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iContact: The Digital Feedback Process in a University Setting

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High quality formative feedback is an integral component of the formative process that contributes to learning (Shute, 2008). In a review of studies on the feedback given to student teachers, Scheeler et al., (2004) suggested three considerations be adopted into practice: (a) some feedback is better than no feedback, (b) immediate feedback is better than delayed feedback, and (c) feedback that is immediate, specific, positive and corrective holds the most promise for informing practice. Keeping these findings in mind, the convenience of digital devices like iPads and programs like Google Docs have created the potential to move coaching and professional development to a new level (Borko, Whitcomb, & Liston, 2009). Given the rapid changes and innovative ideas in the digital world, transformative education settings offer new avenues for research. In his 1998 keynote address, Jobs introduced the iMac explaining that "i" stands for Internet. He added that Apple's "i" stands for "individual, instruct, inform, and inspire." Building upon Apple's "i" concept (Jobs, 1998), this study examined the possibilities of using "iContact" for feedback. Our selection of the term "iContact" in this study of digital feedback encompasses the multiple opportunities for contact between instructors and students using the Internet to provide immediate individual feedback at varying degrees to instruct, inform, and inspire our graduate students.

With the prevalence of mobile digital devices increasing, we were interested in exploring their integration into high quality professional development to enhance learning further in a university clinical course than in previous years. Our purpose was to examine how teacher change may occur when feedback is given digitally in a graduate course for inservice teachers. We asked: (a) do teachers respond when formative feedback is offered in digital format, and, if so, (b) what growth in teacher learning can be determined from digitally-gathered data sources?

Theoretical Foundations

Although the formative process has been defined in a variety of ways, feedback is always an integral component in the process. Popham (2008) defines these complex interactions as "a process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes" (p. 5). The notion of high quality feedback encompasses both the content and the processes by which the feedback is produced, distributed, and received (Mutch, 2003). One function of feedback is to provide "information about the gap between the actual level and the reference level of a system parameter... used to alter the gap in some way" (Ramaprasad, 1983, p. 4). We used formative feedback as a cognitive tool to *alter the gap* in literacy instruction during tutoring. A digital environment facilitated opportunities for applying feedback immediately to lesson planning and instructional coaching. A focus on teaching feedback and the range of reflective responses to it allowed us to study teacher learning in new ways within a university clinical setting with graduate students, pre-service teachers, instructors, and children all benefiting from instant digital feedback.

We examined feedback through two lenses of new literacies: the digital tools used as "new technical stuff" and the nature of learning and participation through these technologies as "new ethos stuff" (Lankshear & Knobel, 2006). While we describe the digital tools as offering new possibilities for formative feedback, we emphasize the "new ethos stuff" of effective feedback practices in the blended classroom.

Feedback Literature

Formative Feedback

The formative process is designed to give feedback to students and teachers on their performance (Buchanan, 1998-1999). For feedback to be formative, it has to be provided during

the learning process and used by the student (Black & Wiliam, 1998). In addition to diagnosing correctness, effective feedback should describe how to improve. Building upon these key ideas, Van De Ridder, Skokking, McGahie, and Ten Cate (2008) defined feedback in a clinical setting as comprised of three concepts: (1) information - focusing on the feedback message content, (2) reaction - student interacting with the information, and (3) cycle - receiving information, responding to the data, and improving student quality of response in future work.

When formative feedback is utilized in new forms of pedagogy, it can produce positive learning effects (Black & Wiliam, 1998). Students can gain insights into the depth of their understanding through self-evaluation and peer- and teacher-feedback. More expert students also benefit in future performances from giving feedback over receiving feedback (Kim, 2009), They utilize formative information to set goals to close the gap between the given task and their performance. The key to effective formative assessment is the quality of the feedback (Black & Wiliam, 1998).

Quality Feedback

Hattie and Timperley (2007) separate feedback response areas into four levels: (1) task or product, where responses are "correct" or "incorrect," (2) process, where responses confirm understanding, teach better information searching, or provide strategies, (3) self-regulation, where responses build self-evaluation, confidence, commitment, or control, and (4) personal, where responses note "you are a great student", or "well done." Personal feedback was least helpful when students were praised without specifics on what was done well. At the task level the least complex feedback -- providing the right answer -- was most helpful, while feedback at the process level was more effective than the task level for developing deep understanding. Instruction utilizing quality feedback can be very effective in the classroom.

