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## **Improving Online Teaching Effectiveness through Reflection and Collaboration**

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### **Abstract**

The purpose of this study was to analyze the impact of active reflection and collaboration as a method to improve teacher effectiveness in the online environment in higher education. While there is no universally accepted definition of effective teaching for higher education, there is research that supports effective online teaching. These principles, paired with research on active reflection and collaboration, provided a foundation for this case study that resulted in determining that active reflection during teaching improved practice.

The quality of teaching and learning at institutions of higher learning is drawing increasing attention on a global level especially within the context of the current economic realities (Devlin, 2007). Interestingly, there appears to be no universally accepted definition of effective university teaching, and the criteria for quality teaching continues to be elusive (Chalmers, 2011; Johnson & Ryan, 2000; Paulsen, 2002). Getting a consensus for the definition of effective teaching is problematic, because there continues to be great variation in the criteria used to judge academic performance (Hardre & Cox, 2008). According to Devlin and Samarawickrema (2010), “While the individual department, faculty and institution has its specific contextual impact on teachers, teaching, students, and learning,

so too do wider and more complex societal, political, economic, technological, and demographic change forces” (p. 118). These change forces include managing and addressing multiculturalism and diversity, providing for the increasing expectations of online learning environments and the technologies associated with it, and federal and state legislative mandates.

Despite the daunting challenges to defining effective teaching for higher education, there is a growing need to provide evidence that effective teaching is taking place in institutions of higher learning. Institutions supporting such research agendas can provide the evidence for external constituents. This study attempts to respond to the challenge. The purpose of this study was to analyze the impact of active reflection and collaboration

as a method to improve teacher effectiveness in the online environment.

### Theoretical Background

#### Active Reflection

Reflection is a dynamic process key to teacher learning and development (Shulman & Shulman, 2008). Reflective practice means decisions are well informed by experience and knowledge, actions are carefully considered in terms of their outcomes, and subsequent decisions are refined by further reflection. Active reflection is not new to education. John Dewey discussed this concept as a process of deliberate thinking or thoughtful pondering that generates “intelligent action” (Dewey, 1933, p. 17). The ability to think about past, current, and future actions is commonly known as “reflective practice.” The purposes of reflective practice are specific for both candidates and faculty:

- to enhance personal growth and development
- to increase the understanding of how students learn
- to help teachers assess which teaching strategies are more effective under which circumstances (Hubball, Collins, & Pratt, 2005).

Reflection on teaching practice actively engages teachers in making meaning. When we teach, we are using parallel processing to reflect on teaching as we are in the midst of the act of teaching (Caine, 1991).

Reflective practice at the university level has become more prevalent (Cranton, 2001; Gay, Mills, & Airasian, 2006). In teacher education programs where we are asking pre-service candidates to reflect on their practices, it becomes all the more important for instructors to be reflective practitioners (Bellara & Hibbard, 2010). Modeling thoughtful reflection and using a transparent process provides candidates with in-depth

understanding of the theoretical, application, and implementation aspects of active reflection.

#### Effective Teaching Online and On Ground

While there is no universal agreement concerning the definition of effective teaching in higher education, there is a body of research concerning student success and the characteristics of effective online teaching and learning in the higher education setting. Chickering and Gamson’s (1987) Seven Principles framework, based on face-to-face learning environments, states that student success is correlated to instruction that includes student-faculty contact, encourages collaboration among students, creates active learning, gives timely feedback, emphasizes time on task, communicates high expectations, and respect for diverse talents and learning styles. Instruction is then an active and collaborative process involving both the teacher and the student where high expectations are clearly communicated. Subsequently updated for distance education by Chickering and Ehrmann (1996), *Implementing the 7 Principles* has strongly influenced the development of contemporary research related to best practices and effective virtual classroom instructional strategies for use in the online environment. The authors suggest new technologies are simply tools that, when aligned to the original seven principles, can effectively support good teaching. The seven principles research has gone on to impact “guided inquiry into the educational consequences of new communication and information technologies” (Chickering & Gamson, 1999, p. 79).

Educational researchers are in general agreement that interaction is a key component for student learning and satisfaction with distance education courses

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(Fabry & Schubert, 2009; Gayton & McEwen, 2007; Levy, 2008). Mahle (2007) clearly summarized interactivity research by stating that, “Instructors need to be cognizant of incorporating a significant amount of interactivity into their courses” (p. 49). Citing results from a study on the importance of interaction to student learning within web-based online learning programs, Sher (2009) noted that, “Student-instructor interaction and student-student interaction were found to be significant contributors of student learning and satisfaction” (p. 102).

