Chickering’s Seven Principles of Good Practice: Student Attrition in Community College Online Courses

Tim Tirrell & Don Quick

Colorado State University, Fort Collins, Colorado, USA

Published online: 25 May 2012.

To cite this article: Tim Tirrell & Don Quick (2012) Chickering's Seven Principles of Good Practice: Student Attrition in Community College Online Courses, Community College Journal of Research and Practice, 36:8, 580-590, DOI: 10.1080/10668920903054907

To link to this article: http://dx.doi.org/10.1080/10668920903054907

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at http://www.tandfonline.com/page/terms-and-conditions
Chickering’s Seven Principles of Good Practice: Student Attrition in Community College Online Courses

Tim Tirrell and Don Quick

Colorado State University, Fort Collins, Colorado, USA

As online enrollments escalate, so does concern about student attrition rates. There is an abundance of literature addressing student success in online courses, particularly using constructivist learning theories to create engaging learning experiences. Also emerging from the literature is the Seven principles of good instructional practice by Checkering and Gamson as an accepted rubric for evaluating effective online instruction. This study focused on whether the use of instructional strategies as measured by the seven principles had an effect on student attrition rates in online courses. Full and part-time faculty at three community colleges in Virginia who taught online course(s) in the last three semesters completed an online survey to determine the extent to which they used instructional strategies reflecting the constructivist-based seven principles in their online courses. Scores from the survey were then compared to the attrition rates in their courses. Results indicated both groups strongly used instructional strategies reflecting the seven principles of good practice in their online courses with full-time faculty scores ranging a bit higher. When the results for the principles were examined individually rather than as a set, both groups scored lower on principles reflecting innovative instructional strategies. No relation between the extent to which faculty reported using those instructional strategies and student success as measured by attrition rates were found. However, a moderate relation was found with the third principle, “encourage active learning.” This indicated that faculty who made strides toward actively engaging students found some success in reducing student attrition.

In July 1999 the explosion of online college courses was still over the horizon in the Virginia Community College System (VCCS), but enrollment patterns in distance learning courses served as a harbinger of things to come. According to the VCCS web site (Virginia Community College System, 2007), distance learning enrollments numbered 6,300 in 1996–1997, or approximately 3% of a total enrollment of 206,000 students. The vast majority of distance learning enrollments were in courses delivered through videotape, interactive video, self-contained CD ROMs, or even correspondence courses. In 1997–1998 the number of distance learning enrollments jumped 158% to 16,289 and then by another 46% to 23,800 enrollments the following year. According to the VCCS system office, the only significant change in distance learning courses at the colleges was the increase in the number of online courses being offered. By this point, all 23 colleges in the Virginia Community College System offered courses online.

Address correspondence to Don Quick, Colorado State University, School of Education, Fort Collins, CO 80523
E-mail: don.quick@colostate.edu
A closer look at the numbers revealed a negative side to the impressive growth in enrollments. Of the 23,800 students taking distance learning courses in 1998–1999, slightly more than 19,000 were registered in online courses. Of those, 47% did not successfully complete the course; that is to say, the students failed, withdrew, or were administratively dropped by the instructors. This compared to an average nonsuccess rate of 15% for similar courses taught in a traditional format in a classroom on campus. In response to this statistic, the chief academic officers for each college, with support from system office personnel, developed an assessment process and criteria to ensure that the quality of online courses was at least equivalent to those same courses being offered on campus (Virginia Community College System, 2000).

This framework provided a comprehensive approach to addressing quality in online courses and programs rather than addressing specific issues such as student retention rates. The Academic Officers Council decided that a comprehensive, inclusive approach was essential as these courses were in their infancy, and the entire operation required evaluation. The implementation level of this assessment process varied among the colleges as did the success rate. The plan was fully implemented for the 2001–2002 academic year, and noncompletion rates in online courses across the individual colleges ranged from a low of 10% to a high of nearly 50%.