Kluger and DeNisi (1996) systematically studied the effects of nine types of feedback and found the following to be most effective: (a) providing information on correct responses, (b) demonstrating student changes from previous submissions, (c) allowing students to set specific and challenging goals when task difficulty is low, and (d) providing both positive and negative feedback with low levels of threat to students' self-esteem. Students were more likely to increase their effort when the task goal was clear, they were committed to the task, and they believed they could be successful. Students perceive quality feedback as developmental, encouraging, and fair (Lizzio & Wilson, 2008).

e-Feedback

Research involving e-feedback in higher education is just emerging. e-Assessment feedback includes both formative and summative feedback delivered through information communication technology; it does not include computer-generated scoring of assignments (Gikandi, Morrow, & Davis, 2011). Several studies examined student response to e-feedback. Chang (2011) found that students welcomed instructor's online feedback as individual, challenging, specific, and convenient. Providing diagnostic feedback with explanation is time consuming but worth the effort for instructors.

An e-feedback method that students value is personalized online coaching through a community of inquiry comprised of: (a) *cognitive presence* as instructor designs learning experiences that require reflective thought, noting a positive link between written communication and higher level thinking, (b) *social presence* as students identify with the community, purposefully share ideas, and develop relationships, and (c) *teaching presence* to design, facilitate and direct learning (Garrison, Anderson, & Archer, 2010).

Budge (2011) found mixed responses to e-feedback given to undergraduate students in a

face-to-face course. Although students noted a preference for personal face-to-face and hand-written feedback, students saw aspects of e-feedback as beneficial including its clear, direct, and elaborated nature as well as having access to feedback for later reference. Additional benefits were convenience, efficiency and legibility. Conversely, students did not like e-feedback when teachers did not answer questions in email, responses were not personal enough and too short, and there was no chance for discussion. In the present study we worked to avoid these pitfalls by providing same-day responses addressing each particular student's tutoring and assignment questions. Indeed, at times the participants received unanticipated, simultaneous feedback on their lesson plans, because the design of Google Docs allowed for participants and researchers to write in the same document at the same time. Both student and instructor could coincidentally find themselves writing and reading in almost a 'chat' format.

Simply stated, "We need more feedback on feedback" (Eraut, 2006, p.118). The current study was designed to address that call by providing insight on the relationship of feedback received in a digitally-delivered format and teacher development in literacy instruction. For this study, we define the formative e-feedback process as the flow of information provided online during lesson planning, lesson execution, and reflection for the purpose of enhancing teacher and student learning and instruction.

Methods

This study is practitioner research, given that research and practice occurred at the same time and informed each other (Green, Camilli, & Elmore, 2006). The study has an insider's significant knowledge perspective on the context in which particular questions are asked and addressed (Green, et al., 2006). This practitioner research utilized a case study approach (Yin, 2014; Stake, 2006) as it explored an innovative graduate course using the formative e-feedback process to support teacher learning in a clinical setting. As the two university instructors of the course, we employed this

methodology to highlight the voices of the graduate participants as well as our own to understand how professional development may be enhanced when formative e-feedback is added to literacy content and pedagogy (Mishra & Koehler, 2006). We depict the multileveled structure of this course block in Figure 1.

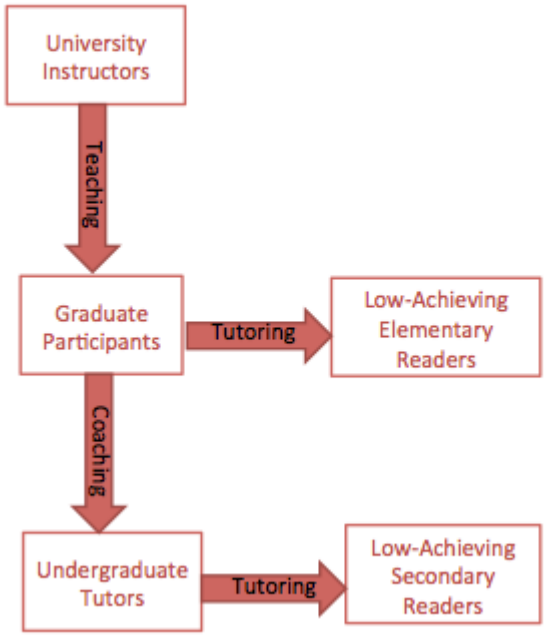

Figure 1. *Participant levels and roles*

Participants

We used a purposive convenience sample of six Masters students and two Doctoral students; all were female with teaching experience ranging from two to eighteen years as shown in Table 1. The diversity of teaching experience partnered with the diversity of technology experience creating an environment where all teachers could learn from each other in different areas. Although all participants owned laptop computers and cellular phones, none had any experience with iPads.

Table 1

Participant Demographics

Participants	Years of Teaching Experience	Self-Rated Level of Technology Experience 1 low - 5 high
Kathryn*	2 elementary: 1 university	4
Dianna*	17 elementary: 1 university	2
Margarite	7 high school	1
Melany	18 middle	3
Susan	5 middle	3
Stephanie	2 middle	4
Sheila	7 elementary	1
Ellie	2 elementary	3

Note. * indicates Doctoral student

These graduate participants tutored low-performing elementary readers and coached undergraduate students who tutored low-performing secondary readers as in Figure 2 above. The elementary and secondary students along with the undergraduate preservice teachers were not participants in the study.

