

# Traditional vs. Online Literacy Methods Courses: Comparing Student Teachers' Understandings and Applications

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Like faculty members at many universities, we were encouraged by our administration to design new high quality online courses and to also move segments of existing courses online so that we could serve a larger population and offer students more flexibility to participate and learn in an information-rich technological environment bridged from the university—commonly known as “hybrid” coursework (Spooner, Jordan, Algozzine, & Spooner, 1999). As we pondered the whys and hows of online teaching and learning, we wondered if we could provide the same quality instruction about the teaching of literacy to teacher candidates electronically as we had been doing in our university classrooms.

The success of our traditional preparatory programs are formatively evaluated as each graduating class of students takes the state-administered Reading Instruction Competency Assessment Test (RICA) and also as local districts call requesting our graduates because they find them well prepared to teach in general and especially able to teach literacy. To date our students have a 98% pass rate on the first administration of the RICA. Consequently as a faculty we labor over what should be included in every semester hour of their state mandated 42-43 semester units of post baccalaureate teacher preparation.

Elementary Reading/Language Arts Methods is one of the most frequently taught courses in the School of Teacher Education, with approximately 11 sections offered each semester during an academic year to 300 plus students who are preparing to become elementary school teachers. All of these elementary, preservice students must complete this six-unit, two semester course as part of their credential requirement; 3 semester units or 45 instructional hours of the total is offered each semester.

Before institutionalizing a full three-unit online section of this course, we decided to design and study the power of a segment of online instruction within the course. Of paramount concern was that we needed to be sure that at the very least there would be no negative effects on the student teacher’s learning within the online environment. We also decided to assess the online effectiveness by comparing it with the existing in-class instructional delivery that was presented by members of this university faculty. To this end we studied the effectiveness of three modules of instruction, each of which focused on key aspects of early literacy assessment that informs instructional practice. These modules were taught

to the control groups by university faculty within a traditional classroom experience and to experimental groups through three online modules of instruction developed by the same faculty members.

## *Theoretical Framework*

The theoretical framework for this study was informed by others linking online learning, student engagement, the redefinition of the teacher’s role, and a student’s knowledge base (Coiro, 2005). Developing student-friendly online instruction without compromising its quality seemed viable because of the expansion of our knowledge of the power of online delivery systems that has emerged in the last decade (Johnson, 2004; Smith, Smith, & Boon, 2000).

The time seemed ripe for this study. We agreed that we must continue to expand our understanding of online teacher preparation in order to accommodate the knowledge and experience bases of our full-time preservice students. This population was mostly comprised of “digital natives,” defined as the contemporary students under the age of 28 who have never known a time when there were no cell phones and the Internet was always part of their lives (Prensky, 2001, 2005). Like most university faculties we can be referred to as the “digital immigrants,” those born prior to the digital age. With this realization we believed it was imperative that we confront the native/immigrant divide by studying and designing programs that realign the content with existing technology. We have realized as a faculty that we cannot simply follow our students into the digital age; additionally, we do not need to be masters of everything technological to make good use of ICTs (Information and Communication Technologies) in our classrooms programs and classrooms.

Perhaps the lines between the natives and immigrants are getting more blurred or students are simply demanding that their teachers know and use technology. A recent study noted that of tech-savvy teachers, 57 percent were female and 80 percent were over 40 years old with 10 years or more of teaching experience. Slightly more than half worked at the elementary level (Schrum, Shelley, & Miller, 2007). Similar teachers are looking to the university for comparable possibilities, expertise, and digital engagement.

Their requests are being met as evidenced by the fact that online delivery as a common medium has occurred with 81% of universities offering one or more online or blended courses (Bourne & Moore, 2003). This number

continues to grow as students develop a preference to take online classes, and have a high level of engagement and satisfaction with them. (Dell, Hobbs, & Miller, 2006; Frankola, 2001; Mills, 2003; Palloff & Pratt, 2003; Roblyer, 1999; Swan, 2002; Watts, 2003). Is this any wonder when, as a world, we are connected electronically to more than one billion people who are reading something online (deArgaez, 2006)? The popularity of online learning suggests that the role of the teacher must be redefined in order to accommodate student participation and learning in a digital environment (Aytekin, Fahme, Zehra & Fahriye, 2004; Harasim, 1990; Khan, 1997; Serdyukov & Ryan, 2002).

While information detailing best practices for online delivery is abundant (Ausburn, 2004; Pelz, 2004) the specifics of how to offer, administer, and evaluate online teacher preparation courses and programs are sparse. Questions such as what content is appropriate, what technology can best support videos or virtual visits of inside classroom practice that can be used for modeling, teacher student dialogue, peer conversations, and evaluation practices are common points of discussion. Add to this the fact that many faculties are being asked to develop these programs in addition to their existing teaching load, while being offered few resources. Is it any wonder that research on online teacher preparation programs is sparse?