Instructor presence is another variable contributing to student learning (Dennen, et al., 2007). Presence is perceived as both a concept of being active in the course and being available to students. Active involvement by instructors includes communication via e-mail, announcements, and assignment feedback, as well as participation in discussions (Fabry & Schubert, 2009).

### **Effective Teaching Practices in P-12**

The shift from teacher quality to teacher effectiveness has been a recent conversation in P-12 learning environments. Stumbo and McWalters (2011) define teacher quality as “how well teachers know their content as measured by the postsecondary courses they have taken” (p. 10). Teacher effectiveness, however, focuses on how well teachers interact with students to increase student learning. This shifts the focus away from inputs to outcomes. Danielson (2011) suggests that reflection and self-assessment are integral elements to the teacher effectiveness equation. She states:

Abundant evidence from both informal observation and formal investigation indicates that a thoughtful approach to teacher evaluation – one that engages teachers in reflection and self-assessment – yields benefits far beyond the important goal of quality assurance.

Such an approach provides the vehicle for teacher growth and development by providing opportunities for professional conversation around agreed-on standards of practice (p. 39).

In his book, *Qualities of Effective Teachers*, Stronge (2002) presents research findings and recommended practices focusing specifically on the characteristics of effective teachers in the P-12 setting. He presents how background, professional preparation, interpersonal skills, attitude, reflective practice, management and organizational skills, communication, instructional knowledge and skills, and pedagogy all combine to create a portrait of an effective teacher. It is not a far reach to think these qualities are applicable to effective teaching at any level.

Indeed, translating Stronge’s work, as well as the research on effective teachers, to the higher education environment provided a starting point for a self-reflection study to test the hypothesis: Does self-reflection, combined with collaboration, impact online teaching? The observation checklist Stronge (2002) developed was adapted as a self-analysis tool used to identify areas of teaching strength and need which were then aligned to the research on effective online teaching. The merging of these elements provided a strong research base for analyzing online pedagogical skills.

### **Coaching as Added Value**

The studies on professional development point out the essential components for successful acquisition of new skills: reflective practice, a safe environment that supports risk-taking, and ongoing feedback for improvement (Putman, Smith, and Cassady, 2009). Truesdale (2009) states simply participating in professional development does not change teacher practice. Bush (1984), in a five year

longitudinal study, found if teachers were simply given a description of the practice, there was a 10% implementation rate. When teachers received description, modeling, practice, and feedback, there was a 16% to 19% implementation rate. When coaching was added, the rate jumped to 95%.

Truesdale (2009) completed a study with 20 teachers who received traditional staff development. Ten of the teachers received peer coaching, and the other ten did not. Over the course of 15 weeks, those teachers who received peer coaching implemented the new skills while, the ten who did not lost interest and did not implement the new strategies. Peer coaching does make a difference in teacher practice.

### **Putting it Together**

In order to personally experience the potential of active self-reflection paired with coaching, the authors spent a year applying the concepts in their own teaching and learning situations. Teaching and scholarship are two of the three areas that comprise the Faculty Development Plan, which is required of all full-time faculty each year at the authors' university. A specific question asked in the annual plan is: How do you plan on improving teaching during this academic year? Traditional responses to this inquiry include peer and supervisor observations and (passive) self-reflection. We added an additional element for the 2010-2011 academic year: active reflection through journaling and peer dialogue. The results of the year-long journey provide insights into thoughtful pondering and collaborative conversations for improving pedagogy in higher education.

### **Methodology**

The methodology used to answer the research question, "Does self-reflection, combined with collaboration, impact online

teaching?", was an inquiry method (Cochran-Smith, Barnett, Friedman, & Pine, 2009). The researchers were both participants and researchers in the study and co-constructed knowledge throughout the process (Mills, 2010). The two researchers/participants are professors at a private non-profit university in California. At the beginning of the study, each research participant completed a pre-teaching self-assessment based on the research of Stronge (2002) about the qualities of effective teachers. The process of revising the Stronge (2002) checklist to better align with the research on effective teaching in the online learning environment was the first step in creating a tool for self-analysis. After the tool was developed, each researcher/participant completed the checklist adhering to the directions for self-rating. Table 1 shows the results of the self-analysis for each researcher. This information was then used to develop a Teacher Effectiveness Plan.