Learning Environment

The study took place during a five-week, six-credit hour summer graduate course at a public university in a midsized Midwestern city. The course employed a multileveled design using interactive lecture and an accompanying hands-on practicum in literacy instruction. The university reading center offered undergraduate and graduate courses with associated practicum tutoring experiences for low performing K-12 students. The goal of the courses was to combine

theory and field work to help graduate students establish the critical links between formative assessment, intervention, and student performance. In addition to tutoring a low performing elementary grade student, each graduate student coached a preservice special education undergraduate who, in turn, tutored a low-performing secondary student. The overarching goal of the graduate course was to foster advanced instructional knowledge for K-12th grade reading specialist candidates and future teacher educators.

An Innovative Course Model

This course piloted a model for graduate teacher education that challenged the participants to: (a) read, highlight, and make notes with electronic versions of articles, (b) create and share lesson plans and instructional reflections in Google Docs, (c) tutor a child using digital tablet applications in addition to traditional materials, (d) coach pre-service undergraduate providing feedback to them and the course instructors in real time using the Notes application on iPads, and (e) utilize formative digital feedback from instructors.

iPad Usage

The graduate students and undergraduate pre-service teachers were supplied with first generation iPads for the duration of the academic session. Prior to first receiving the devices, none of the students in either course had ever used an iPad. The iPads came with no applications other than the basic iPad apps (e.g., Safari, Notes, email), thus requiring students to learn the processes needed to set up an iTunes account, access the iTunes app store, and download free apps. By allowing students to take their iPads home for personal and professional use, students learned the "new technical stuff" (Lankshear & Knobel, 2006) in a stress-free environment.

Although iPads were also new to the instructors, they made comments on lesson plans shared in Google Docs before, during, and after the participants tutored. They typed coaching

notes using the Notes app during tutoring observations and emailed them immediately to the graduate participant and each other as the tutoring session ended. The Notes app automatically saved the observation notes as a running record on the instructor's iPad organized with each participant's name, making future access readily available. The graduate students used the same process to provide feedback to the undergraduate pre-service teachers, while also sending a copy of their coaching notes to the graduate course instructors. The instructors provided ongoing, online course feedback for semi-weekly SOARnotes (Subjective - Objective - Analytic - Reflective reports) as well as end-of-week reflections, thus allowing the participants to access pertinent feedback immediately for use in writing lessons due the following day, rather than waiting to receive comments written on a paper copy that needed to be returned in class. Finally, the instructors conducted oral interviews with graduate students recording their responses for later access using QuickVoice for iPads.

Data Sources

Our data included a variety of digitally-generated data sources where feedback was offered, including (a) daily lesson plans submitted through Google Docs, (b) semi-weekly SOARnotes and end-of-week reflections submitted through BlackBoard, and (c) coaching notes written and emailed using the iPad Notes app.

Lesson plans. Participant submitted individual, daily lesson plans (103 total) through Google Docs. These documents followed a prescribed format including: tutoring goals, lesson objectives, detailed reading and writing activity descriptions, reflective questions to ask children, rationales for instructional choices, and tutor collected data. Instructors could comment, question, or suggest supplemental strategies, providing insights into the lessons even before the graduate students taught them.

SOARnotes. Participants posted semi-weekly SOARnotes (47 total) on Blackboard (2013). SOARnotes are a tool for documenting what happens during a tutoring session through the reflective eyes of the tutor. A prescribed online format led participants through each area of analysis. The Subjective thoughts were their overall feelings and reactions to the lesson. The Objective section required data relating specifically to the objectives for the lesson and reported if met or not. The Analysis section required participants to analyze their tutee's progress as well as their own teaching effectiveness. The final Reflection section challenged participants to reflect on themselves as teachers, including questions they may want answered or ideas they may need from the instructor. The promptness of the instructor responses would have been impossible in the traditional format for the course.

End-of-week reflections. Each week the participants wrote about things they believed were important, including Aha moments and lingering questions or concerns (30 total) and posted them on Blackboard for instant access for instructors to provide responses. Participants had ready access to feedback on Sundays prior to planning their first lesson of the coming week.

Participant coaching notes. Graduate participants typed peer-to-peer coaching notes (74 total) using Notes app during observations of their undergraduate tutoring, immediately emailing them to the undergraduates and instructors. These notes described teaching methods that went well, prompted the undergraduate's evaluation of the session, provided insights into learning tasks that did not meet objectives, and suggested strategies to consider as next steps.

Instructor coaching notes. Instructors created coaching notes (40 total) with Notes while observing the participants tutoring. The types of feedback provided included suggestions for strategies, elaboration of ideas, technology observations, and celebrations of objectives met. The participants could then search out the instructor to ask questions regarding the feedback or

email the instructor requesting clarification. This efficient feedback format facilitated a quick turn-around time for lesson revision.

