Impact of Reflective Practice on Online Teaching Performance in Higher Education

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Abstract

The purpose of this study was to assess the effective online instructional practices in higher education at Grand Canyon University/GCU. The GCU College of Education created a formative evaluation instrument for online faculty—Five by Five—based on current recommended best practices in online instruction. The instrument is used by online faculty to reflect on their performance using the following five criteria: communication, engagement, expertise, and use of quality instruction techniques. The instrument designers used these criteria with the intent of aligning the PREK-12 best practices with higher education practices. A quasi-experimental study was conducted with an availability sample of fifty online instructors. The sample was split into equal experimental and control groups. The participants in the experimental were assigned to do a self-evaluation and reflection on their online instruction capabilities using the Five by Five instrument. The researchers analyzed classroom data in terms of the five criteria featured in the Five by Five instrument and compared the performance of the experimental and control groups. The results showed statistically significant positive effects of the utilization of Five by Five by online faculty in terms of their participation in the discussion forums and their use of quality instructional techniques.

Key words: Reflection, online teaching, online instruction, online instructors, professional teaching practice

Introduction

Teachers work in a dynamic field, and the 21st Century technological advancements challenge the traditional educational model. Gone are the sole brick and mortar, face to face higher educational institutions. SLOAN-C, a consortium for online learning, reported that online enrollment for higher education has exceeded projections (LaPrade, Marks, Gipatrick, Smith, & Beazley, 2010). In their most recent report regarding online learning over the last decade, Allen and Seaman (2013), cite the following statistics emphasizing the upward trajectory of online learning and the need for development of faculty around online instruction.
• “The number of additional students taking at least one online course grew as much this year as it did last year.
• The number of students taking at least one online course increased by over 570,000 to a new total of 6.7 million.
• The online enrollment growth rate of 9.3 percent is the lowest recorded in this report series.
• The proportion of all students taking at least one online course is at an all-time high of 32.0 percent.” (p.4)

According to the American Association of Colleges for Teacher Education (AACTE, 2010), the quality and effectiveness of the teacher in the classroom is the single most important factor in student learning and achievement. The National Board for Professional Teaching Standards (NBPTS, 2010), trumpets this same mantra when it highlights that if America is to have a world class educational system, it must have a world class teaching force (LaPrade, et al., 2010).

Background of Study
In 2008, as administrators tasked with developing highly effective online instructors for the College of Education, the authors faced the challenges of evaluating online classrooms activities, which are to a large extent different from those that occur in a regular on-ground classroom. With the goal to better understand and assess the effectiveness of teaching practices in online classrooms at Grand Canyon University (GCU), the College of Education (COE) designed and developed a formative assessment tool for online faculty. This Five by Five tool (also known as 5 x 5 Online Course Review) was established using the following 5 criteria: communication (use of announcements/UA), responsiveness (answering questions for instructor/QFI), engagement (use of general discussion forums/GD), expertise (assignment feedback/AF), and use of quality instruction techniques (QIT). To define the levels within each criterion, a rubric was developed for each of the five sections of this instrument. In addition, the 5 x 5 form has an area that allows the evaluator to add two qualitative comments from a comment bank provided by COE. The first comment affirmed any behaviors that aligned with effective instructional practice, and the second one provided constructive feedback for improving instruction. The developers of the 5 x 5 tool conducted a case study to examine the best practices that emerged from the implementation of the 5 x 5 self-evaluation and reflection which was informed by Carolyn Downey’s work (LaPrade, et al, 2010). During the first found of implementation, the case study examined the performance of online faculty members in each of the above stated criteria and found: a) a lower correlation between lower student EOCS scores (low rating of the instructor by the student) and lower 5x5 observations by the evaluator; b) when it came to quantitative aspects of online instruction, COE instructors did reasonably well. Where they were weakest were two areas that were more qualitative in nature – those of engagement through discussion forums and content area expertise in the quality of feedback. These initial findings prompted the developers to further investigate the impact of the tool by examining the effects of the utilization of Five by Five by online faculty in terms of their participation in the discussion forums and their use of quality instructional techniques.

Literature Review
Recently, there has been a growing interest in reflective practice. This interest is not new. According to Ferrell (2013), as early as 1933, John Dewey encouraged teachers to make informed decisions based on systematic and conscious reflections rather than fleeting thoughts about teaching, and he maintained that when teachers combined these systematic reflections with their actual teaching experiences, then they can become more aware which can lead to professional development (p. 10).