Despite these difficulties, online course enrollment growth averaged 15% in the VCCS over the next several years including over 70,000 online students in 2006–2007, or 29% of total enrollment. The growth rate reflected national trends with nearly 3.5 million students taking at least one online course during the fall 2006 semester compared to 1.6 million students in fall of 2002 (Allen & Seaman, 2007). However, high noncompletion, or attrition, rates continued to plague online courses and programs both nationally (Carr, 2000; Diaz, 2002; Summers, Waigandt, & Whittaker, 2005) and within the VCCS. The VCCS faculty and administrators found some success in reducing attrition rates by addressing structural issues such as alignment with institutional mission and providing more academic resources and student support services. However, education is about teaching, learning, faculty and students; and efficacious change strategies should focus on the teaching-learning experience. Designing and delivering instructionally sound courses using valid learning theory can engage students and reduce attrition rates as well as have significant positive impact on student success (Rovai, 2004).

The student attrition problem is not a function of online courses but, rather, the education paradigm driving these courses. The first of the three threads of this paradigm states that online courses require a different approach to learning and an instructional design that actively engages the student and calls for greater communication and collaboration than on-campus courses do (Prince, 2004; Ravenscroft, 2001). Anchored by traditions and habit, educators are striving to build the world’s best buggy whip in an era of the super jumbo jets and the space station. O’Banion (1999) argued that the new, reformed education environment features multiple learning options for students, engages students in their own learning, emphasizes collaboration, shifts faculty to a facilitator role, and documents improved and expanded student learning. In order to be successful, online courses must fit within the interactive and participative framework and adhere to the new educational model advocated by O’Banion. Furthermore, online courses should move quickly away from the traditional, time and place-bound, master-student education model.

The second thread was the usefulness and appropriateness of constructivism as a learning theory for application in online courses. Briefly, constructivism is an active approach to learning wherein the students construct their own knowledge or reality and interpret it based on prior knowledge and experience (Herring, 2004). However, if online courses are built upon a
constructivist foundation, the question still remains on how to measure the application of constructivist principles to assess any impact on student attrition. That leads to the third thread which was the emergence of the *Seven principles of good practice in undergraduate education* (Chickering & Gamson, 1987) as a means to measure quality in online courses. Since being published in 1987, these principles have become an accepted rubric for measuring quality in course content, they have been modified for use in the online teaching environment, and they have been used in numerous studies (Chickering & Gamson, 1999). This study was based on the premise of constructivism as a foundation for effectively designed online courses and the seven principles as a rubric to measure quality.

Online learning is part of a new educational movement, and those enrollments continue to expand while showing no signs of reaching a plateau (Allen & Seaman, 2007). However, colleges will continue to have problems with student success similar to those experienced in the Virginia Community College System described above as programs struggle under the weight of using traditional approaches to instruction in this evolving environment (Brown & King, 2000; Jonassen, Davidson, & Collins, 1995). Teaching faculty cannot simply shift their content, style, and instructional strategies from the traditional classroom to the online environment and expect to be successful (Rovai, 2004). To promote student success in the new environment, faculty and course designers must develop a new approach to teaching and learning that takes advantage of information technology capabilities and accommodates the characteristics of the online learning environment. But if one accepts that premise, supported by the student completion problems experienced by the VCCS and others, then what are the characteristics and foundations of this new approach? How do educators define and measure online learning in terms of content and instructional methodology in order to improve student success as defined by higher completion rates? The following research questions focused the study:

1. To what extent are faculty using Chickering’s *Seven principles of good practice* in their online courses?
2. What is the difference between the full-time and part-time faculty using Chickering’s *Seven principles of good practice* in their online courses?
3. What is the association between implementing the seven principles and student attrition rates in online courses?

**RESEARCH DESIGN**

It appears that active learning techniques have been effective in promoting student success in online courses; and the *Seven principles for good practice in undergraduate education* (Chickering & Gamson, 1987), based on active learning concepts, has proven to be an effective rubric for assessing online courses. The problem to be addressed in this study was how do educators define and measure online learning in terms of content and instructional methodology in order to improve student success as defined by higher completion rates.

