A Literacy Collaborative Cloud: Living the Dream

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ABSTRACT
The derivation of this study was a group of graduate students nearing the completion of their program in literacy who still had questions concerning the profession due to rapid changes affecting the field. The genesis of this study was a response to this insight. It was deduced creating a literacy collaborative cloud may help solve the problem by enabling literacy professionals a platform to continue working together ultimately to the benefit of their students, the profession, and themselves. A mixed method sequential explanatory study was conducted consisting of a survey (n=45) which then informed the semi-structured interviews (n=3). The data was triangulated (Denzin, 1970) to enhance the credibility of the study. The findings concluded recent graduate students and alumni felt they would benefit from the creation of the Literacy Collaborative Cloud bridging the gap between graduate school and the workplace. Due to their busy schedules many students were ecstatic; one stating if they had access to a social media collaborative platform on their mobile device they would be “living the dream” (Student Y²). Driven by mobile social media, the implications for the development of collaborative clouds bridging the gap between graduate schools and workplaces could significantly change the dynamics of the future. Recently, when international leaders in higher education were asked “what priorities will be emphasized in higher education over the next five years…seventy-seven percent responded bridging the gap between education and employment” (Marmolejo, 2018, p. 22). Connecting the university/employment gap represents the number one priority in higher education (Marmolejo).

Keywords
Collaboration, Literacy, Mobile learning, Online learning, Professional development

INTRODUCTION
In my work teaching the second to last class in the Concordia University Chicago (CUC) Master of Arts in Reading Education program, the students, all of whom were practicing teachers, still had many questions concerning literacy. Due to rapid changes in the educational standards including the Common Core State Standards (CCSS), the Next Generation Science Standards (NGSS), and in specific state standards, more time was needed to answer the enquiries. This awareness generated the study. It appeared creating a literacy collaborative cloud may help to solve the problem by enabling literacy professionals a platform to work together to meet their needs and ultimately those of their students.

So, what were the CUC graduate students in reading concerned about? At the end of the class session an online survey was sent to the students using the CUC Gmail, created utilizing Google Drive (Debbie & John, 2013; Foerster, 2013), and then collected and analyzed (Technofare, 2014) within Google Forms. The responses in Figure 1 indicated the main concerns facing the graduate students. The greatest worries facing the teachers were time and activities—needing more time for their students to achieve goals and desiring a source of accommodative activities relevant for their students. By adapting a mobile platform for their graduate studies, students could address both problems (Annan, Ofori-Dwumfuo, & Falch, 2012; Habibi et al., 2018). Of note, most of the graduate students were millennials. Millennials adapt well to collaborative learning (Gutl, Cheong, Cheong, Chang, Nau, & Pirker, 2015; Wilson & Gerber, 2008); the generation also adapts well to mobile learning (Loureiro & Messias, 2017). Creating a literacy collaborative cloud may help to solve the problem concerning time and activities—literacy professionals could work together utilizing a literacy collaborative cloud to meet the needs of their students.

Problem. Due to rapid changes in education including Common Core State Standards (CCSS), Next Generation Science Standards (NGSS), state standards, multiliteracies, new literacies and multimodalities, more collaboration between the university and recent graduates concerning literacy was needed. Purpose. The purpose of this triangulated mixed methods study was to verify a perceived need for the development of a literacy collaborative cloud. Research question. Does the interest or need exist to create a literacy collaborative cloud for CUC graduate students and alumni?
DEFINITION OF TERMS

Cloud literacy. Fleming (2014) explained literacy in the cloud, or cloud literacy, as “the competence or knowledge required in order to be able to teach and learn proficiently and effectively in the cloud” (para. 2). Collaborative learning cloud. Liao, Wang, Ran and Yang defined a collaborative learning cloud (2014) as:

1. The output of the collaborative learning cloud is learning support services like tutoring and collaborative discussions…
2. (4) Instructors are also collaborators. They provide initial and high-quality support services. They act as the ‘primary promoter’ throughout collaborative processes in the collaborative learning cloud. A relatively larger proportion of collaborations should take place among other collaborators. In addition, teachers oversee managerial tasks including defining teaching objectives and coordinating or arbitrating conflicts in collaborations.
3. (5) Learning occurs in the process of establishing collaborative connections and collaborative interactions. Both learning support service providers and consumers can build their own and new knowledge in this process (p. 343; see also González-Martínez, Bote-Lorenzo, Gómez-Sánchez, & Cano-Parras, 2015; Katz, Goldstein, & Yanosky, 2010; Mahmood, 2014; Mell & Grance, 2011).