Exit interviews. The instructors developed an semi-structured interview protocol to determine the participants' overall impressions of using iPads in the course (n=8).

Teaching Procedures

This course model provided the participants with multiple opportunities for integrating technology into their learning and teaching. Participants shared with instructors individual Google folders with daily lesson plans, making these documents immediately available. The instructors selected Google docs as the online site for sharing documents because of easy access on iPads during tutoring observations. By providing timely feedback, participants could incorporate suggestions into their lesson plans before tutoring. Additional real time comments were entered digitally on lesson plans by instructors during observations, so participants received additional feedback during tutoring which could be incorporated into plans for the following day or immediately.

The instructors created individualized locations in the Assignment tool of BlackBoard for each participant to post their SOARnotes and End-of-the-Week Reflections. By utilizing BlackBoard and Google Docs students experienced multiple collaborative digital platforms for learning. These locations were simultaneously visible to the participant and both instructors, and also identified the instructor giving feedback. The instructors streamlined feedback by using a red font to differentiate their responses from the participants' reflections. This wider access by both instructors to the reflections fostered more informed responses by the instructors than had been given in past years where responses were written by one instructor, but not read by the other.

iPad Procedures

We provided each participant with an iPad1 to use throughout the course: in class, at home, as student, as tutor, and personally. They learned how to set up an iTunes account, select and download apps, purchase and explore apps and play with the device to develop confidence, and use the tablet to create and teach tutoring lessons. One instructor functioned as the technology coach to model apps for tutoring and answer technology questions as they arose. Participants collaborated with each other to integrate iPads in two formats (a) through a daily morning App Share where one person shared a new app they found and used with students, and (b) weekly in small groups, where they discussed what worked and what was problematic when tutoring with iPads. Participants created an ongoing app list in Google Docs generated from these activities.

Tutoring Procedures

During a one-hour tutoring session four days/week for 4.5 weeks, each participant worked with one low performing elementary reader, assessing them pre-and post tutoring and providing ongoing formative literacy instruction.

Coaching Procedures

In this study two levels of coaching guided two levels of tutors. University instructors coached participants supporting the planning process, observing the tutoring and providing feedback, and engaging participants in self-reflection to improve instruction (Vogt & Shearer, 2011). Each instructor coached four participants per week, rotating the participants to provide feedback from both instructors throughout the course. Both instructors had continual access to all lesson plans, allowing us to read previous comments provided by the other instructor providing consistency in feedback when repetition was called for.

Each participant then coached one undergraduate tutor. Each undergraduate tutored one low performing secondary reader for one hour/day, four days each week for 4 weeks. Participants observed teaching and provided written feedback through suggested teaching methods and questions for the undergraduate to consider (Vogt & Shearer, 2011). All comments were emailed to undergraduates and the graduate course instructors immediately upon completion of the lesson.

Interview Procedures

At the end of the course one instructor interviewed each participant individually in a quiet room using the Interview Protocol. Clarifying questions were asked as needed. All responses were audio-recorded using an iPad. To prepare the data, one researcher transcribed word-for-word all interviews.

Data Collection and Analysis

Researchers accessed digitally-gathered data sources stored on BlackBoard, GoogleDocs, Notes, and email and organized by participant and date. Data were next entered into ATLAS.ti and examined using the method of coding advocated by Miles and Huberman (1994). First, we read through all data sources to get a sense of the content; initial codes emerged. Next, both authors reread all data sources, generating ninety-eight codes. We specifically coded instances of feedback by instructors (n=979) and participants (n=40), and examined documents for evidence of transfer of feedback incorporated into subsequent lesson plans. Through discussion we identified relevant codes (n=38) related to our research questions, rereading the data a third time. After combining codes into four themes, we reread the data again using a selective coding process to identify pertinent quotes and examples to illustrate each theme, as well as contradictory evidence to inform themes. We established trustworthiness through triangulation.

Results

Analysis of the feedback data across measures revealed four themes: (a) Teacher Learning Through iContact, (b) Immediate and Permanent Digital Feedback, (c) Creating an Affinity Space, and (d) Transfer with a Ripple Effect.

Theme One: Teacher Learning Through iContact

Communication online proved effective feedback for teaching and learning. Multiple online venues provided opportunities for detailed and non-specific feedback on tutoring and reflections. Because instructors provided formative feedback on lesson plans each evening prior to tutoring and on semi-weekly SOARnotes, we observed participants applying the feedback in subsequent lesson planning, reflections, and coaching. Feedback including -- but not limited to -- suggesting, modeling, affirming, clarifying, explaining, and fine-tuning provided guidance for participants. For example, Ellie acted upon suggestions by correctly completing the lesson plan format; clarifying who (child or tutor) reads and in what format during each activity; incorporating modeling strategies before having the child use them; and having her student write a cinquain to respond to reading. All of the changes were made the day following the suggestion.