To address the first research question, participants were asked to complete a survey which measured the extent that they apply the seven principles in their online courses. Scores between full- and part-time instructors were compared to determine if there is a difference in the usage of the seven principles. In order to address the third question, survey scores were matched with the attrition rates for their respective online courses to determine the relationship between them.
Sites

Three VCCS colleges were used in this study, and for privacy purposes they were identified by pseudonyms. The first is Hometown Community College. HCC has one main campus and three off site centers and serves more than 228,000 people within its geographical region. The college enrolled approximately 7000 students (unduplicated headcount), including approximately 1800 students in online courses, ranking it at about the middle of all the VCCS colleges. Meadows Community College (MCC) is a multicampus institution serving several counties. The college served approximately 7500 unduplicated credit students. During the same time period, the college served approximately 2200 online students. The final college in the study is Peak View Community College (PVCC). Smaller and more rural than the first two colleges, PVCC served approximately 3900 unduplicated credit students in 2006–2007, including almost 1600 online students. The president and senior administration of the colleges have agreed to support this research study and the Director for Institutional Research served as my contact and liaison.

Participants

According to the college directory, there are approximately 60 full-time faculty at HCC. During the 2006–2007 academic year, 27 (45%) of the full-time faculty taught at least one online course, and an additional 16 part-time faculty taught online during that time period for a total of 43 possible participants. Peakview Community College is a smaller institution with 28 full-time faculty and had 23 full- and part-time faculty teach an online course during the past academic year. Meadows Community College has approximately 70 full-time faculty and approximately 45 full- and part-time faculty taught at least one online course over the past academic year. Therefore, about 111 individual faculty, full- and part-time, taught at least one online course during the fall 2006–2007 academic year. Participants were instructed to respond to the questions in the context of the most recent online course they taught, and their survey score was matched with the attrition rate of their most recent online course.

Instrumentation

The Inventories of Good Practice in Undergraduate Education was developed to assist institutions and individual faculty members to examine instructional practices for consistency with the Seven principles for good practice (Chickering & Gamson, 1987). The inventories were published by AAHE (now the American Association of Higher Education & Accreditation) and then reprinted by the Johnson Foundation as a separate publication. Zhang and Walls (2006) modified the inventory so it would be meaningful for online instruction. This instrument, The Online Implementation of seven principles reduced the number of items in the inventory from 64 to 35 and then went through an extensive content validity assessment, which is described in greater detail below.

The online implementation of seven principles is a series of questions that measure the usage of each of the seven principles by requesting participants to select one response on a 5-point Likert scale (5 representing very often, 4 representing often, 3 representing occasionally, 2
representing rarely, and 1 representing never). Each of the 35 survey items describes a specific teaching activity.

Faculty members rate the level they engage in each of those activities by circling an answer on a 1 to 5 scale. The scores for each of the 35 items reflect the level to which faculty members engage in the teaching behaviors consistent with the seven principles; these scores provide a description of that participant’s teaching style. This is the inventory used for the online survey. The only modifications made to the survey instrument were to omit questions related to participant demographic information because that data was not part of the evaluation. Also, the individual principle of good practice that was listed just prior to the set of questions that examined that principle was deleted so it would not have any influence on participant response. The questions on the survey were sequential to the seven principles and consistent with the Zhang and Walls (2006) inventory. Questions 1 & 2 were to find out the course they taught so that attrition rate could be determined. Questions 3–7 are principle #1, student faculty contact; questions 8–12 are principle #2, student cooperation; and so on for each principle every five questions.

**Data Collection**

Every precaution was taken to ensure integrity and confidentiality during the data collection process. The first step was to contact faculty to request their participation in the study. The administration at one of the colleges requested the Director for Distance Learning distribute the survey to its faculty with the cover letter I provided. The administrations at the other two colleges opted to provide the e-mail addresses to me and have me e-mail faculty directly.

Each faculty received an e-mail inviting them to participate in the project; this consisted of a cover letter explaining the purpose of this study, instructions for their participation, and the URL for this survey. Also included was the documentation of permission from the president. An explanation of how participant privacy and confidentiality were ensured was also included. Completed surveys were collected and stored on the web site where we could retrieve them. After one week, a reminder e-mail containing the instructions and URL was sent to nonrespondents by the same methods as the first. A third and last reminder was sent to the remaining nonrespondents after the second week.