Collaborative learning. Defined as a situation in which two or more people learn or attempt to learn together (Mitnik, Recabarren, Nussbaum, & Soto, 2009; Lee & Smagorinsky, 2000; Dillenbourg, 1999). Please note, researchers have found it difficult to agree on a definition of collaboration as noted by Dillenbourg (1999). Collaborative learning is “grounded in Freire’s (1970) co-participant framework within which the privileging of particular knowledge is deconstructed, and the value of each contribution is redistributed” (Intolubbe-Chmil, Spreen & Swap, 2012, pp. 168-169). Communities of practice (CoP). Wenger (2011) defined communities of practices (CoP) as “[G]roups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (p. 1; see also Ford, Korjonen, Keswani, & Hughes, 2015; Ikioida, Kendall, Brooks, De Liddo, & Shum, 2013). Literacy. The definition of literacy has expanded rapidly. Richards, McGreal and Stewart (2010) posited the reality “it is becoming impossible to conceive a modern definition of literacy that excludes Information Communication Technology] ICT literacy. A 21st Century literacy is not possible without the skills for accessing and using the Internet” (p. 21). Online collaborative learning. Harasim, Hiltz, Teles, and Turoff (1995) defined online collaborative learning as a learning process where two or more people work together to create meaning, explore a topic, or improve skills. Gan (2005) expanded the definition to include learning in...
group discussion or online community learning via text, audio, video or other Internet supported devices. Harasim (2012) subsequently developed an Online Collaborative Learning Theory (OCL) which emphasized how collaborative discourse, knowledge building, and online technologies coalesce to stimulate learning and engagement. **Online community.** An online community was described by Jones and Preece (2006) as “a group of people who come together for a particular purpose or to satisfy particular needs; they are guided by formal and/or informal policies and supported by computing technology” (p. 113). **Personal learning network.** Nussbaum-Beach and Hall (2012) described a personal learning network as a network composed of individuals who share ideas and resources for personal and/or professional gain. **Private cloud communities.** Tomal and Grant (2015) stated, “… private cloud communities in higher education [are] a pedagogical resource that can be… based on the needs of the… target population of students” (p. 25).