Diana read daily feedback and also applied it the following day. In Week Two the instructors made two suggestions: to increase the amount of writing Diana expected her student produce, and to schedule writing instruction earlier in the lesson to assure consistent time for writing. Diana made both suggested adaptations in her next lesson plan.

After reminding her of the time it takes students to learn new strategies, one suggestion offered to Sheila was to consider the pacing of her tutoring. Sheila considered this feedback and responded in the next SOAR Note:

I considered the suggestion, “Maybe you are expecting too much from Abby" given on

> my last SOAR NOTE submission. I realized that I might have been placing "unspoken" pressure on her. Wednesday I purposely slowed the lesson down, not concerning myself with the fact that we may not accomplish all that was planned. I cannot state with proven data that removing the unseen pressure made the noticeable difference, however there was a marked change in her behavior. Amy moved through each lesson with energy, engagement, and focus!

Another example was online feedback justifying a particular learning task as part of the ongoing formative assessment of the child. When we suggested that Kathryn collect data to inform her instructional choices, she started the next day to use tally marks to note miscues of words read orally. Specifically, she recorded which function words the child missed and kept a tally. She shared this information with the child so he could see his growth across the tutoring sessions. Teacher growth was evident in each of these examples.

Blended feedback. We saw a progression from initially giving an online explanatory suggestion one day, to very detailed written modeling on the next day, to setting up a subsequent face-to-face meeting for further clarification; “iContact” led to “eye contact” in these instances. This sequence did not happen often, but it did happen with less experienced teachers when they continued to ask clarifying questions as the modeling proceeded. Sometimes this progression occurred with low level tasks, such as improving the written rationale for the lesson plan; at other times it involved learning when, how, and why to use a strategy. So when knowledge was limited, feedback needed to begin with detailed instruction which we found worked best face-to-face. In these cases the explanations and examples needed for clarification were more detailed than was practical and efficient to offer in written form. Topics where blending online and in-person feedback was helpful for Sheila included writing goals and objectives to comply with the

required lesson plan format and demonstrating a strategy such as a linear string graphic organizer for reading comprehension and prewriting.

We responded to Diana's requests in her SOARnotes with blended feedback. Diana wanted suggestions of student books to use with her child for the application of particular phonics concepts. Instructor's digital response included, "Let's look together at texts today when you come to the student library...I will watch your WordWork lesson today and we will talk." Because lesson plans and SOARnotes were both stored in Google folders, instructors could easily access both. Efficiency was evident when we read her SOAR Note, accessed her lesson plan to determine when Diana would teach the requested topic, and set an appointment - all done digitally. The combination of digital and face-to-face communication supported teacher and student learning.

Suggestions not taken. One suggestion instructors wrote on Diana's lesson plan encouraged her to focus on looking through the whole word with her child, not just the beginning sound, to increase word identification. Diana replied in the SOARnotes with examples showing that word beginnings were indeed the problem requiring attention for this child. Considering feedback in the context of her student's needs took Diana's thinking to a higher level when she defended her strategy with a rationale and examples.

Advice partially taken. Both instructors suggested repeatedly on lesson plans for Kathryn to drop the iPad Hangman activity she was using to teach phonics relationships. She believed that it was a way to engage a literacy-avoidant student. Instead, she shifted the time she employed it to after the phonics segment as an enjoyable support rather than using it for teaching. Kathryn saw the value of the app as extended practice -- a new perspective for her.

Coincidental iContact. Occasionally an instructor coincidentally joined a Google

document to provide feedback when a participant was creating her lesson plan. These feedback opportunities were unplanned, but provided impromptu chats. The participant was initially surprised as the instructor's picture appeared and lines of type begin to pop up. On the spot iContact was happening!

e-Nodding. iContact emerged as an efficient method of connecting with students and providing feedback online where nonverbal body language and facial expressions were not available for understanding the message. Short nonspecific feedback was another way instructors acknowledged that we were following participants' ideas and affirming them. "Good!" typed onto a lesson plan carried the message that the participant was on the right track, and "That's fine" affirmed their teaching idea. After reading these comments participants followed through with the learning activity; evidence subsequently emerged of participants suggesting the activity to their undergraduate. These comments were substitutions for nonverbal comments (eye-contact or a head non) made in face-to-face conversation. In iContact the feedback was "individual, instructive, informed, and inspiring" (Jobs, 1998).

Theme Two: Immediate Digital Feedback and Enduring Learning

Instructors set high goals for purposefully providing multiple opportunities for feedback prior to teaching. Because digital feedback was permanent on Google and BlackBoard, participants could refer back to it throughout the course. At the beginning of the course modeling and finetuning the process of writing goals, objectives, and reflective questions within the lesson were important surface issues needing attention. Feedback was either an explanation of the required components in the lesson plan or, when not followed, specific modeling of what was expected. Participants could refer to the specific wording in the modeling coupled with detailed descriptions. This explicit feedback led to students mastering the general thinking needed for

high quality lesson planning, usually within two days.