In the Teacher Effectiveness Plan, using the indicators from Table 1, a narrative accompanied the self-report checklist providing more in-depth analysis and details for each indicator. For example, the first indicator for researcher one, engages in reflective practice to improve teaching, explained the current status of the indicator with insights into why this was an area for growth. Specific instructional strategies were then selected to address the indicators. This information was captured in the journals that were one of the primary sources of qualitative data for the study.

Since courses are delivered in a one-month accelerated format at this university, at the end of each week, each researcher/participant completed a journal entry. This journaling included reflection on the Effective Teaching Plan, focusing on what strategies worked, what areas caused challenges or concerns, and identification of

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the elements of teaching for focus for improvement the following week.

Table 1  
*Results of Self-Analysis Checklist*

Results for Researcher 1
1. Formalize self-reflection to improve my teaching practice. Indicator: Engages in reflective practice to improve teaching Rating: ME Marginally Effective
2. Learn how to actively listen in the online environment. Indicator: 'Listens' actively Rating: E Effective
3. Increase my passion for the content area. Indicator: Shows passion for content area Rating: E Effective
4. Learn how to connect prior knowledge to new concepts online. Indicator: Connects prior knowledge to new concepts Rating: E Effective
5. Differentiate instruction online. Indicator: Differentiates instruction Rating: E Effective
Results for Researcher 2
1. Frequently checks for understanding using a variety of techniques Indicator: Checks for understanding Rating Marginal Effective
2. Develops a personal relationship/interest in students while maintaining professional boundaries Develops personal relationships. Rating Effective
3. Is fair and consistent in grading Indicator Fair and consistent grades Rating Effective
4. Sets high expectations for learning that includes stressing student responsibility and accountability. Indicator: Clear expectations and student responsibility. Rating: E Effective
5. Differentiate instruction online. Indicator: Differentiates instruction Rating: E Effective

The researchers/participants provided each other with access to their respective

online courses and communicated via e-mail and in person to share their experiences, discuss challenges, and provide peer coaching. When a strategy was challenging, adjustments were made based on the discussions and coaching between the researchers. These practices were reflected in the journaling process. This process continued for each of the three courses selected by each researcher for this study. As new data became available each month, the researchers analyzed the information and made modifications to their teaching based on the feedback. The data collection process in the next section provides insight into the multiple layers of data collected for the study that impacted pedagogical decisions.

### Data Collection

Multiple data sets were collected using both qualitative and quantitative methods for each online course. The qualitative data included: a) the researcher/participants' reflection journals, b) students' reflections via the Student Reflection and Course Feedback Form devised by one of the researchers, c) students' End-of-Course comments, and d) students' responses to the final Discussion Board prompts. The researchers' journals included responses to four questions concerning the areas for growth identified from the self-analysis checklist. The researchers analyzed what worked well, what was challenging, questions that arose, and what changes would be needed for the subsequent time period. In addition, e-mail communication between the researchers as well as face-to-face discussions were captured in the journals.

Students were asked to reflect on the impact of the instructional strategies and practices on their learning. Questions were phrased to align with the indicators in order to ascertain the effectiveness of the strategy

(see Table 2). End-of-Course comments from students provided another student input area. The most in-depth student feedback resulted from the final Discussion Board prompts that asked students to reflect on how the concepts in the course had impacted their own teaching. In the Discussion Board, students interact with their peers as well as the instructor. This interaction permits others to ask clarifying questions and to seek additional feedback.

Quantitative data came from the Student End-of-Course Evaluations, a survey developed and approved by the Faculty Senate. These evaluations are completed on a voluntary basis. The Office of Institutional Research and Assessment

(OIRA) collects the data to ensure student anonymity. Students are encouraged through announcements and via e-mail to participate in this process. The assessments are comprised of four sections: Student Self-Assessment of Learning, Assessment of Teaching, Assessment of Course Content, and Assessment of Web-based Technology. For this study, the focus was on the Assessment of Teaching section, which has 16 items. Of those 16, 10 were determined to align with the effective teaching research and the teaching plan indicators (See Table 2). Researcher 1 had a total of 61 students in 3 courses with 41 or 67% completing the evaluation. Researcher 2 had a total of 29 students in 3 courses with 17 or 58.6% completing the evaluation.