Even though the practice of reflection is not new, it has been described in a variety of ways. For this article, reflection is defined as the process of thinking about what one has taught and using that data to inform the planning of the future lessons (Killion & Todnem, 1991).In addition to Dewey, Pollard (2002) noted that in order for reflection to be effective, it has to be intentional and systematic. It is simply not enough for the teacher to think about random aspects of the lesson; rather, s/he needs to focus on whether the objectives of the lesson were met. Did the students learn and perform everything that the instructor had planned?
Zeikner and Liston (1996) further distinguished between ‘routine action’ and ‘reflective action’ from Dewey’s original work. Wherein routine action involves “tradition, external authority and circumstance”, vs. reflective action which “entails the active persistent and careful consideration of any belief or supposed form of knowledge” (p. 24).

A number of research studies have affirmed the value of reflection in one’s teaching practice. Gibbs (1988) and Schon (1990) both touted how intentional reflection on the part of teachers led to improvement in one’s teaching practice. Stallions, Murrill, & Earp (2012) used findings of prior research of Gibbs and Schon to develop a Reflective Practitioner Phases (RPP) model that is currently used by instructors to reflect on diverse aspects of their teaching practice for the purpose of improving it. According to Lord (2009), self-evaluation has always existed in education. In the late 1960s, it was often used as a formal assessment of college faculty. Some examples of self-evaluation as experienced by the instructors included:

• Professors outline the ways in which they would demonstrate teaching excellence for the upcoming academic year;
• Professors would submit artifacts which were grouped under the categories of Teaching, Scholarship, and Service

Examples of artifacts included Teaching artifacts: lesson settings (class size, laboratories, field experiences, demonstrations, technologies), course planning (syllabi, objectives, lesson plans, handouts, scenarios, inquiry challenges, and concept maps), and assessment methods (tests, quizzes, student evaluations, peer evaluations, admin evaluations). Scholarship artifacts consisted of research (content and pedagogy), inventions (patented and no patented), writings, creations (paintings, music), consulting/professional leadership. Service artifacts could be comprised of institution (department, college, university), advisory activities (clubs and teams), community/school outreach (seminars, talks, projects, visitations, and volunteerism).

Self-evaluation was supervised by the department chairperson and a peer-review committee. The faculty member would create a series of objectives and activities for the academic year and meet with their review committee to discuss work plans and consider recommendations from committee members. At the conclusion of the academic year, the faculty member would write a report explaining why they deserved to be continued or promoted. Rourke’s study (2013), affirmed the positive value of self-reflection as a means of increasing one’s learning and teaching practice.

Through the process of self-reflection teachers may find insight into their own teaching and develop best practices for enhancing student learning. Teachers encounter a variety of unique situations in the classroom and these opportunities for teaching and learning call for an art of practice. Teachers learn the art of teaching by embracing a problem-solving orientation and reflection on their own practice. VonDras, (2008), clarified that self-assessment of one’s own teaching is an essential first-step in developing the art of teaching, and that a self-assessment tool could be useful for self-reflection and professional development. Two examples that VonDras provided are:

• Lecture-Discussion cycle, considered to be best teaching practices in the following areas:
  • beginning and introduction of lecture-discussion
  • description, explanation, and development of new ideas and concepts as well as introduction of new learning activities
  • summarization of important ideas and concepts

• Teacher-Student Interactions, considered to be best teaching practices in the following areas:
  • Creating a positive atmosphere for learning
  • Making connections with student experiences, interests, and curiosity
  • Attending to student needs
  • Attending to the structure of learning goals and difficulty of learning tasks.
Supporting the importance of self-reflection in one's teaching practice, Stallions, Murrill and Earp (2012), proposed the Reflective Practitioner Phases (RPP) Model. They assert that the model would provide a framework for teachers to reflect on issues related to their practice: exploration, planning, instruction, evaluation, and analysis. These would, in turn, lead to increased professional development and effectiveness in improving their students' academic achievements. This notion was further supported by Giaimo-Ballard and Hyatt (2012), as they discovered that when instructors practiced reflection, it prompted them to examine their own practice. This resulted in not only an improvement in their own teaching but also in their students’ learning.