Digital feedback was also immediate, frequently happening in real time as students wrote lesson plans. Instructors used alternating feedback schedules with participants so everyone received comments from dual perspectives. Because comments were permanent, instructors could see each other's feedback and build upon it in successive days, reinforcing the comments and participant growth.

Enduring learning. Instructors made multiple suggestions (n=246) to participants across the course. Frequently, participants instituted the suggestions and continued to incorporate them into their instruction. For instance, Sheila linked her student's writing to the books used in the lesson thus providing a context for writing. Low-performing writers are frequently intimidated by the blank page when required to write. Sheila applied these read/write suggestions to her lesson the following day, and they continued in lesson plans across tutoring. Sheila also used a linear string organizer introduced in class in Week Two. Initially, she modeled it during reading to aid her child's comprehension. Then, Sheila began this same organizer with her child for narrative pre-writing. Each lesson plan continued to build upon this strategy as the child became more proficient. Sheila kept in mind the feedback about students needing a significant amount of practice to internalize a learning strategy. She connected the two to provide an advanced, well-reasoned level of instruction.

For fluency practice with a comprehension emphasis, the instructors suggested *QuickReads* (Hiebert, 2005) to Sheila. As she applied the repeated readings process that included modeling, practice, and performance, she observed her child's increased comfort reading with understanding. Sheila continued to incorporate *QuickReads* (Hiebert, 2005) into lesson plans across the summer. Additionally, Sheila incorporated activities from *Words Their Way* (Bear,

Invernizzi, Templeton, & Johnson, 2012) into lessons as phonics practice, further implementing instructor feedback.

In all instances of continued usage participants demonstrated that digital feedback application was not a one-time display of learning, but rather enduring practices they employed beyond receiving the suggestion. We suggested graphic organizers to Ellie for reading and writing purposes to assess background knowledge and foster learning. Ellie used a KWL chart with her child the next day. We suggested her student organize information gleaned during reading in a matrix to later aid with writing; Ellie decided instead to use a t-chart. She continued to find effective graphic organizers that fit the text they were reading or writing. These examples of purposeful and persistent planned practice for the child supported the participants' deeper understanding of lesson planning and worked toward student independent use of learning aids.

Professional vocabulary growth. Through repetition of literacy terms in feedback, participants took on professional vocabulary modeled by instructors in digital feedback. We intentionally modeled the technical terminology for participants to learn as we responded digitally. We noticed participants using the same phrases from our feedback in their reflections and coaching. In her Week Four SOARnotes Diana used the same terminology we provided in Week Two feedback. After acting on our suggestion to use more critical thinking questions, we commented that it was "getting more natural to ask metacognitive questions." In Week Four Diana acknowledged that growth in herself, mirroring the same professional terminology.

Theme Three: Creating an Affinity Space

This study draws on Gee's (2009) concept of affinity spaces where learners in a common endeavor benefit from individual and distributed knowledge in a variety of digital spaces reaching beyond the classroom. Our course set out to be "experimental" and much less structured

than traditional courses (Jenkins, 2009). By empowering participants, they interacted collaboratively to meet their shared responsibility of integrating new literacies to help children with literacy acquisition. Each participant and undergraduate received an iPad to explore at home, expanding the learning space beyond the classroom and leveling the technology accessibility. Teachers demonstrated differing levels of involvement in this space depending upon their needs, where motivated amateurs became experts whom others contacted.

Between instructors and participants. Google Docs and BlackBoard provided an affinity space fostering ongoing interaction between instructors and participants. Participants shared lessons in Google Docs, and instructors posted feedback in real time, accessible at any time. Examining the times of posts and comments proved that instructors and participants frequently posted late at night or early in the morning. This format allowed the flexibility to meet individual needs, while providing feedback before tutoring. BlackBoard's email allowed contact between anyone involved in the course at any time.

Instructors and participants learned to use iPads together. Students collaborated to create iTunes accounts and download apps while we facilitated. We all shared new apps and websites with teaching ideas in class and in Google Doc. We provided feedback to participants; they provided feedback to us about what worked and what was needed.

Sheila affirmed that it is all right, indeed good, for instructors to be transparent and learn along with your students, especially when integrating new technologies. This comment might not have been shared with the instructors face-to-face. In her SOARnotes (6.30.2011), Sheila wrote:

> I will be forever grateful that although I was not as experienced as my fellow teachers, I was treated with the same respect and value from my professors. Thank you for your time, your commitment to the field of education, and your ability to be transparent and

learn right along with us. It is a lesson I will value for a lifetime.