Students involved in online learning have been studied and discussed far more than their teachers or student teachers. How to ensure effective instruction for them is continuously studied with the question of whether students are learning content or merely cheating in cyberspace as the focus of several investigations. Researchers have explored the effects of online courses related to students' knowledge bases and whether academic integrity and honesty have gone by the wayside (Kasprzak & Nixon, 2004). While several studies have shown that there is no significant evidence to indicate that online learning is disadvantageous to students (O'Brien, 2001; Russell, 2001; Taniguchi, 2003), this is an area that needs continued study.

While students and online learning are variables that are receiving attention, additional studies are needed that focus on the preparation of their teachers through online learning. Teachers must be at least as knowledgeable as their students about the impact of online learning. This study advances this understanding of the power of online instruction by investigating its positive potential as an instructional segment of a professional teacher preparation literacy methods course.

## Methodology

### Participants

One hundred and fifty elementary teacher credential candidates were the participants in this study. All had completed a comprehensive undergraduate degree and were enrolled in this three-unit elementary reading methods course (45 hours of instruction) while student teaching in

public schools. Eighty-five percent (85%) of these future teachers were Anglo females ranging in age from 22-27 years. An additional 14% were Hispanic, Asian, and African American females of the same age and 1% was Anglo, Hispanic or African American males of the same age. These 150 participants were enrolled in the first semester reading methods course during the semester in which we conducted the study.

Three literacy professors with a range from 5 to 20 years of experience teaching this course were the instructors of record. Three additional professors, also members of the literacy faculty of this university, served as evaluators.

### Procedures

As shown in Table 1 a total of five sections of the Elementary Reading/Language Arts Methods course were involved in this study. Two of the three instructing professors taught two sections; one that was randomly designated as a control and one designated as experimental. The third instructing professor taught one section of the class which was designated as experimental.

**Table 1 Participants**

University Faculty	Experimental-Online Instr.	Control-Traditional Instr.
A	x	x
B	x	x
C	x	

*Control groups.* Each control group of preservice teachers received all of their instruction, including the targeted six hours, or three two hour segments through face-to-face instruction by one of the participating three professors. These six hours of assessment-to-practice instruction contained the same content and demonstration as that modeled in the online segments of the course. Topics addressed included issues related to student assessment-to-practice theory, demonstration, and reflective practice. As illustrated in Table 2 control group candidates had no access to the online modules. All control and experimental groups completed the same pre/post assessments.

**Table 2 Instruction**

Experimental Groups	Online	Traditional
A	x	
B	x	
C	x	
Control Groups		
A		x
B		x

*Experimental groups.* The experimental groups of preservice teachers were taught the same content about early literacy assessment-to-practice instruction through three two-hour online instructional modules. The modules modeled how a teacher administers a battery of early literacy assessments to one child and then interpreted the resulting data. Also shown was how the teacher used the resulting data to make instructional and grouping decisions and provided subsequent instruction to the individual within a

small group setting that would function within regular reader's workshop type of classroom where the teacher used flexible grouping practices to accommodate student differences. Additionally in the final segment of the module the teacher who administered the assessments and taught the small group lessons participated in an interview designed to make her reflective teaching processes apparent to viewers.

Each module began with a 9-point pre-assessment of the information that was addressed in the module. This was followed by online readings and activities to build the preservice teachers' declarative knowledge base. The next phase of the module highlighted the procedural knowledge needed to assess and teach the featured literacy element. The final phase of the module showed and discussed a tutorial by the teacher about using the assessment data to make teaching decisions. A post-assessment followed which was an alternate form of the pre-assessment.

### **Data Sources**

*Pre-Post Assessment of Knowledge:* All preservice control and experimental teachers completed a nine-item pretest designed to assess their knowledge of the information that would be addressed either in class or online. During the last class meeting students in the control group completed an alternate form post-assessment of the same information assessed in the pretest. Those in the online environment completed the same post-assessment online using a feature that allows for post-test questions to be administered.

*Case Studies:* All candidates completed a case study of one child, which included assessment-to-instruction practices. Teacher credential candidates were also required to produce a video of their small group instruction with a reflection about their success in teaching a group of students. To prepare for this, all candidates were given a six-part rubric that corresponded to the instruction they had received either in the online or in-class environment.

*Interviews:* Interviews were conducted with a random sample of 20 students, ten from each of the control and experimental composites, to assess their attitudes about learning from online instruction.

### **Data Analysis and Findings**

*State-mandated Reading Assessment:* The RICA is a high-stakes assessment of multiple subject credential candidates in California, meaning that those who do not pass the test are not able to obtain a teaching license. The students in both the online and in-class environments passed the test at a rate of 99%.

*Pre/Post Assessments:* An analysis of variance was used to determine the degree of difference in growth that occurred between control and experimental groups taught by each professor and among control and experimental groups taught by all professors. We used ANOVA rather than multiple t-tests to avoid an inflation of Type I errors. Results

indicated that while there were significant degrees of growth within each group. The experimental group increased from an average of 2.2 to 7.8 ( $F=518, p<.001$ ) and the control group increased from an average of 2.4 to 7.7 ( $F=191, p<.001$ ). However, there were no significant differences between groups after receiving online or in-class instruction ( $F=.09, p<.75$ ).

