22	23	24
Student perception (n > 692)							
19	More available	–					
20	Quicker feedback	.57***	–				
21	Better instruction	.57***	.52***	–			
22	Poorer teachers	.00	–.02	.05	–		
23	Like online	.20***	.27***	.28***	.19***	–	
24	Takes more time	.32***	.22***	.26***	.07	.16***	–
25	Better in traditional	–.05	–.02	.01	.66***	.17***	.02
Professor perception (n > 97)							
19	More available	–					
20	Quicker feedback	.73***	–				
21	Better instruction	.52***	.54***	–			
22	Poorer teachers	–.05	–.14	.04	–		
23	Like online	.22*	.17	.26**	–.23*	–	
24	Takes more time	.27**	.15	.19	–.19	–.06	–
25	Better in traditional	–.12	–.14	–.03	.73***	–.16	–.19
Difference in correlation (“–” indicates professor correlation is more positive)							
19	More available	–					
20	Quicker feedback	–.16**	–				
21	Better instruction	.04	–.01	–			
22	Poorer teachers	.04	.12	.01	–		
23	Like online	–.03	.10	.02	.42***	–	
24	Takes more time	.05	.07	.08	.26*	.21	–
25	Better in traditional	.07	.12	.04	–.07	.33**	.21

* p < .05.

** p < .01.

*** p < .001.

faculty believe that there is no association between self-motivation and disconnect from teachers. Among students, “online students are willing to spend more time” (item 15) is positively related to “willing to teach themselves” (item 14), “spend more time reading” (item 16), and “be more disciplined” (item 18). There is no evidence that faculty associate these items in the population. Taken as a whole, the differences in correlations in this component indicate that students and faculty disagree to some extent on the effect of students’ perceived disconnect from teachers in an online environment. Faculty also do not see the connection that students make concerning the time demands of an online class.

3.2.3. Professors

The differences in correlations between faculty and students concerning the online professor component were the least of the three components (Table 6). The single significant difference at the .001 level was the correlation of item 22 (“poorer teachers teach online”) with item 23 (“professors like teaching online”). Faculty and students associated these items in different directions: faculty negatively, students positively. Two other correlation differences were significant at the .01 level including the association of items 19 and 20, and items 23 and 25. The correlational difference in item 19 (“more available online”) and item 20 (“quicker feedback online”) was only in magnitude as faculty associated these items more positively than students. Item 25, concerning “better professors teaching in traditional courses”, was related positively by students to a professor’s affinity to teach online (item 23) whereas there was no evidence of a correlation among faculty. Overall, it appears that students associate the lack of teaching skill with placement in online courses; faculty make no such connection.

4. Discussion

4.1. Core components

Online courses are a growing trend in higher education; however student and faculty perception of these courses have not been studied thoroughly. A clear understanding of student and faculty perceptions of online courses is paramount as these perceptions could influence online course behavior such as effort, student learning, and overall

satisfaction. Ferreira and Santoso (2008) found that student performance was affected by perceptions; negative perceptions led to negative performance and positive perceptions led to positive performance. Belief Perseverance Theory maintains that expectations are also derived by first information and affects the way expectations change or do not change over time (Bierhoff & Klein, 1989). Therefore, one can extrapolate that perceptions are an interpretation and expectations are beliefs; both of which are formulated and molded by subjective information gathering and experiences. Therefore, perceptions indeed impact our behavior.

In the present study, faculty and student perceptions of each of the three core components of a college course (course content, students, professors) were analyzed. For the purposes of this discussion three unique differences between student and faculty perceptions will be highlighted for each core component: 1) differences of agreement between faculty and students (mean values of faculty and students were on different sides of the midpoint; e.g., greater than 4 for faculty and lower than 4 for students); 2) differences in magnitude of agreement or disagreement (mean values were on the same side of the midpoint, but by significantly different amounts); and 3) correlation pattern differences between faculty and student perceptions (differences in both agreement and/or magnitude). The purpose of the correlation comparison is to highlight how the two populations related items differently to other aspects of that same component. This offers greater insight into how faculty members and students perceive online courses compared to traditional courses.