Between participants. The affinity space began in class and continued digitally. Participants connected with each other outside of the classroom via Google Docs, Blackboard, and email. They also shared apps with teaching ideas on Google Docs creating an ongoing collaborative resource. Diana posted the graphic organizers she made at Blackboard for others to use in tutoring. Participants frequently emailed peers asking for ideas about apps for tutoring or requesting information shared during class. After Kathryn successfully redeemed the code to download Pages onto her iPad she sent an email explaining the process to assist others.

Within the affinity space participants incorporated peer ideas and feedback. Diana received ideas from Stephanie and others to develop her child's literacy, including using iCard Sort for phonics instruction, QuickVoice for fluency, and Idea Sketch to create graphic organizers. She enacted each suggestion, noting in the lesson plan from whom she received the idea. Instructors affirmed her use of colleagues' digital suggestions, and Diana continued using each. This flexible space brought together a combination of peer feedback, followed by elaborated instructor feedback, affirming participants' growth in technology integration.

Between participants and undergraduates. The Notes app, Google Docs, and email became the main points of digital contact between participants and the undergraduates they coached. The undergraduates shared daily lesson plans with the participants at Google Docs, allowing graduate coaches access to them before or during tutoring observations and enabling feedback regarding the lesson. Participants shared coaching notes using Notes by emailing them to undergraduates at the conclusion of the tutoring session. This component provided permanent documentation of feedback beyond oral statements that might be forgotten.

Theme Four: Transfer with a Ripple Effect

Multiple examples emerged from the data showing a feedback ripple effect. Diana received instructor feedback affirming the specific feedback she offered to her tutee and the logical rationales she wrote for her instructional choices in her lesson plans. Following these directives, Diana immediately began providing similar specific feedback to the undergraduate she coached. Surprisingly, this sequence occurred in Week One. Transfer of learning was rippling to the undergraduates without any suggestion to do so! In her coaching notes, Diana commented to her undergraduate tutor that he "gave specific feedback to his child on increased rate after just two rereads! Very effective praise and rationale for rereading." After providing specific feedback to Diana, she noted specific teaching behaviors to her undergraduate, and the undergraduate in turn provided specific feedback to the child. The Ripple Effect had swiftly reached the level of the child.

Ellie demonstrated the transfer on multiple levels. Instructors suggested asking her child reflective questions about his learning during the lesson -- when and how he might use the same process or strategy when not at tutoring -- to provide closure in her lesson plan. Ellie included these questions in her tutoring the following day. Once she started interweaving metacognitive questions into her own teaching, it was quickly evidenced in Ellie's coaching notes for her undergraduate mentee. The next week she transferred her learning to coaching when commenting on her undergraduate student's use of metacognitive questioning. Ellie further coached on the importance of modeling think-alouds with scaffolding before asking the child to complete a think-aloud. We suggested modeling with think-alouds on her lesson plans which she then taught in coaching.

We made a point of giving feedback to Sheila on aspects of fluency instruction. Sheila suggested partner reading to her undergraduate. We had previously suggested that instructional strategy to her, and Sheila used it across the course. She viewed it as a successful way of teaching her tutee to read fluently, evidenced by the growth in her child's fluency and comprehension. As noted earlier, Sheila taught her child the *QuickReads* process, reporting that the child was more engaged with the lesson because she was being challenged. Within days Sheila taught the undergraduate tutor to use *QuickReads* (Hiebert, 2005) correctly with her child. In addition, she suggested that her mentee employ the same technical vocabulary (e.g., plot, short vowel) used in his Reading Strategy and Phonics sections of the lesson plan during his Writing instruction, creating a Reading-Writing connection to foster transfer, an idea suggested by instructors to her. Sheila learned the strategy from the instructor, tried it with her own child, taught it to her undergrad, who taught it to her child. The Ripple Effect! (See Figure 2).

Figure 2. *The Ripple Effect.*

DISCUSSION

This study showed that iContact as a feedback delivery system is beneficial in individualizing teacher learning in clinical settings. All participants demonstrated that they read and followed digital feedback in multiple ways during tutoring. We found that the immediacy and reliability of receiving feedback motivated the teachers to consult their lesson plans daily before teaching, incorporating suggestions into their lessons before their child arrived. Instructors observed the tutoring while referring to the lesson plan on their iPads to note if lessons were modified to include suggestions. Occasionally, digital feedback was not used in the current lesson, other times a portion of the feedback was incorporated, but in the majority of instances the feedback was used as suggested.

We believe providing an iPad to each participant to take home and "play with" helped to speed the process of finding and learning apps. They related that using apps with their own family members helped to integrate iPads into their teaching. When one participant noted in her SOARnotes that Dragon Dictation did not always capture her child's voice accurately when turning it into text, instructors suggested that she play with the app herself to see how it works best. Dragon Dictation became a favorite learning tool for the child. Digital feedback could not have been effectively utilized if the participants had not become comfortable using the iPad.