With the intense focus on new teacher evaluation tools and accountability measures on teachers’ performance, Furtado and Anderson (2012), point to the importance of the power of creativity in one’s teaching through the practice of intentional reflection. They note that when teachers engaged in this routine, they were more likely to be more enthusiastic and eager to hone their knowledge and skills in order to help their students increase their academic achievements.

Research Questions

This study investigated the effectiveness of instructor self-assessment and reflection in terms of the best practices featured in the Five-by-Five instrument. The research questions for this study were:

1. To what extent does self-reflection contribute to one’s instructional effectiveness?
2. What areas of self-reflection best impact one’s instructional effectiveness?

Study Design

A quasi-experimental study was conducted with an availability sample of fifty online instructors. The sample was split into equal experimental and control groups. The participants in the experimental were assigned to do a self-evaluation and reflection on their online instruction capabilities using the Five by Five instrument. The researchers analyzed classroom data in terms of the five criteria featured in the Five by Five instrument and compared the performance of the experimental and control groups along those criteria. In an effort to address these research questions, five specific areas of self-reflection were identified. We chose these because we wanted to focus on the quality of interaction and instruction that takes place in an online classroom.

• Use of Announcements: This area represents weekly and “as needed” announcements that guide the learners in terms of course due dates, assignments, and general overall guidance regarding course events. Specifically, we wanted to know if the faculty:
  a. Uses course announcements to inform, motivate and engage the entire class.
  b. Provides announcements that summarize the past learning outcomes.
  c. Provides announcements to facilitate learning and promote student success.
  d. Builds positive relationships in the online course room.
  e. Builds a positive learning community in the course room.

• Use of a “Questions for Instructor” Discussion Forum: This represents a dedicated online course discussion forum where students can post questions to the instructor. We wanted to know if the faculty:
  a. Uses the QFI forum to build course community.
  b. Directs responses to questions in the QFI forum to the entire class.
  c. Provides responses that are knowledgeable and instructive in nature.
  d. Responds to student questions in a timely and supportive manner.

• Use of General Discussion Forums: This area represents general discussion forums that are used to stimulate conversation with the students regarding course content. In this area, we looked for:
  a. A clear evidence of well-nested discussion forum threads with Faculty involvement.
  b. The Faculty asking higher-order critical thinking questions that elicit a critical response.
  c. The Faculty asking follow-up questions that are varied, yet specific to the unit objectives.
  d. The Faculty actively engaging in the discussion and participating in scholarly conversations.
Assignment Feedback: This area represents the instructional feedback provided to the students in response to submitted assignments. The specific criteria were:

- a. The Faculty using the assignment grading rubric to evaluate assignments.
- b. The Faculty providing quality feedback on assignments that is content-related.
- c. The Faculty providing quality feedback that is APA and writing-specific.
- d. The Faculty providing timely feedback and evaluation information.
- e. The Faculty holding learners accountable for meeting performance criteria.

Quality Instructional Techniques: This area represents:

- a. The Faculty using personal expertise and experience to enhance the content learning.
- b. The Faculty providing additional material to augment and enhance course content.
- c. The Faculty providing an end-of-module summary of the week's learning.
- d. The Faculty "setting up" the upcoming module by linking new learning.
- e. The Faculty engaging in the dialogue and conversation with and between students.

Therefore, the following hypotheses for this study are:

H1: The Use of Announcements (UA) will improve after instructors perform a self-reflection on their own instructional capabilities.

H2: The Use of a “Questions for Instructor” (QFI) Discussion Forum will improve after instructors perform a self-reflection on their own instructional capabilities.

H3: The Use of General Discussion Forums (GD) will improve after instructors perform a self-reflection on their own instructional capabilities.

H4: Assignment Feedback (AF) will improve after instructors perform a self-reflection on their own instructional capabilities.

H5: Quality Instructional Techniques (QIT) will improve after instructors perform a self-reflection on their own instructional capabilities.

Sample of participants

For this study, 50 online instructors were chosen to perform a self-reflection on their online instruction capabilities using the College Content Review (CCR) form. During the summer of 2010, the College of Education (COE) conducted over 80 CCRs on COE online faculty. Of those, 67 were listed at either L1 or L2 levels, signifying they were in compliance with University’s expectations from online instructors: the course room was set up on time; the students questions were answered within 24 hours; their assignments were graded and returned within seven days; and they posted responses in the discussion forums at least 5-7 times each week. The College collaborated with the executives in the department that oversees faculty development and scheduling to further eliminate any instructor who was at the time undergoing coaching for any reason. The research team selected 50 eligible instructors from those remaining from the list of 67, and divided them into two groups of 25.