4.2. Course content

The largest difference observed between faculty and student perceptions was related to the need for a teacher in an online course. In general, students perceive that teachers are not all that necessary in online education. Professors on the other hand strongly disagree and perceive themselves as important to the learning that occurs in an online course. When compared to results from a previous study (Cassens, 2010), this difference becomes even more interesting. By analyzing survey data (from college students and faculty members) and comparing online to traditional courses, Cassens (2010) found that 1) faculty do not approach teaching an online course differently than they do traditional courses, and 2) online courses are “equally as effective for students’ achievement”. Cassens (2010) concluded in her study that faculty structure their classrooms and communication methods nearly identically for each method of delivery. If Cassens (2010) is correct, and there is no difference in the quality of instruction in online courses, then the results observed in this study concerning the need for an online instructor may be linked to an unfounded misperception of online courses. As for faculty, it has been shown that many believe that students are required to teach themselves more in online classes, although a higher number of faculty who hold these beliefs have not taught online classes. In addition, faculty reported that a higher level of effort is required to teach online courses (Tanner et al., 2009).

To better understand why we observed the differences in means between students and faculty members, we analyzed the correlations between answers given to multiple questions. However, caution should be taken not to interpret the results of correlation analysis as suggesting causality. Rather, these results should be considered as a measure of the strength of the relationship between two questions, therefore allowing researchers to more easily understand why faculty and students hold the beliefs that they do. When analyzing correlations of the perceived need for faculty in online courses, the perception that online courses require more of a student’s time also correlated to the same questions in a nearly identical manner. Faculty associate spending more time on an online course with a better experience, better quality, better teaching, a more difficult course, and increased learning. Interestingly, students correlate each of these items in exactly the same way. However, students simply do not agree (or disagree) as strongly as faculty. Another

study showed that faculty who had a greater comfort level with advanced technology had higher perceptions of online course effectiveness and ease of use. Faculty felt they were better able to follow their students' progress with online classes and students were expected to take more responsibility for learning the course fundamentals from the online resources (Seok et al., 2010). These results provide evidence that students' perceived lack of need for faculty in online courses is directly related to the perception that online courses take more of a student's time than a traditional course and that both of these perceptions are directly related to relevant learning outcomes (e.g., learning more, better quality teaching).

The perceived ease of an online course, relative to a traditional course also stood out not only for the differences between faculty and student perception, but also for the strong correlations to other questions. Although both students and faculty disagreed that online courses are easier than traditional courses, faculty disagreed much more strongly than students. Previous research has found mixed results when surveying students about the ease of online courses. Wyatt (2005) found through surveying 262 students (each of whom had experience with at least one online course), that 47% rated online courses as much more (25%) or slightly more (32%) academically demanding than traditional courses. Dobbs et al. (2009) reported that students perceived that traditional courses were easier than online courses; however their study included students who had no experience with online courses. The belief that on ground courses are easier is usually held by those students who have not taken online classes. Other studies have shown that students feel that online courses are more demanding and require more discipline (Mortagy & Boghikian-Whitby, 2010; Tanner et al., 2009). Previous work has shown that factors such as personal online experience and topic of study are both necessary factors to consider when investigating attitudes toward online education (Dobbs et al., 2009), which makes sense, given that perception is based on experience.

One possible explanation for the difference observed between faculty and student perception of course ease may simply be a difference in what the word "easier" means to a student compared to a faculty member. Students might associate ease of course with a better experience, better quality, better teaching, learning more, or a higher grade. Therefore, to a student, a course's easiness might be tied to the concept of ease to use and ease of learning, rather than requiring little effort and time. In the present study, a high percentage of online students asserted that their online course was as effective as a similar on ground course, which is similar to the results of Neuhauser (2002) who found that learning activities can be similarly effective for both online and on ground classes. Likewise, effectiveness has been shown to be similar between web-based online methods and on ground courses (U.S. Department of Education, 2010). Looking at undergraduate medical students, researchers determined that online courses were as effective in providing meaningful education (May et al., 2009). Based on these analyses it is clear that understanding the perceptions of course ease in the classroom is not straightforward. The assumption that the term "ease" universally means the same thing to a student and to a faculty member may be an improper assumption and unknowingly skew the interpretation of survey results. This again highlights the usefulness and need for analysis techniques that reach beyond mean survey values (such as correlation analysis) and allows for associations to be made between different questions and ideas.