Table 2  
*Evaluation Item, Indicator Alignment, and Evaluation Score*

Researcher 1 Evaluation Item	Teaching Plan Indicators Alignment	End of Course Student Evaluations Averages out of 5.0
6. Instructor stimulated critical thinking.	2, 4, 5	4.82
7. Instructor encouraged students to think independently.	2, 4, 5	4.85
8. Instructor was available for assistance.	2, 5	4.81
9. Instructor provided timely feedback on my work.	2	4.80
10. Instructor provided useful comments on my work.	2, 4, 5	4.83
11. The instructor was an active participant in this class.	2	4.85
12. Threaded discussions were useful.	2	4.56
13. Chat sessions were useful.	2	4.46
15. Instructor responded promptly to emails and communications	2	4.78
16. Overall, the instructor was an effective teacher.	1, 2, 3, 4, 5	4.85
<b>Researcher 2</b>		
6. Instructor stimulated critical thinking.	1, 4, 5	4.47
7. Instructor encouraged students to think independently.	5	4.58
8. Instructor was available for assistance.	1, 2, 5	4.75
9. Instructor provided timely feedback on my work.	3	4.63
10. Instructor provided useful comments on my work.	1, 2, 3, 4, 5	4.42
11. The instructor was an active participant in this class.	2	4.65
12. Threaded discussions were useful.	1, 2	4.38
13. Chat sessions were useful.	1, 2	3.8
15. Instructor responded promptly to emails and communications	2	4.61
16. Overall, the instructor was an effective teacher.	1, 2, 3, 4, 5	4.64

### **Data Analysis Process**

The first step in this study was to determine the areas where each researcher needed to focus her efforts on improving pedagogy. The tool used for this was a modification of the Stronge Teacher Effectiveness Checklist previously discussed. Items relevant to teaching in higher education were selected from the checklist to create a more aligned tool. Each researcher completed the checklist. The self-analysis process resulted in identification of specific indicators (See Table 1). These data became the foundation of the Teacher Effectiveness Plan developed by each researcher. The researchers discussed the indicators, asked probing questions, and came to consensus on the results.

The data analysis process for this study utilized both the qualitative and quantitative data collected from the three month time periods when the courses were taught. However, data analysis also occurred during the teaching time. The five indicators were reviewed by each researcher weekly to determine progress or need. Each week during the first course and biweekly thereafter, the researchers/participants responded to the open-ended items. The coding of the data was then completed after all three courses had ended and follow-up student survey results were available. The coding process was employed to systematically sort and organize the data in alignment with the indicators. Coding was recursive, rather than linear, to seek valid information and triangulation.

The process for analyzing the data began with each researcher independently coding both the qualitative and quantitative data. Matrices were developed for consistency of data organization. The initial coding into indicator categories used the constant comparative method. Initially each of the three months' data were coded separately by

each researcher. After the researchers completed the initial coding, they met to complete a focused coding that first compared the data across their own three months and then across both researchers' combined six months. This process identified patterns and the most significant information in alignment with the indicators for each researcher as well as their combined results. The researchers then collaboratively wrote a draft of their findings.

### **Findings**

The purpose of this study was to analyze the impact of active reflection and collaboration as a method to improve teacher effectiveness in the online environment. The collection of both qualitative and quantitative data provided rich data sources. The self-analysis process resulted in identification of specific indicators that became the focus of improvement and led to a formalized, active reflection teaching practice. The combination of the plan and active reflection together with ongoing conversations and coaching kept the researchers on task. Taking the time to thoughtfully reflect on identifying what went well and what provided a challenge allowed time to focus and clearly plan teaching based on evidence. The reflections moved from handling student logistics to deeper issues concerning student learning.

Prior to this study, both researchers struggled with the challenges of online teaching to provide interactive student-centered learning environments. The effective application of the live chat tool was particularly perplexing. Average scores from previous courses for the researchers ranged in the 3.6 to 3.8 levels and student comments indicated dissatisfaction with the application of this tool. For one researcher, providing timely feedback was a challenge

and students commented on the need for meaningful and timely feedback to improve their work. Student ratings averaged a low 3.2 to 3.4 for this area. Previous student End-of-Course Evaluations and comments provided data supporting the indicators identified via the Self-Assessment Checklist process. The data in Table 2 show an increase in student rating scores, and the student comments provided additional feedback that were both supportive and corrective.

By clearly identifying the indicators for growth, each researcher had a targeted teaching focus for improvement. The collaboration time between the researchers provided the opportunity to give and receive candid critiques, share ideas for correcting issues, and question assumptions. The active reflection and collaboration process worked to improve teaching practice for the researchers in this study. The process of identification of indicators for teaching improvement, active reflection through journaling, support via multiple communication methods, and peer accountability resulted in focused practice to improve pedagogical skills and knowledge. For this process to be effective, a high level of mutual respect and trust are needed.