The study group of 25 (designated as the “reflective group”) received an email from the College that introduced the CCR, explained its purpose as a qualitative tool, and asked the instructor to reflect on the tool and conduct a personal self-evaluation after a specific course that each taught was completed. Instructors were asked to email back the College with a confirmation that the self-reflection was completed. They were also asked to list two areas that they liked from the instrument, and two ways that they believed could be improved. Participants from the reflective group were asked to respond within one week. Those responding back affirmatively were sent a free t-shirt as an appreciation token for their participation. The purpose of sending them the tool was to assess whether the knowing about the reflection would have an impact on the quality of the faculty’s teaching.

The control group of 25 did not receive the CCR instrument, nor were they contacted directly during the project.

After the close of the study group’s responses, COE conducted another CCR’s on all 50 of the study subjects – both the control and study group. To the extent possible, COE used sections taught by the
instructor that were as close to the summer CCR as possible. This data was analyzed and the results are included in the next section.

**Analysis and Findings**

The dataset had no incomplete cases. No outliers were detected in any of the dependent variables. Microsoft Excel 2010 and Addinsoft XLSTAT (Version 2012) were used to conduct the data analyses.

*Descriptive results.*

Table 1 below includes the results of the descriptive analyses for both the Control and Reflective Groups.

Table 1.

**Descriptive Analyses**

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<th>Count</th>
<th>Mean</th>
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<th>Median</th>
<th>Mode</th>
<th>Range</th>
<th>Standard Deviation</th>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Control Before</td>
<td>25</td>
<td>3.20</td>
<td>-</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td>1.19</td>
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<td>Control After</td>
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<td>3.00</td>
<td>4.00</td>
<td>1.01</td>
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<td>25</td>
<td>2.92</td>
<td>-</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td>1.00</td>
</tr>
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<td>3.24</td>
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<td>3.00</td>
<td>3.00</td>
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<td></td>
<td></td>
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<tr>
<td>Control Before</td>
<td>25</td>
<td>2.92</td>
<td>-</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td>0.91</td>
</tr>
<tr>
<td>Control After</td>
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<td>3.04</td>
<td>4.11%</td>
<td>3.00</td>
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<td>3.00</td>
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<td>-2.60%</td>
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<td>3.00</td>
<td>2.00</td>
<td>0.65</td>
</tr>
<tr>
<td><strong>GD</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Before</td>
<td>25</td>
<td>2.68</td>
<td>-</td>
<td>2.00</td>
<td>2.00</td>
<td>4.00</td>
<td>1.07</td>
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<td>0.00%</td>
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<td>2.00</td>
<td>4.00</td>
<td>1.07</td>
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<td>2.20</td>
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<td>0.82</td>
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<td>25</td>
<td>2.72</td>
<td>23.64%</td>
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<td>3.00</td>
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<td><strong>AF</strong></td>
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<tr>
<td>Control Before</td>
<td>25</td>
<td>2.52</td>
<td>-</td>
<td>2.00</td>
<td>2.00</td>
<td>4.00</td>
<td>0.96</td>
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<tr>
<td>Control After</td>
<td>25</td>
<td>3.24</td>
<td>28.57%</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td>1.13</td>
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<tr>
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<td>25</td>
<td>2.80</td>
<td>-</td>
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<td>3.00</td>
<td>3.00</td>
<td>0.96</td>
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<td>25</td>
<td>3.04</td>
<td>8.57%</td>
<td>3.00</td>
<td>3.00</td>
<td>4.00</td>
<td>0.93</td>
</tr>
<tr>
<td><strong>QIT</strong></td>
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<tr>
<td></td>
<td>Before</td>
<td>25</td>
<td>2.24</td>
<td>-</td>
<td>2.00</td>
<td>0.78</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Control</td>
<td>After</td>
<td>25</td>
<td>2.28</td>
<td>1.79%</td>
<td>2.00</td>
<td>0.98</td>
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<tr>
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<td>Reflective</td>
<td>1.88</td>
<td>-</td>
<td>2.00</td>
<td>2.00</td>
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<tr>
<td>Reflective Before</td>
<td>After</td>
<td>25</td>
<td>2.40</td>
<td>27.66%</td>
<td>2.00</td>
<td>3.00</td>
<td>0.91</td>
</tr>
</tbody>
</table>

* Note: The “%Change in Mean” refers to the “before” and “after” %change with each control and reflective group.