*Case Studies:* Case study rubrics consisting of a 1-5 scale were designed and used to score the student-produced videotapes of their teaching. Evaluators assessed each student teacher's video to determine if the candidate had successfully planned and implemented instruction based on the collected student data. A score of 5 indicated very successful assessment to instruction practices. These videos were randomly distributed between two evaluating professors who had not participated in the teaching. Inter-rater reliability was established at .82. The case study video scores were analyzed using ANOVA. No differences between groups were evidenced ( $F=.31, p<.57$ ).

*Interviews:* Two interviewers reviewed all responses from the interviews, coding data into categories of factors that emerged from the participant responses (LaCompte & Preissle, 1993). While frequency of factor (answer) occurrence was noted, each of the interviews was viewed as a case study. The majority of students stated that they preferred to have some portion of a class online because of the independence this afforded them but they also enjoyed the community of the university classroom. Statements from the experimental group conveyed how much they enjoyed having this assessment-to-instruction module online so that they could return to it whenever they wished. They felt that the inclusion of the instructional videos had made this online experience very different from previous ones and would ensure better knowledge of this information over time.

### **Discussion**

Findings from this study suggested that carefully designed online instruction is as equally effective a means of providing instruction to credential candidates as is in-class instruction provided by a university professor. We believe one factor of importance was that the same professors designed both types of instruction, which held constant the content information. If attempting a similar design we suggest that this team planning become common practice within other departments in Colleges of Education.

Although the time of instruction was designed as a constant, students who experienced this learning online reported that they were able to refer back to the content often in preparation for teaching and videotaping their instruction. This allowed them continuous access to this information to refresh their memories about the assessment to instruction content that was sometimes presented several weeks before they saw or presented

its application in their classroom placement. They stated that they felt secure knowing that when their master teachers asked them to implement similar assessments and subsequent instruction they could return to the modules to review the instruction provided by the online teacher.

They also noted that viewing the teacher administering the assessments and then discussing how she was making instructional decisions was extremely helpful. They felt that the thinking aloud done by the teacher during the discussion with the interviewer cemented for them why the teacher had made the instructional decisions. Finally they reported that seeing the teacher work with the same child in a small group advanced their understanding of the phrase *assessment to instruction practice*. They felt that being able to visualize what they were reading about in their texts and course study materials offered them the practice model they needed. Many of these students who have recently returned to the university to begin work on their MA degrees have offered unsolicited comments about the effectiveness of the online modules, which they used again as beginning teachers and shared with their colleagues.

As previously stated we were concerned that the online learning environment would negatively impact student learning. Like other university instructors we worried that if we didn't share the material in a traditional class setting our students wouldn't learn it. Much of the reluctance to institute online learning segments at our university has been attributed to concerns that student learning would be compromised and would result in a greater number being unable to obtain a teaching license.

We were pleased to have our concerns allayed. Both the control and treatment groups passed the high stakes test administered by the state. Their equally strong performance was further confirmed in the formative measures of learning—the pre/post assessments and results of the case studies. These findings paralleled the meta-analysis of comparative studies of distance and face-to-face learning conducted by Zhao, Lei, Lai, and Tan (2005) that “confirmed no significant difference” between the two types of delivery (p. 1854).

*Post reflection.* As a department we continue to discuss the student interviews, which we found to be the most enlightening since they presented the credential candidates an opportunity to discuss the quality of the experience. The instructional content was complex—administer assessments at a level of technical proficiency, analyze the results, and design and implement literacy instruction. Students in the online environment confirmed that they took advantage of the availability of video segments to review technical

aspects of assessment administration, especially running records (Clay, 2005). This is consistent with Smith, Smith, and Boone's (2000) findings that students in an online environment use tools in this manner to support their own procedural learning.

Additionally, students in the online environment expressed satisfaction with the experience, and noted that they liked the convenience and flexibility of time allocation. We approach these findings cautiously since student satisfaction with online learning is in a state of flux. We recall a time not long ago (but eons ago, in technology-years) when students reported being tense and unsure of how to learn online. However, with each passing academic year the students who arrive in our university classrooms are increasingly adept at using digital technologies. As they have become more comfortable with the technology, they are increasingly looking critically at the quality of their learning experience. According to the National Online Learners Priorities Survey (Noel-Levitz, 2006), while students most frequently cite convenience as their chief reason for enrolling in classes with an online component, they also name lack of instructional quality as the biggest problem. In other words, the 34,000 university students surveyed have moved beyond being satisfied with mere availability and are increasingly willing and able to judge the learning experience.

Determining the types of experiences necessary for an effective online learning experience is still being researched, and the advent of new technologies are changing the alchemy of learning. However, Zhao et al's (2005) meta-analysis reports three essential factors: face-to-face interaction with an instructor, user-friendly technology, and media-based learning that allows students to view essential learning events as needed. These elements are being used with more frequency in K-12 classrooms. Should teacher preparation programs adopt new types of instructional delivery to model effective practice? We continue to study this question.

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