4.3. Students

There were no differences in agreement between how faculty and students perceive students who take online courses, however, there were multiple differences in magnitude. Students perceive that they are disconnected from other students more in online courses than in traditional courses. And, faculty members underestimate this degree of disconnect. Gallagher-Lepak et al. (2009) contend that online learning can lead to better student engagement and improved student outcomes

if there is a strong sense of community in the online environment, however, there were mixed reviews and some students felt an aloneness within the course which decreased the sense of community. Students also believe that other students take online classes because they are seen as easier than traditional courses and that students must be more willing to teach themselves when taking online courses. This finding is supported by Palmer and Holt (2008) who found that students at Deakin University in Australia experienced enhanced online learning if there was ease in accessing information such as online discussions, viewing grades and progress for the course. Faculty, more than students, believe that online students must be more disciplined and self-motivated than students in online courses. Tanner et al. (2009) confirm the notion that students and faculty believe that students must be more self-disciplined in an online course.

There seems to be a significant level of disconnect between faculty perceptions and student perceptions regarding the amount of effort required when taking online courses. Faculty believe successful online students should be more diligent and self-sufficient learners; whereas, students tend to perceive that it is the implied 'ease' of online classes that attract students to online classes. Further, Paechter and Maier (2010) suggest that students dislike online learning that requires construction of conceptual knowledge without the insight of the instructor. They note that students prefer face-to face interaction with the instructor to ascertain the conceptual components that relate to expectations of the course. Those designing and administering online courses must consider these varying perceptions to ensure student success.

Correlation analysis of the student component revealed an interesting relationship between the disconnect students feel toward their teachers in an online course and satisfaction with the course. Although both students and faculty agree that course satisfaction is directly related to the connection with the professor, faculty correlate these two together more strongly than do students. This is interesting when considering the results from the course content component concerning the need of professors in online classrooms. It appears that the role of a faculty member in online education is more highly valued by faculty members than by students. Mortagy and Boghikian-Whitby (2010) speculated that students' perceptions changed over time in regard to their satisfaction with course activities. Furthermore, students believed that faculty had high expectations and were available to communicate in a variety of ways in the course. Added to this mix is their finding that online students were more satisfied with course activities than face-to-face students. Artino (2010) considered motivation beliefs, achievement emotions, and satisfaction as elements that might influence students' preference toward online learning. This study partially confirmed that these elements certainly affected student's instructional choice and was related to their beliefs and overall fulfillment with a recent online course.

4.4. Professors

Faculty members and students disagree about the amount of time that professors invest in an online class and the degree to which online professors are available to students. It is possible that both of these disagreements are due to semantics, in that availability may mean something different to professors and students. Another potential explanation could be a difference in expectations between faculty and students as it relates to time and/or availability. Students may have higher expectations of availability when interactions are online due to the use of social media which has no off hours. In contrast, faculty teaching online courses may see themselves as being available when the campus is closed, which is decidedly more available than office hours on campus. Likewise, with respect to the issue of the professors' time invested in online courses, professors may consider the time that they are reading and responding to emails, discussion posts, etcetera, whereas students do not realize the increased amount of effort those duties entail. Daugherty and Funke (1998) noted that online faculty reported a greater expenditure

of time compared to traditional classes and suggested that faculty plan accordingly if thinking about teaching online courses.

Faculty and student perceptions of online faculty were observed to have some interesting differences. Although both faculty and students disagreed that poorer and weaker instructors teach online courses compared to traditional classes, faculty were more pronounced about their disagreement. Correlation analysis reveals that students made a positive correlation between the perception that weaker professors teach online and the perception that professors like teaching online courses, while no correlation was observed for professors. This data could imply that students perceive online courses as a more self-directed learning experience because online courses are preferentially taught by lower quality instructors with lower expectations than in a traditional classroom. In contrast, it could be that professors do not want to remove themselves from the students and see online learning as another mechanism for delivering content. For example, a study of business faculty who taught online courses reported meeting with students outside of class as important and did not think that the technology necessarily enhanced the learning experience (Tanner et al., 2009).

5. Conclusions

The most striking difference in perceptions between faculty members and students has to do with the amount of time and effort that faculty members invest in teaching online courses. Students believe that online courses require less time and effort from professors because students must do the teaching and learning on their own. Overall this indicates that students may assume more time and effort from faculty go into in a traditional course compared to online. Faculty clearly place a greater value on their role in the online class environment, whereas students tend to undervalue the role of the online faculty member.

Results from this study provide unique insight into understanding not only the perceived differences between students and faculty with respect to online courses, but also evidence into potentially why faculty and students have the perceptions they do. This work highlights the need for more collection and analysis of data concerning online education that goes beyond differences in mean survey values and explores why students and faculty decide to participate in online instruction.

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