Mean scores were calculated across all groups for all variables. The control group before and after mean scores remained relatively the same with the exception of the AF variable, which improved by 28.57%. Assignment feedback is a key area in online instruction and we therefore speculate that other forms of reflection (outside of this study), the type of course taught, and the nature of the assignments may have accounted for the marked improvement in AF in the control group.

As expected, we saw improvement in the mean scores in most of the reflective group before and after groups (UA: 10.96%, GD: 23.64%, AF: 8.57%, and QIT: 27.66%). These initial indications showed that self-reflection had a positive impact on improving instructional techniques. The QFI mean remained relatively the same (3.08 to 3.00).

The standard deviations for all scores indicated comparably stable behavior in terms of data dispersion. Most of the standard deviation values were near 1.0 and did not substantially differ from each other across all variables.

Additional descriptive analysis of the total scores of the CCRs (Pre and Post) for the control as well as the reflective group revealed the following:

- For the control group (after), 9 improved their post-reflective scores, 8 remained the same, and 8 went down. Since the CCR was not used in the control group, we did not have expectations of these results
- For the reflective group (where the CCR was used), 15 of the instructors improved their score post-reflection scores, 5 remained the same, and 5 went down.
- 80 percent of the instructors either improved or remained the same on as a result of the CCR evaluation.

Data Preparation

In effort to gain greater insight into the data results and address the aforementioned five hypotheses, additional analyses were conducted. Since the CCR instrument was administered to the reflective groups, we decided to focus our subsequent analyses on the before and after reflective groups.

The datasets were analyzed for missing data. No data was missing from the datasets in the before and after reflective groups.

We screened the datasets for univariate outliers based on the contention that outliers detected in sample data could distort subsequent analysis results (Hair et al., 2006). Z-scores were computed for each case; any Z-scores beyond +/-2.5 were identified as potential outliers since the samples sizes for each dataset were less than 80 (Hair et al., 2006). Based on this criterion, no outliers were detected in any of the reflective variable datasets.

Normality Considerations

Before confirming the hypotheses, we ascertained which datasets violated normality assumptions, since certain tests require that normality assumptions regarding the population data be met. Therefore to confirm normality, we performed Shapiro-Wilk tests for Normality on the mean difference on each of the
reflective (before/after) datasets. For each variable (UA, QFI, GD, AF, and QIT), the mean difference for each of the reflective (before/after) datasets violated normality assumptions.

**Test Results**

The non-normality of the sample data eliminated the possibility of performing paired t tests, since one of the underlying assumptions of a paired t test is that the mean difference in the population follows a normal distribution (Keller, 2014). We therefore chose the Wilcoxon Signed Rank for Paired Samples test, a nonparametric approach to hypothesis testing. This procedure does not require the normality assumption in the populations be met and also allows sample sizes to be small (Weiers, 2008). Table 2 shows the results of the Wilcoxon Signed Rank for Paired Samples tests.

Table 2.

*Results of the Wilcoxon Signed Rank for Paired Samples tests*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Test Statistic</th>
<th>p-value (left tailed test)</th>
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</thead>
<tbody>
<tr>
<td>UA</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Reflective Before</td>
<td>25</td>
<td>38.00</td>
<td>0.100</td>
</tr>
<tr>
<td>Reflective After</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QFI</td>
<td></td>
<td></td>
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<td>Reflective Before</td>
<td>25</td>
<td>45.50</td>
<td>0.733</td>
</tr>
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<td></td>
</tr>
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<td>GD</td>
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<tr>
<td>Reflective Before</td>
<td>25</td>
<td>27.00</td>
<td><strong>0.002</strong> *</td>
</tr>
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<td>AF</td>
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<tr>
<td>QIT</td>
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<tr>
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<td>25</td>
<td>13.00</td>
<td><strong>0.004</strong> *</td>
</tr>
<tr>
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<td>25</td>
<td></td>
<td></td>
</tr>
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</table>

Note 1: H0: Reflective Before Mean ≥ Reflective After Mean.
H1: Reflective Before Mean < Reflective After Mean.