The Director of Institutional Research at each of the three institutions provided me with the appropriate grade distribution report for the most recent online course taught by responding faculty. We then matched the responding faculty and the appropriate course attrition rates while replacing the faculty name with a number to protect confidentiality.

**RESULTS**

Based upon information provided by institutional research officers, 111 full- and part-time faculty who taught at least one online course at the three participating colleges in the last two years were identified. Of these, 50 completed the survey for a 45% return rate. All 50 surveys were usable. However, corresponding grade information could not be provided for three of the participants; so the final pool for examining the relationship with attrition rates was 47. Of the 50 respondents, 11 identified themselves as part-time faculty. Thus, for research questions one and two, $N = 50$ and for research question three, $N = 47$. 

Faculty Using Instructional Strategies

The first research question asked to what extent faculty reported using the instructional strategies reflecting the seven principles of good practice in their online courses. The survey responses were calculated so that each participant received a mean score of their responses to the 35 items in the survey inventory. Mean scores higher than 2.5 on a 1 through 5 Likert scale are considered to be a strong use of the seven principles of instruction (Alvarez, 2005; Taylor, 2002; Zhang & Walls, 2006). Of the 50 responses, 38% (19) of the mean scores were between 4.0 and 5.0, and 58% (29) were between 3.0 and 3.9. Just 4% (2) of the mean scores were between 2.0 and 2.9, while none of the mean scores was below 2.0. In fact, none of the scores were below 2.50. Based on these results, faculty reported a high use of the seven principles in their online courses.

Highest and Lowest Questions

Responses to individual questions were also examined to determine to what extent they reflected faculty use of the seven principles. The means of the individual items range from 2.07 to 4.79, with the mean of the total scale of 133.93 (SD = 19.71) out of a maximum possible score of 175. Overall, participants’ responses to the survey indicate they perceive a fairly high degree of use of the seven principles in their online instruction. However, a closer look at the individual responses indicates that items with the highest mean scores (see Table 1) are ones that you would commonly expect in traditional classrooms such as setting clear expectations, encouraging students to ask questions when they don’t understand, establishing consequences for not completing work, and expecting promptness when receiving and returning student work; perhaps such response reflect the need for additional faculty training (Ray, 2005; Taylor, 2002; Zhang & Walls, 2006).

By contrast, the bottom five survey items describe nontraditional strategies reflecting innovation in promoting student engagement (Amory & Naicker, 2001; Rovai, 2004). These examples include attending professional meetings, creating learning communities, and having students contributing to and directing learning activities. This gap may indicate faculty are simply transferring the teaching skills used in their traditional face-to-face classroom rather than adapting and evolving these skills to the level necessary to thrive in an online environment. However, further research that investigates this hypothesis more deeply is needed.

Means for Each Principle

To further examine the reported use of the seven principles by faculty, we calculated a value for each of the principles by tabulating the mean and standard deviations for the five questions within each of the principles (see Table 2). The principle Communicate High Expectations was the highest rated among the respondents with a mean of 4.20. By contrast, the lowest rated principles were Encourage Cooperation Among Students with a mean score of 3.20 and Encourage Active Learning with a mean score of 3.40. These results are very consistent with other studies examining faculty's reported use of the seven principles whose participants rated Encouraging Cooperation Among Students as the lowest (Blankson, 2004; Ray, 2005; Taylor, 2002; Wingar, 2000) or second lowest applied principle (Batts, 2005; Zhang & Walls, 2006). This information also supports the notion that faculty are not adapting their teaching skills to the demands of online instruction.
Full-Time Versus Part-Time Faculty

The second research question asked whether there was any observed difference between full-time and part-time faculty in the reported use of the seven principles in their online instruction. Measures of central tendency indicate the results of the two groups are very similar. Full-time faculty had a mean survey response score of 3.91 (SD = 0.532) and part-time faculty posted a mean score of 3.61 (SD = 0.531). In addition to the means being close and the dispersion almost