**LITERATURE REVIEW**

Aligned to the concepts, the literature review is followed by the state of the art of the literature and finishes with a brief statement concerning how the current study fills a gap in the literature. **Literacy education.** Cumming-Potvin and Sanford (2015) conducted a case study tracing the online discussions of eight university students. Recommendations included: inviting professionals to engage in online discussions; encouraging online reflection; and extending the community to social media sites. Parsons et al. (2013), studied collaboration and reading education longitudinally and developed a collaborative school-university professional development initiative within a high-needs urban elementary school; one component was a community of practice component was to “increase accountability for enacting best practice, something that [has been] missing…” (p. 14). **Collaboration.** Razmerita and Kirchner (2015) conducted a qualitative study of social media collaboration focusing on the factors and challenges influencing digital native students’ satisfaction of on-site and online collaborative activities enhanced by social media and discovered the students had no difficulty using online collaboration and indeed benefitted from the experience. The major challenges of combining included, “social loafing, lack of coordination and trust” (Razmerita & Kirchner, p. 7). Of note, online collaboration does not greatly influence satisfaction of the learning experience (Razmerita & Kirchner). In 2013, Purcell, Heaps, Buchanan and Friedrich conducted a PEW survey of advanced placement and National Writing Project teachers focusing on technology usage. The PEW survey sampled 2,462 teachers and discovered technology was viewed as an advantage and a challenge. Twenty-nine percent of the teachers utilized online collaboration including developing wikis, online discussions and sharing work using collaborative platforms like GoogleDocs. Tucker (2013) studied the effectiveness of teacher collaboration in both online and face-to-face formats. The qualitative study interviewed one teacher from each grade level concerning a ten-week program evaluation comparing online and face-to-face collaboration. Tucker attributed the inconclusive results to a lack of understanding of the concepts by the participants. The recommendation was made to ascertain participant knowledge using a questionnaire prior to an investigation. **Mobile social media.** In an investigation focusing on time, Giunchiglia, Zeni, Gobbi, Bignotti, and Bison (2017) studied the negative behaviors concerning social media for instance, addictedness and found two factors hinder academic performance: incessant instant messaging and not logging off devices while in class. They suggested reducing IM usage while in class or studying. Mobile social media provides seamless learning (Ash, 2009; Johnson, Adams, & Haywood, 2011; Manzo, 2009; Seifert & Har-Paz, 2018). Choi, Cristol, and Gimbert (2018) found few educators possess advanced digital skills. Mobile social media innovatively offers extended collaboration by combining learning and technology (Yeh & Swinehart, 2018). “It is no longer a question whether we should use these devices to support learning, but how and when to use them” (Trotter, 2009, p.1). Chang and Lee (2013) found utilizing Facebook not only enhanced collaboration, but also built trust. Facebook can be used as a tool to facilitate discussions, distribute resources and make announcements (Jong, Lai, Hsia, Lin, & Liao, 2014; Wang, Woo, Quek, Yang, & Liu, 2013); to provide peer feedback (Mason, 2006); and to achieve educational success (Mazman & Usuel, 2010). It should be noted, Selwyn (2009) warned against using Facebook as a tool to enhance learning; Tsay-Vogel, Shanahan, & Signorielli (2018) conducted a five-year study concerning Facebook and noted higher levels of privacy concerns for both light and heavy users. Indeed, as Lopez (2012) explained, we are on the precipice of a “new frontier… [of] a rapidly changing world” (p. 28). **State of the art of the literature.** The state of the art of the literature in the areas of online collaboration, learning online and mobile social media appeared vibrant and growing. However, there was a dearth of literature in the areas of online collaboration, literacy, and mobile social media between graduate students and alumni in literacy or indeed any field. **A definite gap in the literature exists.** The literacy collaborative cloud fills a gap. According to the AEA 267 (2007), ascertaining gaps between the current reality and the desired state facilitated the process of change.

**METHODOLOGY**

Mixed methods research was introduced by Campbell and Fiske (1959). In 1979, Jick began mixing methods to pursue triangulation between quantitative and qualitative data. Greene (2007) emphasized the approach developed a deeper understanding of complex social events. Motivated by the desire to incorporate a needs assessment survey, this investigation utilized a mixed methods approach guided by the works of Tashakkori and Teddlie (2010) and Morse and Niehaus (2009).

**RESEARCH DESIGN**

The research design section focuses on the design, the setting and the participants. **Setting.** The setting for the study was the CUC online learning environment. The university utilizes the Blackboard platform combined with Gmail. **Participants.** All the participants in the survey and interviews were members of the CUC graduate Master of Arts in Reading Education
program or the PhD or EdD program in Reading Language and Literacy online community or recent graduates of the program qualified to provide insights into online literacy collaboration. Taylor and Bogdan (1998) stressed the importance of each participant aiding the investigator in the development of perceptions concerning the topic of the study (p. 9).

**Rationale.** The rationale for choosing the participant groups was to build capacity among CUC online graduate students. According to Newmann, King, and Youngs (2000), capacity refers to the knowledge, dispositions, and skills of individuals that can be utilized in an organized, productive collective enterprise to construct a professional community. The researchers defined a strong professional community as one that comprised: collaboration, professional inquiry, and the opportunity to influence the organizations activities and policies (Newmann, King & Youngs, p. 262). Two strategies for participant selection were utilized, purposive sampling and randomization. First, as recommended by Gummesson (1991) purposive sampling was employed in order “…to identify key informants whose context-specific knowledge and expertise regarding the issues relevant to the research are significant and information-rich” (Johnson, Buehring, Cassell & Symon, 2007, p. 25). Purposive sampling was achieved by limiting the participants to current or recent online graduate students in reading. Second, randomization was attained through the interview selection process which employed the snowball technique (Creswell, 2003) requesting initial participants refer other potential candidates who meet the participant criteria to the study.