Note 2: $\alpha = 0.050$

Note 3: * indicates significance at 0.05 (i.e., H0 rejected)

Note 4: When ties were detected, appropriate
For Hypothesis 1 (H1), we surmised that Use of Announcements (UA) would improve after instructors performed a self-reflection on their own instructional capabilities. Based on the results in Table 2, H1 was not supported. We found no statistical evidence to indicate that UA would improve after instructors perform a self-reflection on their own instructional capabilities.

For Hypothesis 2 (H2), we surmised that Use of a “Questions for Instructor” (QFI) Discussion Forum would improve after instructors performed a self-reflection on their own instructional capabilities. Based on the results in Table 2, H2 was also not supported. We found no statistical evidence to indicate that QFI would improve after instructors performed a self-reflection on their own instructional capabilities.

For Hypothesis 3 (H3), we surmised that Use of General Discussion Forums (GD) would improve after instructors performed a self-reflection on their own instructional capabilities. Based on the results in Table 2, H3 was supported. We found statistical evidence to indicate that QFI would improve after instructors performed a self-reflection on their own instructional capabilities.

For Hypothesis 4 (H4), we surmised that Assignment Feedback (AF) would improve after instructors performed a self-reflection on their own instructional capabilities. Based on the results in Table 2, H4 was not supported. We found no statistical evidence to indicate that AF would improve after instructors performed a self-reflection on their own instructional capabilities.

For Hypothesis 5 (H5), we surmised that Quality Instructional Techniques (QIT) would improve after instructors performed a self-reflection on their own instructional capabilities. Based on the results in Table 2, H5 was supported. We found statistical evidence to indicate that QIT would improve after instructors performed a self-reflection on their own instructional capabilities.

Discussion

The two key research questions for this study are:

1. Does self-reflection contribute to one’s instructional effectiveness?
2. What areas of self-reflection best impact one’s instructional effectiveness?

Based on the aforementioned results, we conclude that, in part, self-reflection does contribute to one’s instructional effectiveness and that areas that best impact one’s instructional effectiveness are use of general discussion forums and application of quality instructional techniques.

Implications

These results affirm the assertions of Giaimo-Ballard and Hyatt (2012), that through routine reflection, instructors improved their own teaching practice. As a result, their students’ learning also increased. These findings align with what Stallions, Murrill and Earp (2012) indicated would lead to instructor’s effectiveness in the classroom. Specifically, in the use of general discussion forums, it is confirming that through the use of dialogue and reflection on the same, the instructors were able to gather important and relevant data on how best to reach their students. The same hold true for the area of quality instructional techniques. By routinely and consistently reflecting on one’s teaching techniques and strategies, there is a strong likelihood of increased effectiveness (VonDras, 2008).

Limitations

The menu of qualitative comments developed by COE was one of the limitations of this study. The study could not capture other qualitative information beyond that anticipated by the designers. Another limitation was that we could not control for professional development. While we tried to make the groups equitable, there was no way to account for outside variables such as professional development or other influences that could have impacted their practice, e.g., reading books or developing seminars to improve their practice. Additionally, we did not take into consideration the variable of the amount of experience of the instructor in teaching a course or how their life experiences might impact their teaching practice. The
question that can be addressed in a future study could be whether those instructors with more experience are more apt to reflect than those with less teaching experience.

Additionally, we note that there was a lack of social context. While instructors were given the opportunity to provide feedback about the tool, we could have improved the outcome (as suggested by Kotzee (2012)), by providing an opportunity for them to engage in dialogue about the process that they went through in conducting a self-reflection. Finally, the study was limited to online courses only.

Since each variable was represented by single-item measures, this study is also limited by lack of validity and reliability for each variable (UA, QFI, GD, AF, and QIT).

**Related suggestions for future research**

For future research we recommend that a longitudinal study be conducted to examine the effect of reflection over a longer period of time, e.g., more than two successive 8 week courses, as compared to the present study. Another recommendation is to replicate the study with the addition of a social context. Conducting this study will provide valuable information about the instructors' thought process and how that could have an impact on one's teaching effectiveness.

Future research should provide more delineation on the type of courses that are more accommodating to self-reflection. For example, instructors who teach quantitative courses may have different self-reflection responses as compared to instructors who teach literature courses.