<table>
<thead>
<tr>
<th>Mean score</th>
<th>Question number</th>
<th>Question</th>
<th>Principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.86</td>
<td>30</td>
<td>I make clear my expectations in writing at the beginning of the course</td>
<td>#6 Communicate high expectations</td>
</tr>
<tr>
<td>4.80</td>
<td>32</td>
<td>I explain to students what will happen if they do not complete their work on time</td>
<td>#6 Communicate high expectations</td>
</tr>
<tr>
<td>4.77</td>
<td>33</td>
<td>I encourage students to speak up when they don’t understand</td>
<td>#7 Respect diverse talents and ways of learning</td>
</tr>
<tr>
<td>4.66</td>
<td>23</td>
<td>I expect my students to complete their assignments promptly</td>
<td>#5 Emphasize time on task</td>
</tr>
<tr>
<td>4.51</td>
<td>19</td>
<td>I return examinations and papers within a week</td>
<td>#4 Give prompt feedback</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mean score</th>
<th>Question number</th>
<th>Question</th>
<th>Principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.40</td>
<td>0.90</td>
<td>#6 Communicate high expectations</td>
<td></td>
</tr>
<tr>
<td>4.20</td>
<td>1.00</td>
<td>#5 Emphasize time on task</td>
<td></td>
</tr>
<tr>
<td>4.10</td>
<td>1.10</td>
<td>#4 Give prompt feedback</td>
<td></td>
</tr>
<tr>
<td>4.00</td>
<td>1.10</td>
<td>#7 Respect diverse talents and ways of learning</td>
<td></td>
</tr>
<tr>
<td>3.47</td>
<td>1.30</td>
<td>#1 Encourage student-faculty contact</td>
<td></td>
</tr>
<tr>
<td>3.40</td>
<td>1.30</td>
<td>#3 Encourage active learning</td>
<td></td>
</tr>
<tr>
<td>3.20</td>
<td>1.40</td>
<td>#2 Encourage cooperation among students</td>
<td></td>
</tr>
</tbody>
</table>
identical, the medians for full-time and part-time faculty were also close at 3.91 and 3.43, respectively. Scores for both groups tended to cluster around the mean, and there were no outliers.

While there may be little observed difference between the groups relative to overall use of the seven principles, this did not indicate if there was a difference in which principles were emphasized more. To examine the question further, the scores for each of the seven principles grouped by full- or part-time status were ranked. Both groups scored highest on Communicating High Expectations while the lowest scores were the principles that Promote Student Engagement. Those results are shown below in Table 3. One item of note is when comparing the scores of the individual principles for the full-time and part-time faculty groups, Encourage Student-Faculty Contact was the lowest ranked principle for part-time faculty and the third lowest for full-time. It makes sense that part-time faculty, who by definition have a looser relationship with the institution, would place a lower emphasis on encouraging student contact.

These findings are consistent with the research by Meade (2003) who examined instructional practices reflecting the seven principles between full- and part-time faculty also at a Virginia community college. In that study, Meade stated she found no significant difference in the reported use of the seven principles between the two groups. When looking at the results of individual principles, Meade’s results also showed that both faculty groups ranked themselves high on Communicates High Expectations and Emphasizing Time on Task. And just as in this study, part-time faculty’s lowest rating was Faculty Student Contact. In the Meade study, principles reflecting innovative and nontraditional instructional strategies also ranked lowest.