A major example of how this worked was the ongoing discussion concerning struggles with the implementation of the live chat tool, Class Live Pro. All faculty in the School of Education are required to use this tool. A major concern was with effectively using live chat for increasing student interaction. This aligned with indicator 5 for both researchers, differentiates instruction. One way to differentiate instruction is to provide students with alternative ways to express themselves. The researchers talked about the barriers, researched strategies, took additional professional development, and used results to inform next steps.

During the month of July, one comment in the researcher's journal stated,

“Indicator 1: Formalizing my own self-reflection to improve my teaching practice. I liked having specific goals to focus on to improve my teaching. The weekly conversations with my peer are invaluable. Class Live Pro continues to perplex us. I had only eight of my 22 students join the session. While they said they really enjoyed it, I would like to know what are the barriers to other students' use? How do I better employ this tool?”

In the follow-up phone conversation, the researchers found they both were struggling with effective implementation of live chat, so they brainstormed ideas. Suggestions included offering students a choice of days and times for the chat sessions, breaking the sessions into interest groups by topics, adding points to the course for participation, and seeking outside assistance. During this study, they implemented these and other strategies and shared successes and disappointments. From the October researcher journal:

“The Class Live Pro discussions were improved this month. While only five students participated the last two weeks, those five enthusiastically shared implementation ideas they were actually using in their classroom. The End-of-Course evaluations stated that they wished more students would have participated.”

One student commented,

“Although I didn't have a microphone, I was an active participant in weekly live chats by instant messaging. I found this to be an effective discussion tool among my classmates, however, low student participation in the chats was disappointing.”

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In her journal, the researcher stated,

“I added the choice option this month and did not have good results. I will add another strategy for my next course.”

The conversations surrounding this issue continued between the two researchers, and finally, more positive results happened. From the November journal notes: What went well this month?

“I think I should start with Class Live Pro. The live chat sessions were meaningful, engaging, and fun this month. Eleven of the 18 students joined the first chat. After a robust conversation, the students themselves selected the day and time for the next session. The next three sessions were dynamic.”

The End-of-Course Evaluations clearly showed they enjoyed the live chat. What made the difference? The continuous focus on improving teaching, a trusted peer to share ideas and concerns, the ability to discuss the challenges, the shared thinking, the brainstorming, the implementation, the data to inform next steps, and the open-minded support for growth all contributed to positive changes to pedagogy. This is just one example of how this collegial active reflection and collaboration process changed teaching. The same process was applied to each indicator with positive results.

Teaching is normally a solitary endeavor. The collaborative environment created by peer support, coaching, and accountability created the opportunity to move from isolation to inclusion. This concept of inclusive practice led to more conversations about what constitutes effective teaching practice.

### **Limitations**

One limitation of the study was the size for this research. The case study was conducted by two researchers in three courses for each. A self-assessment tool was created from an existing research-based

product. It was not, however, validated.

This validation needs to be completed for future research. While the process of formalizing self-reflection to improve teaching practice was valuable, it needs more study. Accountability for these researchers resulted in a higher degree of focus on indicators identified for improvement. Duplication of this study on a larger scale is needed to determine if this is a viable tool to determine effective teaching in higher education. If higher education is to defend its teaching effectiveness, it would be prudent to have research that supports how data are used to inform effective teaching.

### **Conclusion and Recommendations**

The purpose of this study was to determine how active reflection and collaboration impact teacher effectiveness. As Hubball, Collins, and Pratt (2005) stated, reflective practice provides the instructor with authentic data to inform practice. These formative data allow for the immediate adjustment of teaching methods to increase the effectiveness of teaching strategies. During this study, the implementation of a thoughtful, active reflection process paired with collaborative analysis, coaching, and feedback resulted in positive changes to teaching for both researcher/participants.

Reflection scheduled at specific intervals throughout the course allowed for deliberate thinking that generated intelligent action (Dewey, 1933) that translated into immediate changes in practice. Taking the time to analyze collaborative and student feedback both during the course and at the end of the course allowed for informed changes to practice. This conclusion was one that was also supported by Shulman & Shulman (2008). Journal reflections from the beginning of the study to the end indicated the researchers reflected on

elements from their teaching plans and discussed how changes that had been implemented resulted in more effective teaching practice. As stated earlier, Danielson (2011) suggested that reflection and self-assessment are integral elements to the teacher effectiveness equation. Reflection on practice includes the ability to look at a number of data sources and make informed decisions about practice.

Both researchers found that being accountable to each other and working in a collaborative method was an asset in the improvement of their practices. In addition, there were select coaching strategies used to support each of the researchers as they implemented new skills. By adding coaching and collaboration to active reflection, teacher practice was improved.

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