We also recommend that future studies attempt to develop multi-item scales for UA, QFI, GD, AF, and QIT and attempt to obtain validity and reliability for each variable.

Lastly, we suggest that this study is replicated with instructors who teach in the hybrid or traditional settings. The results will provide information about what area of self-reflection are more prevalent in these learning modalities.

**Conclusion**

While the results of many research studies have affirmed the value of self-reflection by PREK-12 teachers as an important means of improving one’s pedagogical practices, very limited data about self-reflection exists for online instructors in higher education. This study provided relevant and applicable information, instrument, and data that demonstrated the significance of self-reflection in improving one’s pedagogical practice. This study aligned the PrePREK-12 best practices with higher education.

We conclude that when our higher education instructors demonstrate self-reflection, they are not only improving selected aspects of their own teaching practice, but additionally, they are modeling best practices for our teacher candidates who will eventually be teaching in the Pre PREK-12 arena.

**References**


Giaimo-Ballard, C., Key reflective teaching strategies used by education faculty in NCATE-accredited universities. Ed.D. dissertation, University of La Verne, United States -- California. Retrieved
December 8, 2011, from Dissertations & Theses: The Humanities and Social Sciences Collection.(Publication No. AAT 3447758).


Appendix

5 x 5 Online Course Reflection Tool
### Criterion 1: Relationships and Community

The Faculty is actively building a sense of community and building positive relationships in the Course Announcement Forum.

#### Associated Behaviors:

1. The Faculty uses course announcements to inform, motivate and engage the entire class.
2. The Faculty provides announcements that summarize the past learning outcomes.
3. The Faculty provides announcements to facilitate learning and promote student success.
4. The Faculty builds positive relationships in the online course room.
5. The Faculty builds a positive learning community in the course room.

#### Evaluation Scale:

- **1: Unsatisfactory**: Large gaps exist in all behaviors that maximize the sense of community and adversely impact the building of positive relationships.
- **2: Developing Proficiency**: All components are present but gaps still exist in promoting a positive learning environment or building positive relationships. The use of course announcements is evident each week but lacking in overall impact.
- **3: Proficient**: All behaviors are present without gaps. There is clear evidence of the effective use of announcements with fair impact on the learners. The Faculty is doing a good job of building positive relationships with the learners and a true learning community.
- **4: Highly Proficient**: All behaviors are clearly present without gaps. There is tangible evidence of the effective use of announcements to both facilitate learning and promote student success. Announcements not only summarize the previous week’s learning, but motivate and engage the learners in anticipation of the coming outcomes. The Faculty is doing an excellent job of building positive relationships and a dynamic learning community.

#### Evaluator Comments:


**Criterion 2: Questions for the Instructor Forum - The Faculty is providing timely and quality responses to Questions for the Instructor (QFI) forum.**

**Associated Behaviors:**

Place a Y in the box if the behavior is evident. Note: An N indicates there is no clear evidence of this associated behavior.

1. The Faculty uses the QFI forum to build course community.
2. The Faculty directs responses to questions in the QFI forum to the entire class.
3. The Faculty provides responses that are knowledgeable and instructive in nature.
4. The Faculty responds to student questions in a timely and supportive manner.

Note: Put an ‘X’ in the Yellow Highlighted Box that best describes the degree to which this Criterion is being accomplished.

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<td>All behaviors of this Criterion are present but large gaps exist and fail to provide the level of learner support desired. Faculty effort is incomplete or omits many of the requirements of the component.</td>
<td>All behaviors of this Criterion are present with minimum gaps. The faculty’s effort in this area is providing an acceptable level of learner support. The faculty effort appears to be complete with no omissions.</td>
<td>All behaviors of this Criterion are present with no gaps. The faculty’s effort in this area is providing an superior level of learner support. All aspects of the faculty effort is complete with no omissions.</td>
<td>All behaviors of this Criterion are being accomplished to a very high standard. There are no gaps in the work. The faculty’s effort in this area is providing an excellent level of learner support. There is a very high degree of community building evident in this forum.</td>
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**Evaluator Comments:**

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**Criterion 3: Faculty and Learner Engagement - The Faculty is actively engaged in the conversation and promotes critical thinking in Discussion Forums.**

**Associated Behaviors:**

Place a Y in the box if the behavior is evident. Note: An N indicates there is no clear evidence of this associated behavior.