The Association of the Principles and Attrition

The third research question explored the association between implementing the seven principles of good practice and student attrition rates in those online courses. One of the assumptions of the Pearson Correlation Coefficient is that each of the variables was normally distributed within the population (Yockey, 2008). To evaluate this, a histogram was created with a normal curve for the attrition rates of online courses taught by the participants. The skewness value as generated by SPSS is .03 while the mean, median, and mode are .25, .26 and 0, respectively. When the skewness is between a positive and negative one and the mean, median, and mode are close, the data is

**TABLE 3**

<table>
<thead>
<tr>
<th>Principle</th>
<th>Full-time faculty</th>
<th>Part-time faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Encourage student-faculty contact</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>#2 Encourage cooperation among students</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>#3 Encourage active learning</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>#4 Give prompt feedback</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>#5 Emphasize time on task</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>#6 Communicate high expectations</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>#7 Respect diverse talents and ways of learning</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principle</th>
<th>Full-time faculty</th>
<th>Part-time faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Encourage student-faculty contact</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>#2 Encourage cooperation among students</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>#3 Encourage active learning</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>#4 Give prompt feedback</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>#5 Emphasize time on task</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>#6 Communicate high expectations</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>#7 Respect diverse talents and ways of learning</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
approximately normal (Morgan, Leech, Gloeckner, & Barrett, 2007). Accordingly, the attrition rate variable is judged to be approximately normal. Thus, the Pearson Correlation Coefficient was used. The results of this test showed there was a slight positive correlation between the survey scores and the attrition rates in online courses, \( r(45) = .047 \). Therefore, there is very little relationship between the total principle score and the attrition rate. However, when you do this for each principle, principle \#3 stands out and it has a negative correlation (see Table 4). The third principle, Encourage Active Learning, returned the correlation value \(-0.30\), which according to Cohen (1988) is a medium strength correlation indicating faculty who did make strides toward actively engaging students found some success in reducing student attrition.

Several studies noted the first, third, fifth, and seventh principles as the least utilized by participating faculty (Meade, 2003; Ray, 2005; Taylor, 2002; Wingar, 2000; Zang & Walls, 2006). In contrast, principles four and six, which showed no correlation in our study here, were identified as the most used in those same studies. The third principle, Encourage Active Learning, returned the correlation value \(-0.30\), which indicates faculty who did make strides toward actively engaging students found some success in reducing student attrition. Furthermore, three additional principles, Encourage Faculty-Student Contact, Emphasize Time on Task, and Respect Diverse Talents and Ways of Learning, or numbers one, five, and seven, respectively, showed some correlation. Arguably, the principles that showed some correlation with student attrition in this study could be the most challenging to incorporate into regular instruction. Other principles, such as Communicate High Expectations, are part of routine classroom instruction. Thus, there are indications that utilizing the seven principles, especially the ones promoting a higher level of student engagement, can have some positive effect on student attrition, but further research is required.

### IMPLICATIONS FOR PRACTICE

This research does reinforce the validity of using Chickering and Gamson’s *Seven principles of good practice* as a rubric for evaluating online course design and online instruction. An examination of the literature determined that constructivist learning theory provides the foundation for sound instructional practices promoting student engagement in online instruction experience
The seven principles of good practice reflect constructivist learning theory, and so instruments based on the seven principles of good practice have been accepted as effective tools for evaluating online instruction (Bangert, 2006; Brown & King, 2000; Huang, 2002; Rovai, 2004). This study also provides further evidence that faculty place a high value on the use of the teaching values or strategies represented by the seven principles of good practice in their online courses as demonstrated by the high survey scores.

Examining the means of each question on the survey instrument revealed strengths and weaknesses of the instructional practices utilized by participating faculty. An analysis of the mean scores revealed higher scores were in the principles that could be considered common in traditional classrooms such as Communicate High Expectations and Give Prompt Feedback. The lower mean scores tended to reflect strategies and activities that would be considered more innovative and nontraditional such as Encourage Cooperation Among Students and Encourage Active Learning. These results indicate faculty largely remain unfamiliar and/or uncomfortable with constructivist learning principles that promote student engagement. The results also indicate that a gap exists between faculty teaching skills and the skills required for successful online teaching. Instead of focusing on effectively using technology, faculty development programs should include a focus on student learning techniques such as group collaborations, learning communities, and relating content to events or subjects outside class. There should also be instructional strategies that use multiple assessment methods and different learning styles.

REFERENCES


Carr, S. (2000). As Distance Education comes of age, the challenge is to keep the students. *Chronicle of Higher Education, 46*(23), A39–A41.