Professional vocabulary growth was an unexpected outcome. As we informally created a lexicon that the instructors and participants used to communicate thoughts precisely, we began to see evidence of transfer. Students read these terms in texts, online articles and in digital feedback, heard them used in classroom presentations and discussions, and began to use the terms themselves in their digital reflections. The tutoring and coaching sessions offered immediate and authentic venues for the participants to apply these terms as they coached their

undergraduate mentees, and correctly labeled literacy concepts when speaking to children and their parents.

Digital feedback is permanent, unlike verbal one-on-one feedback that disappears when the words are spoken, and may replace the "see me" comment. Like archived recordings, digital feedback is preserved for students to access as needed. Instructors did not need to repeatedly write similar comments in subsequent lesson plans, because teachers could refer students to previously modeled written feedback if not followed. Differences between iContact and Eye-Contact highlighted that digital feedback was helpful at all four levels suggested by Hattie and Timperley (2007): task, process, self-regulation, and personal. Noted in their literature review, learners benefit most by task-related, process, and self-regulation feedback; conversely, nonspecific personal feedback appeared as least helpful of traditional forms of feedback.

Contrary to the findings of Hattie and Timperley and others, we found that the combination of elaborated and nonspecific feedback was necessary and effective. What emerged was the helpfulness and appropriateness of different feedback forms contingent upon the context and student placement on the learning continuum. Participants who were at the early stages of learning a new concept or process, needed more elaborated feedback, including but not limited to: (a) detailed explanation, (b) verbal modeling, (c) suggestions with accompanying rationales, (d) suggestions connected directly to research, (e) clarifications of teaching, (f) finetuning procedures, (g) responses to participants' written questions, and (h) questions by instructors that push for deeper thinking. As participants progressed on the learning continuum, digital responses changed with only an affirmation being sufficient. Because lesson segments varied based on the child's needs, a participant could be at different points on her own learning continuum when teaching each segment. A combination of feedback on new and already learned instructional

strategies was warranted to push student learning. Thus, we found an array of digital feedback categories within a source document.

Another view of nonspecific versus elaborated digital feedback emerged in contrast to much of the early literature on feedback. When the instructors communicated online, the nonverbal body language that normally contributes to face-to-face communication is not present to support understanding for readers. Brief nonspecific task and personal feedback became the way we created iContact online. Teachers receiving "e-nods" followed through with their lesson as planned and often suggested similar ideas to the undergraduates they coached.

When given verbally, these nonspecific forms of feedback are often too general. They leave students wondering, "Just what was good?" In a typical hard copy assignment, nonspecific feedback is generally placed by instructors in the margin with the assumption that students understand what portion of the line or lines the comment refers to and not embedded with the particular idea instructors are confirming, affirming, or discounting. However, with digital text nonspecific comments can be inserted within the idea being discussed, eliminating or lessening confusion. Therefore, nonspecific written feedback appeared more powerful for learners.

Digital feedback on process was helpful to confirm or clarify teacher understanding or provide strategies to meet learning goals tutors set for the children. Reflective questions to prompt rethinking helped build self-evaluation, confidence, commitment, and facilitated transfer. Our findings confirmed those of Hattie and Timperley (2007) that feedback when combined with effective instruction can be very effective when tutoring low-achieving readers.

Motivation and success for low achieving students are essential elements for progress to be made, and working digitally provided both. Suggestions given in the digital feedback included audio-recording children's ideas to serve as memory devices for writing ideas and using graphic

organizer apps for aiding comprehension. Participants requested feedback to improve instruction. Questions in lesson plans and reflections asked about (a) changing the order of lesson plans to include vocabulary building, (b) whether or not to complete unfinished lessons, (c) how to help their child organize his or her thoughts for remembering concepts and prewriting, and (d) how to slow down their child when reading without comprehension or to improve reading fluency. Therefore, feedback about appropriate reading and writing strategies, instructional moves, and apps became important types of feedback.

Worth noting, children's assessments indicated higher reading scores than in previous summer sessions taught by the same instructor without digital devices. Based on a comparison of beginning- and end-of-course assessments, 80% of the children increased one to two grade levels in reading. We believe this impressive growth was due, in part, to the timely digital feedback received by the tutors during the course.

Conclusions

We found blending digital and face-to-face feedback proved to be a successful model for university methods classes with practica, because feedback from teacher educators and practicum/student teaching supervisors is timely and can be revisited for further reflection and clarification. Additionally, instructors can integrate new literacies before knowing all the "technical stuff" about technology by allowing university students to help each other. University students can demonstrate impressive growth in comfort with and usage of digital devices, coaching prowess, and strategy integration within a short period of time when formative digital feedback is provided. To expand the iContact concept, future studies should examine the use of digitally-provided audio/video feedback for teaching and clarifying.

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