Utilizing the snowball technique (Patton, 2002) for the interviews, all the names of my former online students in the CUC masters in reading program were put in a hat. One name was chosen. I emailed the former student and asked for help. The first student chosen randomly was too busy to help with the study; the second former student agreed to assist. That student then randomly chose three students from the same student population of recent graduates, emailed the students, received permission for the researcher to talk to them and established an interview time. The former student labeled the students A, B. and C. At the prearranged time of the interview, the former student called student A and then set up a conference call with the researcher; at that time the former student hung up and the researcher conducted the interview without knowing the student or having any identifying information. The size of the survey sample \( n = 45 \); the size of the interview sample \( n = 3 \).

**Data collection methods.** The triangulation method of data collection, defined by Denzin (1978) as “the combination of methodologies in the study of the same phenomenon” (p. 291) was followed. Smith (1975) explained the concept of triangulation was adapted from military strategy which used multiple reference points to locate an exact position (p. 273). Plano Clark and Creswell (2008) stated, “Above all, triangulation demands creativity from its user--ingenuity in collecting data and insightful interpretation of data” (p. 116). The primary justification of the use of triangulation for the study was comprehensiveness and strength the offered by the technique (O’Cathain, Murphy & Nicholl, 2007). The secondary justification was emancipation, because according to Mertens (2003) using a variety of techniques makes certain that a wide variety of voices were heard. The triangulation method utilized four data collection methods: a survey, interviews, the collection of archival materials and a research journal.

**DATA SOURCES**

The data sources for this mixed methods study included a needs assessment survey, semi-structured interviews (King & Horrocks, 2010), artifacts (Rossman & Rallis, 2016) and a research journal (Bonometti, & Tang, 2006). Jick (1979) stated that researchers can “improve the accuracy of their judgments by collecting different kinds of data bearing on the same phenomenon” (p. 602). The validity and credibility of the findings were increased through the triangulation of the data sources (Erzberger & Prein, 1997). Greene (2007) noted, if the results from diverse data sources were similar, then confidence in the interpretations was increased. **Survey.** Gay, Mills, and Airasian (2009) noted one purpose for using surveys as data collection instruments is to “gather information about a group’s beliefs, attitudes, behaviors, and demographic composition” (p. 176). Creswell and Plano Clark (2007) discovered surveys were valuable in spotting trends and highlighted them as a tool of a mixed method structure (Creswell & Plano Clark, 2007). Granello and Wheaton (2004) focused on the benefits of online data collection including 24/7 availability, lower cost and increasing societal acceptance and the disadvantages of online data collection including low response rates, measurement errors and technical challenges. I adapted strategies to mediate the disadvantages including the meticulous design of the needs assessment survey and utilizing the Google platform for distribution, data collection, data analysis, and email reminders (Rowe, Bozalek, & Frantz, 2013). **Needs assessment survey.** Google was utilized as a platform for the survey because of the association with CUC Gmail, also a Google product. The LCC needs assessment survey utilized a Likert scale format consisting of the following categories: strongly agree, agree, disagree, strongly disagree and choose not to answer. The final category was recommended to minimize participant risk by the CUC IRB office. The instrument was divided into three sections. The first section asked participants to respond to statements regarding their beliefs, attitudes, context and content preferences for online collaboration, online learning and mobile social media. Each construct included three to eight statements. The second section of the survey asked participants to respond to statements regarding the key English Language Arts (ELA) literacy shifts in the CCSS and the literacy strand of the NGSS both originally identified as concerns by the students which provided the genesis of the study. The third section of the survey asked for specific demographic information. **Semistructured interviews.** Semi-structured interviews occurred during the second and third week in November when three former CUC reading graduate students became participants. The interview participants were asked a sequence of structured questions. I then queried utilizing open-ended questions for clarification; Gall, Borg and Gall (2007) found the interviewing using the semi-structured approach allows for standardization, but importantly offers greater depth to the interview process. The interview questions were developed so participants would provide information enlightening each
research question. The interviews were telephonic, recorded, and transcribed. **Artifacts.** Gay, Mills, and Airasian (2009) defined research artifacts in educational settings as “written or visual sources of data that contribute to our understanding of what is happening…” (p. 374). For the purpose of triangulation, the researcher collected various artifacts throughout this study. **Research journal.** The research journal provided for enhanced trustworthiness, transparency, and reflexivity of the study. The journal not only documented each stage of the research process, but also recorded reflections and thoughts on a regular basis. As Gay, Mills, and Airasian (2009) recommended, the journal was also utilized to note bias and judgments. Notes were made in the journal weekly throughout the study. On days where formal data collection occurred, a comprehensive account of what transpired was recorded in the journal. In addition, mentor meetings were summarized during the study and added to the journal. Each week ended with a reflective entry.

**DATA ANALYSIS**
The three transcribed interviews and the need assessment survey constituted the emic data, or data directly obtained from the participants through participation in the study (De Chesnay, 2014). The archival materials added to this data included the demographic information generated in the needs assessment survey and my reflections gathered throughout the process (Leininger, 1985). The method used to analyze the needs assessment survey was the nonlinear loop data analysis (Miles & Huberman, 1994; Reviere, 2013). According to Miles and Huberman “The meanings emerging from the data have to be tested for their plausibility, their sturdyness, their ‘confirmability’—that is, their validity” (p. 11). At this point, a solid foundation was documented in order to develop a platform to support the conclusions of the study. Patton (1990) stressed investigators have, “an obligation to monitor and report their own analytic procedures and processes as fully and truthfully as possible” (p. 372). The method utilized to examine the interviews was the template analysis style (King, 2012; Polit & Beck, 2006) which organized, classified, identified patterns, and developed categories or themes (Meadows, 2003) in the data. According to Strauss and Corbin (1998), importantly “the conceptual name or label should be suggested by the context in which the event is located” (p. 106). In the end, I searched for logical patterns, or according to Weiss (1968) developed the “capacity to organize materials within a plausible framework” (p. 349). Jick (1979) viewed the process as “piecing together many pieces of a complex puzzle into a coherent whole” (p. 608). I assumed not only the nonlinearity of the narrative materials (Polit, Beck & Hungler, 2006, p. 401), but also the nonlinearity of the online environment (Spiro, Klautke & Johnson, 2015, p. 48). Concerning the research base, instruction was taken from Burgess (1985) who stressed investigators may formulate and reformulate the process. As the study progressed, my perceptions were refined and refocused according to information generated by the data collection. According to O’Donoghue (2006), an investigator “may stop at any level of analysis where saturation has been reached…and then report their findings (p. 61). Justification for both the utilization of the template analysis and of the loop analysis provided the flexibility and adaptability I needed during the data collection and analysis stages of the research project. Beginning with a rudimentary template, the data was in a constant state of flux as additional data was gathered (O’Donoghue, 2006, p. 59). Justification of the choice of methods and methodology, “is something that reaches into the assumptions about reality that we bring to our work” (Crotty, 1998, p. 2).

**TRUSTWORTHINESS**
In this sequential explanatory mixed methods study, the measures for ascertaining validity were "derived from community consensus regarding what is 'real', what is useful, and what has meaning" (Guba & Lincoln, 2005, p. 197). King (2012) recommended one of three quality checks: 1) independent examination of the analysis; 2) respondent feedback after interviews; or 3) developing an audit trail. The first quality check chosen was to utilize the information gained from the needs assessment survey to refine and refocus the interview questions (Burgess, 1985). The second quality check used incorporated respondent feedback gleaned during the interviews into the process. The responses were summarized for each question after each interview and then the questions were refined and refocused before the next interview (Burgess, 1985). Denzin (1978) observed that the triangulation data collection method enhanced the validity of the research. Careful verification allowed me to trust the analytical framework developed from the data (Glaser & Strauss, 1965).

**FINDINGS**
This research study sought to investigate whether an interest or need existed to create a literacy collaborative cloud for graduate students and alumni. The findings focused on the questions: What are the concepts? What does the data tell us? How much data supports the concepts? **Demographics.** The response rate for the needs assessment survey of the online CUC graduate students in reading was 36 percent. The demographics of the participants were 91 percent female and 91 percent under the age of fifty. Eighty-nine percent of the respondents have been teaching less than 16 years. Sixty-three percent of the participants teach at the elementary level. Nine percent of the respondents were instructional coaches and seven percent were administrators. Sixty-six percent of the participants teach in a suburban setting. Sixty-six percent of the participants were students in the master’s programs. Two percent of the respondents were new to technology. **What are the concepts?** The concepts for the study include: 1) learning online, 2) collaboration, 3) literacy, 4) mobile social media. **What does the data tell us?** The needs assessment survey and interviews support the creation of an online collaboration forum for the CUC reading graduate students and recent graduates. Indeed, all three recent graduate interviewees and 80 percent of the survey participants agree or strongly agree with the creation of a Literacy Collaborative
Cloud. How much data supports the concepts? Focusing on the concept of literacy, 100% of the participants prefer to collaborate with others concerning literacy. Eighty-four percent of the respondents agreed there was not enough time in the day to meet the literacy needs of their students. The data also shows many of the participants desire to collaborate with others online concerning literacy because they do not have individuals in their school (43%) or their district (39%) to discuss current literacy issues. Fifty-seven percent always have unanswered questions concerning literacy. Concerning the concept of collaboration, 100% of the participants agreed collaboration improves teaching practice. Ninety-eight percent of the respondents concurred both teacher collaboration increased student achievement and learning online teaching practice. One hundred percent of the participants preferred to collaborate with a group of professionals in their field. In respect to the concept of learning online, 91% of the participants agreed for teachers, learning online was worth the time it took and learning online was enriching. Eighty-two percent agree learning online impacted their teaching. Highlighting the literacy shifts in the CCSS, the key English Language Arts (ELA) shifts in the CCSS not integrated fully into the participants’ classrooms include text complexity and literacy instruction in all content areas. Eighty-seven percent of the participants’ desire to collaborate with others about the CCSS shifts. Seventy-three percent prefer to ask colleagues

in their school about the CCSS while 62% favor asking colleagues in their district about the standards. Fully 69% of the participants choose to go online to gather information about the CCSS shifts. Concerning the literacy strands in the NGSS, the two areas of the literacy strands not fully incorporated into the classrooms were constructing viable arguments and critiquing the reasoning of others. Seventy-eight percent of the participants would prefer to go online to find information about the NGSS literacy strands. When choosing content for the Literacy Collaborative Cloud, 89% of the respondents would like to focus on different content areas and literacy. Eighty-four percent preferred content based on individual teacher needs while 86% choose content aligned to school goals. Specifically, in the order of preference participants would like to know more about, writing, struggling writers, struggling readers, activities, differentiation and assessments. Where would the participants like to collaborate? The locations illustrated in Figure 5 were: Facebook (Chang & Lee, 2013; Rutherford, 2010; Wang, Woo, Quek, Yang, & Liu, 2013), Google+ (Hitosugi, 2015; Kaur & Grover, 2012; Leone & Biancofiore, 2015; Tang, Wei, & Kawal, 2012), and Weebly (Berg, 2010; McClure & McAndrews, 2016; Roe, 2011). What do the respondents view as the purpose of the LCC? Ninety-five percent of the participants would like to find out what others are doing; 93% would choose to share ideas; 88% would appreciate the ability to learn new strategies and 65% would pose questions. Did the findings support the theoretical foundations? The findings of the LCC study
demonstrated the value of engagement in learning tasks consistent with the Communities of Practice (CoP) work of Wenger (2011) who discussed the importance of groups of people sharing concerns and interacting together. In addition, the study supported Dewey’s (1938) assertion that the teachers must take an active role in knowledge construction. The findings reflect the constructivist theories of Dewey (1938), Piaget (1970) and Vygotsky (1978) whose theories suggested learning involves “constructing, creating, inventing and developing our own knowledge” (Marlowe & Page, 1998, p. 10) and highlight the concept that new knowledge was actively acquired (Brooks & Brooks, 1999). Constructivism suggested new information, in the case of this study information concerning the need of a literacy collaborative cloud, was actively assimilated into previous knowledge structures while simultaneously changing the structures. Finally, the quality of the collected artifacts and of the interviews supported Vygotsky’s (1978) thoughts concerning the strong relationship between social interaction and high-level learning.

ASSERTIONS
The goal the study was to assess whether the attitudes, beliefs, and preferences for online learning and collaboration of the current and former CUC graduate students in reading support the creation of a Literacy Collaborative Cloud. The work of Erikson (1986) guided the formulation of assertions through the method of analytic induction by locating refuting evidence in the data and weighing the evidence against confirming evidence to assure each assertion was warranted. Considering both the constructivist theoretical framework and the triangulated results the following points were asserted: 1) The majority of the participants would like to collaborate with other professionals concerning literacy utilizing social media. 2) Collaboration was the greatest value related to the attitudes, beliefs and preferences concerning learning online for the CUC graduate students and alumni study participants. 3) Implementing a Learning Collaborative Cloud (Shuen, 2008) that sustains and focuses learning over time, concentrates on individual needs, and recognizes the importance of varied professional influences to support continued learning were characteristics deemed important by participants of this study.

PROFESSIONAL SHIFT
The main intention of this study was to understand the needs of the graduate students and recent graduates of CUC reading programs, and to fill the perceived gap if warranted and improve (Shagoury & Power, 2012). According to the participants the creation of the Literacy Collaborative Cloud would fill the need for online collaborative professional development (Francis & Jacobsen, 2013; Lawless & Pellegrino, 2007). Clarke and Hollingsworth (2002) examined the shift in professional development which encouraged educators to become active learners shaping their own professional growth through reflective participation. The researchers highlighted a change which facilitated educators to take responsibility for their own learning and decide their future direction (Clarke & Hollingsworth). The aim of the Literacy Collaborative Cloud study was to determine if a group of driven graduate students and recent graduates would be interested in creating a collaborative vehicle to build a collaborative community of professional educators so they in turn could facilitate their own learning concomitantly determining their path for change.

CONCLUSIONS
This study began by systematically examining the responses to a discussion question of an online reading class which ultimately became the genesis of this research study. Noticing CUC graduate students, soon to be graduating students, still had many questions concerning literacy combined with the knowledge of the rapidly changing field of literacy, this study sought to discover if an interest or need existed to develop a Literacy Collaborative Cloud. Lessons learned along the way included learning was not a straight path and the importance of flexibility to a research study Additionally, insight was gained from the qualitative work of Margaret Mead who posited the world changes through the work of small groups of dedicated people (as cited in Wheatley & Frieze, 2011, p. 9). Ultimately, the lessons learned were both simple and deceptively complex (Nietzsche & Zimmern, 1907). In the end, a majority of the survey and interview participants agreed with the creation of a Literacy Collaborative Cloud for CUC.

SUGGESTIONS FOR FUTURE RESEARCH
Expanding the study to include graduate students in literacy from other universities would provide even more clarity to the Literacy Collaborative Cloud. Another suggestion was offered by an interviewee who is a recent graduate and a practicing reading professional to incorporate professional development into the program. The interviewee’s question, “Could continuing education credit be offered for active participation in the LCC?” “What are the chances of accessing the collaborative cloud from my phone? Then I would be living the dream!” The student lives in a rural community (HuntBarron, Howell, & Kaminski, 2015) and related how difficult continuing education credit is to achieve. Finally, I agree with the recommendations of Waterhouse (2005) to connect to generations in the future, higher education faculty should contemplate collaboration, student-centered learning, and critical thinking (Waterhouse, 2005). The LCC appears to be an excellent vehicle for a learner-centered collaborative online experience enhanced by mobile social (Robbins & Singer, 2014).
FINAL THOUGHTS
As Hargreaves and Shirley (2009) stated, “When teachers have structured opportunities to explore the nitty-gritty challenges of their practice through thoughtful exchanges with colleagues…. they rediscover the passion for learning and their own personal and professional growth that brought them into teaching in the first place” (p. 93). It appears educators collaborating with colleagues in an online literacy collaborative cloud driven by mobile social media may not only ignite learning, but also personal and professional growth. Educators hold the key to unlock the future of learning (NussbaumBeach & Hall, 2012; Colvin & Edwards, 2018).

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