1. There is clear evidence of well-vetted discussion forum threads with faculty involvement.
2. The Faculty asks higher-order critical thinking questions that elicit a critical response.
3. The Faculty asks follow-up questions that are varied, yet specific to the unit objectives.
4. The Faculty actively engages in the discussion and participation in scholarly conversations.

Note: Put an ‘X’ in the Yellow Highlighted Box that best describes the degree to which this Criteria is being accomplished.

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<td>All behaviors are not present. Faculty effort is incomplete and does not meet the requirements of the component.</td>
<td>All behaviors are not present. Several of the components are either missing or only partially accomplished.</td>
<td>All behaviors are present or addressed to some degree. Several are only partially accomplished. Small gaps are present that prevent the full engagement of the students.</td>
<td>All behaviors are clearly present, although not as comprehensively as in the “excellent” range. The Faculty is engaging most of the learners in the course room and is doing a good job of facilitating the discussion in the Discussion Forum.</td>
<td>All behaviors are clearly present and comprehensively evident. The Faculty is engaging all of the learners in the course room and clearly embraces both the spirit and letter of this criterion. The Faculty is doing a good job of facilitating both the discussion and the promoting deep critical thinking in the Discussion Forum.</td>
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**Evaluator Comments:**

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**Criterion 4: Learner Feedback - The Faculty is clearly providing quality and appropriate feedback for student effort and assignments.**

Associated Behaviors:

Place a 'X' in the box if the Behavior is evident. Note: An 'X' indicates there is no clear evidence of this associated behavior.

1. The Faculty uses the assignment grading rubric to evaluate assignments.
2. The Faculty provides quality feedback on assignments that is content-related.
3. The Faculty provides quality feedback that is APA and writing-specific.
4. The Faculty provides timely feedback and evaluation information.
5. The Faculty holds learners accountable for meeting performance criteria.

Note: Put an 'X' in the Yellow Highlighted Box that best describes the degree to which this Criterion is being accomplished.

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<td>All associated behaviors are not present. Faculty effort is incomplete and/or omits some parts of the associated behaviors.</td>
<td>All associated behaviors of this criterion are present but they are weak and limited in their impact on learners.</td>
<td>All associated behaviors of this criterion are present. Each is adequate in their impact on learners.</td>
<td>All associated behaviors of this criterion are present. Each is contributing in a positive manner to the overall quality of the course and the learning of the students.</td>
<td>All associated behaviors of this criterion are present. Each is contributing in a very positive manner to the overall quality of the course. The Faculty is doing an excellent job of providing timely, quality and appropriate feedback to all learners.</td>
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Evaluator Comments:

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**Criterion 5: Effective Instruction and Teaching - The Faculty is utilizing effective instructional and teaching techniques to promote learning and enhance student achievement.**

Associated Behaviors:

Place a 'X' in the box if the Behavior is evident. Note: An 'X' indicates there is no clear evidence of this associated behavior.

1. The Faculty uses personal expertise and experience to enhance the content learning.
2. The Faculty provides additional material to augment and enhance course content.
3. The Faculty provides an end-of-module summary of the week's learning.
4. The Faculty "sets up" the upcoming module by linking new learning.
5. The Faculty engages in the dialogue and conversation with and between students.

Note: Put an 'X' in the Yellow Highlighted Box that best describes the degree to which this Criterion is being accomplished.

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<td>All behaviors associated with this Criterion are not present. Faculty effort is incomplete or omits many of the requirements of the component.</td>
<td>All behaviors associated with this Criterion appear to be present but Faculty effort is incomplete or exhibits gaps in many of the requirements of the component.</td>
<td>All behaviors associated with this Criterion are present. Faculty is trying to use personal expertise and experience to enhance course content. There is some evidence that they are engaged in dialogues with and between Students in the discussion forum.</td>
<td>All behaviors associated with this Criterion are clearly present. Faculty is doing a good job of using their personal expertise and experience to enhance the course content. They are engaged in the dialogue with and between Students in the discussion forum.</td>
<td>All behaviors associated with this Criterion are clearly present. The Faculty is doing an excellent job of using their personal expertise and experience to enhance the course content. They are clearly engaged in the dialogue with and between Students in the discussion forum.</td>
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Evaluator Comments: