İbrahim Hakkı Acar, Süleyman Yıldız

Research Article

Professional Development of Elementary School Teachers through Online Peer Collaboration: A Case Study[1]

İbrahim Hakkı Acar[2], Süleyman Yıldız[3]

Abstract

The purpose of the current case study is to explore the influence of online peer collaboration among Turkish elementary school teachers in order to gain an understanding of the contributions from online peer collaboration to teachers' professional development. For the purpose this study, online peer collaboration is defined as online support provided by teachers to one another through a web-based professional development platform called "Learner-Teachers". This case study involves eight volunteer elementary school teachers who have been involved in "Learner-Teachers" online peer collaboration professional development process. Qualitative data collection consisted of semi-structured interview and utilizing teachers' online entries on the web-based exchange platform. Open coding method and entry analyses were done as data analyses. Four main themes emerged from the current study: 1) Satisfaction with peer collaboration 2) Usefulness of online peer collaboration 3) Improvement of classroom teaching methods and techniques 4) Improvement of classroom management skills. Overall, teachers who participated the online peer collaboration appeared to benefit from this

collaboration in their personal and professional development. The importance of peer collaboration via online tools are discussed.

Keywords: Online peer collaboration, professional development, elementary school teachers, Case Study

Introduction

Teaching has been considered an important profession for centuries across all cultures. Children are considered to be the future of communities are guided and developed by teachers; therefore, teaching can be considered as backbone of a society as well as a prestigious profession among all others. Teachers are not only in charge of the academic development of children but also social, cognitive, and other aspects of development (Farmer, McAuliffe, & Hamm, 2011; McNergney and Carrier, 1981; Merell, Ervin, & Gimpell, 2006). From this point of view, teacher can be defined as a guide or supporter for children's learning, knowledge, and experiences in an educational setting (Demirel, 2007).

Teachers often use a variety of learning methods and techniques to deliver their subject content as well as assess the learning process to assure whether children in their classrooms have gained preset learning objectives (MacFarlane and Woolfson, 2013; Pianta, La Paro, & Hamra, 2008; Stes, Coertjens, & van Petegem, 2010). To gain better understanding of classroom processes, teachers need to have sufficient professional development through both formal education in college and non-formal education platforms such as workshops, seminars, and peer collaborations (Hildebrandt and Eom, 2011; Rigelman abd Ruben, 2012). While significant attention has been paid to the importance of professional development for teachers in the Western World (e.g, My Teaching Partner-MTP; Pianta, Mashburn, Downer, Hamre, & Justice, 2008) in relation to better teacher and child outcomes, there is a lack of research investigating professional development of teachers via peer collaboration in Turkey. Considering the importance of the professional development of teachers, the current study aimed to explore peer collaboration among elementary school teachers. A case study approach was used to examine an online professional learning community and its effects on professional development of teachers.

The Importance of Teachers in Education

Teachers play an important role in children's social, academic, cognitive, and well-regulated behavior development (Hännikäinen & Rasku-Puttonen, 2010; Zurek, Torquati, & Acar, 2014). Teachers are responsible for providing a supportive environment whereby children learn how to behave appropriately, grasp concepts, develop self-esteem, use classroom materials, and

establish positive peer interactions. In this vein, teacher-child relationships are paramount in the learning process of children (Hännikäinen and Rasku-Puttonen, 2010). Teachers, use different strategies including questioning, play, and hands-on activities to teach main classroom subjects and manage preschool children's behaviors (de Rivera et al., 2005; Hännikäinen, et al., 2010; Lee et al., 2012; Rosemberg and Silva, 2009). Besides learning strategies, teachers use behavior management skills to maintain the learning process and motivate children during learning activities (Dobbs-Oates et al., 2011; Hännikäinen, et al., 2010). Briefly, quality teaching and behavior management strategies help teachers to deliver educational concepts to the children and manage children's behaviors.

Hännikäinen et al. (2010) conducted an ethnographical investigation to examine the role of teachers' involvement in preschool and primary school children's learning activities. They also investigated teachers and children's roles in learning activities. The researchers observed (approximately 100 hours of observation) toddler and preschooler's interactions with their teachers in teacher-led learning settings. The researchers categorized data into three clusters: 1- "participation and joint learning in preschool", 2- "participation and joint learning in primary school", and 3- "similarities and differences" (p. 151). Findings from the study (Hännikäinen et al., 2010) showed that teachers supported children's learning motivation by providing a comfortable environment and facilitating children's active participation in teacher-led activities. Teachers encouraged children to exhibit prosocial behaviors, such as helping each other and taking turns. Teachers' role modeling of well-mannered behaviors (i.e., offering help, providing feedback) was observed as a motivator of primary school children's active participation in the activities. Teachers provided feedback for children's learning to motivate their interactive participation. In addition, teachers in preschools used less complicated conversation styles than those in primary schools. Both preschool and primary school teachers promoted children's active participation through encouragement and guidance of learning process. Findings suggest that teachers' facilitation through different strategies in preschool and elementary school years may help children's prosocial behavior and early concept development. Positive teacher-child interactions are also important for both teacher and children to have positive learning atmosphere in classroom settings.

In line with previous research (Hännikäinen et al., 2010), Mashburn et al. (2008) investigated how teachers' instructional support and emotional support influence children's social and

language skills. Findings from their study revealed that teacher's emotional support was positively associated with children's social competence and negatively associated with children's problem behaviors. Quality of teacher's instructional support was associated with children's receptive language skills, rhyming, applied problems, and letter naming. The findings provide evidence that teachers' effective instructional support in classrooms is important for development of children's language and academic skills. The findings also provide evidence that children's social behaviors are influenced by teachers' emotional support in classroom.

Considering effectiveness of teachers in children's development and learning, teachers should be trained and supported though professional development programs on their classroom processes. Therefore, the following section discusses the professional development of teachers.

Professional Development of Teachers and Its Effects on Child Outcomes

The quality of an education system is undoubtedly rooted in its teachers who are considered the basic foundation of the system. For this reason, there is always a need for professionally developed teachers. The professional development of a teacher is closely related to his/her willingness to teach, motivation, interpersonal relationships, environmental support (e.g., peer, authority, and institutional support) (Hildebrandt and Eom, 2011; Stes, Coertjens, & Van Petegem, 2010). As it is in Turkey, the central monitoring system of teacher training programs may impede professional development of teachers or undermine their desire to engage in professional development. Nevertheless, professional development of a teachers will be reflected upon children's achievement (Lee, Kinzie, & Whittaker, 2013).

In today's world, it is ideal to think that teachers should have microteaching knowledge and competence in order to increase quality of their teaching skills as well as learning processes of children in their classrooms. Development of teachers' professional development through microteaching competences has been increasingly valued in educational institutions (Demirel, 2000).

Stes and colleagues (2010) found that teachers who were able to develop themselves in terms of teaching methods and techniques had higher levels of motivations to teach in the classroom

than teachers who were limited to professionally developing themselves. Similarly, Lee et al. (2012) conducted a quasi-experimental study on teachers' open-ended questioning and pre-k children's language use. The researchers assigned treatment and control groups of teachers. The treatment group consisted of teachers who received blended and open-ended questioning support via electronic and face-to-face workshops (n=11). Teachers who received only curricula support were designated as a control group (n=15). Thirty-five teachers were divided into 3 groups; the first group (n=11) received curricula and blended supports, which are trainings for teacher to learn how to use questions effectively in classroom. In addition to the curricula support, this group of teachers also received open-ended questioning support in the form of workshops to provide information about what kinds of questions they should use and how they should use these types of questions through December and January. The second, control group of teachers (n= 15) received only the curricula support. The third group of teachers (n= 9) received neither curriculum support nor blended and open-ended questioning support; they only applied their district's (mid-Atlantic State) curricula. The researchers provided the science curriculum (earth science, inquiry-based activities) derived from MTP-Math/Science curricular package (Kinzie, et al., 2009) to teachers for use in science activities in classrooms. Researchers conducted web-based workshops to provide professional development for the treatment group and in-person workshops were used to train quality questioning during months of December through February. Researchers (Lee et al., 2012) found that treatment group teachers' open-ended questions were significantly different from the control group teachers' open-ended questions use. In addition, they found significant results as following: Students in the treatment group produced a larger number of words in response to teacher's questions than the students in the control group. Support for teachers' open-ended questioning were significant mediators of student's use of complex sentences (Syntactic complexity) (95% CI .077, .893); however, it was not a significant mediator for other types of utterances. This study showed that professional development through web-based and in-person workshops helped teachers use effective teaching techniques such as open-ended questions and which in turn influenced on children's language use and syntactic complexity (use of complex sentences).

In addition to pre-structured tools, teachers also use peer-based tools for professional development (Lu, 2010; Manouchehri, 2002). Previous research has shown that academic and motivational peer-support was effective for preservice teachers' professional development (Lu,

2012). Peer collaboration among teachers has also been found to help improve their teaching techniques, problem solving skills, and mathematical teaching skills (Manouchehri, 2002). Overall, quality peer support appears to have positive effects on teachers' professional development, which in turn helps children in their classrooms to have better social and academic outcomes.

Considering increasing utilization of online tools such as social media, webinars, and Massive Open Online Courses (MOOCs) as part of professional development of teachers, exploration of utilization of an online peer collaboration of Turkish elementary school teachers will shed a light on understanding of how online peer-support may help teacher's professional development. In addition, the current study may provide implications for professional development of teachers in Turkey.

Learner-Teachers Online Peer Collaboration Project

Learner-Teachers project is presented as an opportunity for elementary school teachers who are new in their careers to develop their classroom teaching and behavior management skills through peer collaboration. In addition, the project also aimed to help advanced teachers recognize mistakes they have made in classrooms as well as share their experiences with teachers who are new in their careers. Overall, this project has helped teachers develop their professional competencies and exchange experiences/ideas with their colleagues. This project can be considered as microteaching which has steps of planning, teaching, getting feedback, re-planning, re-teaching, and re-feedback. This cycle of microteaching continues as a teacher develops his/her classroom teaching and management skills (McAleese, 1973).

Although the project began in Arnavutkoy, Istanbul as part of the District National Educational Directorate, it has been opened to teachers from all over Turkey. It allows teachers to upload their classroom videos (each about 30-40 minutes long) to an online platform so peers across from Turkey could watch the video online and comment; as well provide feedback about target teachers' classroom behaviors including his/her teaching skills, behavioral management skills, and effective questioning types. In addition, if a teacher wanted, he or she could complete an evaluation form which includes a feedback section for each part of the classroom processes such as introduction to a subject, approach to children during teaching, providing active

participation of children, and time management. Examining these teachers' process of the online collaboration for their professional development will shed a light on understating of the importance of using online platform in teachers' professional development. In addition, this study will reveal underlying characteristics of online collaboration among teachers for their professional development, which can be used by teacher development and training programs.

The Current Study

The purpose of this qualitative case study is to explore the influence of online peer collaboration among Turkish elementary school teachers in order to gain an understanding of the contributions from online peer collaboration to teachers' professional development. For the purpose this study, online peer collaboration is defined as online support provided by teachers to one another through a web-based professional development platform called "Learner-Teachers". The central research question for this study is: *How has online peer collaboration impacted the professional development of elementary school teachers?* In addition, the following sub-questions were addressed: *In what areas does online peer collaboration help elementary school teachers?* And *what perceptions do elementary school teachers have about online peer collaboration as a tool for professional development?*

Methodology

Rationale for Qualitative Case Study

Qualitative research allows researchers to bring meaning to natural phenomena as part of the emerging actions or events (Merriam, 2009). In addition, Creswell (2013) stated that qualitative research is appropriate to explore a complex problem in an in-depth level. Further, case studies are suitable when the purpose of a study essentially seeks to explore how things have become the way they are (Merriam, 2009). Considering the purpose of the current study is to examine effectiveness of online peer collaboration on elementary school teachers' professional development, the qualitative case study is the best fit design.

Participants

In a case study, sampling takes a place in two levels. First, identifying the case in terms of its boundaries and second, identifying instances of the pre-identified case that will allow the researcher to investigate the case in-depth level (Merriam, 2009). The case for the current study was defined as peer collaboration of elementary teachers on a web-based platform. Creswell (2013) recommends using purposeful sampling which is considered to be a form of variation sampling. In this type of sampling, the researcher identifies the participants that reflect strong and weak aspects of the researched phenomena. Considering the criteria, the current study recruited eight elementary school teachers who have been involved in "Learner-Teachers" online peer collaboration professional development process. The participants were contacted by the secondary investigator and consents were obtained from eight participants to take ethical consideration into account. All participants were from elementary schools in a suburban district of Istanbul. Three of the participants were female and five were male. All of the teachers had college degree in elementary education and one had a post-graduate degree in education.

Data Collection Tool and Procedures

Case study designs allow researchers to utilize multiple ways of collecting data (Yin, 2003). Utilizing a variety of methods for data collection allows for triangulation of the qualitative data which provides evidence of credibility for validation of the data (Creswell, 2013). In addition, Yin (2003) claims that using multiple data sources in a case study strengthens understanding and complexity of variables regarding researched phenomena. With all these in mind, the current case study used two forms of data collection. We developed a semi-structured interview and utilized teachers' online entries on the web-based exchange platform. Interviews with eight elementary teachers from different subject areas were completed by asking open-ended questions regarding their development through the online peer collaboration. We also examined these teachers' entries on the online platform. These entries included teachers' comments and feedback they provided for each other as well as other participants on the system. This process is parallel to document analysis which enables researchers to use these entries as substitutes for interviews (Yin, 2003). In addition, during both phases of data collection, we focused on examining how teachers' experiences with online peer collaboration

have helped them improve their classroom processes including classroom management and course delivery. Interview questions are available upon request.

Data Analysis

Data analysis for the current study followed procedures described by Stake (2010) and Creswell (2013). First, primary investigator read through interviews line by line several times to create "memoing" and make margin notes as detailed by Creswell (2013). Second, an open coding strategy was employed by which researchers analyzed the verbatim transcripts and created concepts and major points establishing initial codes (Stake, 2010). In addition to analyzing the transcripts, the participants' online entries were recorded to create documentation of their entries for further analysis. In order to co-inform understanding of the data, a triangulation design was employed and interviews and online entries were joined together to complement each other (Creswell, 2013).

As a last step, all initial codes created from both interviews and online entries were canalized into categories. The categories were combined and meaning units or themes reflecting commonality of each individual's story in the defined case emerged (Merriam, 2009). The themes were then reviewed by some of the participants to utilize member checking, an additional form of data validation (Creswell, 2013). After receiving participant feedback, final themes and descriptions were created (See Table 1 for final themes and descriptions).

Findings

 Four main themes emerged from the current study: 1) Satisfaction with peer collaboration 2) Usefulness of online peer collaboration 3) Improvement of classroom teaching methods and techniques 4) Improvement of classroom management skills.

Satisfaction with Peer Collaboration

Codes from both interviews and online entries of elementary teachers revealed that teachers were satisfied with the online peer collaboration process. Teachers consistently talked about

how they found the exchange process as fulfilling. This theme also reflected that teachers considered the online peer collaboration as valuable for their professional as well as personal development. An excerpt from an interview illustrating the level of satisfaction a teacher experienced throughout the collaboration process is presented below.

> "It is a great feeling that your class is watched and evaluated as well appreciated and criticized by someone. I have tried to implement several applications in my classroom that my colleagues tried in their classrooms. I have noticed some mistakes that I have been doing again and again; and I saw these mistakes done by my colleagues too so this made me able to recognize my own mistakes clearer. By recognizing these mistakes, I have ceased some of my ineffective teaching methods in my class. If there was no such –online peer collaboration- project, I would continue doing these ineffective teaching behaviors"

This theme reflected that online peer collaboration enhanced elementary school teacher's motivation as well as engagement with their classrooms.

Usefulness of Online Peer Collaboration

In this theme, elementary school teachers reflected about the usefulness of the online peer collaboration through this project as well as general social media. All participants of the current study emphasized that using this online peer collaboration (e.g., exchange of ideas and teaching methods via online platforms) is really important for their professional development. They also pointed out that social media itself is a potential platform for peer collaboration. In addition, teachers mentioned that embedding social media tools into the current project enhanced and catalyzed their collaboration with the peers. An example illustrating the usefulness of social media and online peer collaboration is presented below.

> "Social media and web-based platforms facilitate multi-dimensionality of education. It provides different perspectives to education and increases quality in education when effectively used. I think each school should implement this project by uploading their classroom videos on an online school platform and share it with parents. By doing so, parents can better recognize their child's school and changes perspectives toward school to a positive direction. I personally have received many appreciations from parents and they found this system to be very useful"

This theme showed the usefulness of social media and online peer collaboration an important component of their professional development. In addition, teachers emphasized that online peer

collaboration via social media and the current project helped them not only improve their classroom process, but also increased their positive interactions with parents.

Improvement of Classroom Teaching Methods and Techniques

This theme demonstrated that all elementary school teachers in the current study experienced improvement in their teaching techniques and methods after attending the professional development project. In detail, teachers mentioned an awareness of their own deficiencies in terms of delivery of classroom content. In addition, receiving feedback and constructive criticism from peers via the online platform provided a means of personal and professional development. The example below illustrates how a teacher experienced improvement in classroom teaching methods and techniques.

> *"I have discovered via this online peer collaboration how effective my tone of voice, jest, gesture, and mimics are. I have taken lessons through my peers' critiques about how to use my voice in my teaching. I've learned how to effectively engage my students in the learning process. I think I've increased my level of organization in my teaching…"*

Online peer collaboration provided support for elementary school teachers to improve their teaching methods and techniques. Improvements of teachers' teaching methods and techniques may be reflected in students' social and academic outcomes.

Improvement of Classroom Management Skills

Parallel to previous theme, this theme reflected that online peer collaboration helped elementary teachers improve their classroom management skills. Teachers made positive inferences about their classroom management skills such as dealing with disruptive behaviors of students, using proactive rather than reactive management skills, and recognizing difficulties in children's peer interactions. Teacher stressed that online peer collaboration provided them with positive insights about their weaknesses as well strengths so that they could improve their weak sides and increase strengths. The example below provides insight about how teachers experienced improvement in their classroom management skills through the online peer collaboration.

By watching other peers' classroom process and receiving constructive criticism from my peers has helped me to see my own classroom processes changing in a positive direction—including my approach to children as well as my "discipline" perspective in classroom."

This theme clearly stated that online peer collaboration including watching another peer's classroom processes can help teachers to use more effective strategies in their own classrooms; by doing so, teachers help children to develop better social and academic outcomes.

Table 1

Summary and Description of Themes

Theme	Description
Theme 1: Satisfaction with the peer collaboration	The fulfillment of the online peer collaboration regarding their professional and personal development
Theme 2: Usefulness of online peer collaboration	Reflections of elementary teachers' ideas about the usefulness of online peer collaboration through this project as well as general social media
Theme 3: Improvement of classroom teaching methods and techniques	Experiences of elementary teachers in improvement of their teaching techniques and methods after attending the current professional development project
Theme 4: Improvement of classroom management skills	Support of online peer collaboration in elementary teachers' improvement of their classroom management skills.

Table 1 demonstrates that we extracted four main themes representing cluster of different perspectives of teachers. Common ground for all the themes is that they all represented positive experiences of teacher throughout the online collaboration with their peers. First two themes

were about satisfaction and usefulness of peer collaboration and last two themes were about how this collaboration helped teachers to improve some specific skills and techniques.

Discussion and Conclusion

The purpose of the current qualitative case study was to examine the influence of online peer collaboration among Turkish elementary school teachers in order to gain an understanding of the contributions to teachers' professional development. Primary examined professional developmental areas were how elementary teachers experienced online peer collaboration and its usefulness in terms of classroom management skills and teaching methods/techniques. Overall findings from the current case study revealed that elementary teachers experienced the process of the online peer collaboration positively and they found the collaboration process to be supportive and influential in their professional development. It is clear that collaboration with peers appeared to be fulfilling and valuable for elementary school teachers' professional development. This finding is congruent with previous research (Meirink, Meijer, & Verlop, 2007) showing that collaborative settings allow teachers to learn from one another and exchange ideas to improve their individual learning towards their development and cognition. Teachers may experience positive feelings and satisfaction as they engage in collaborative exchanges with peers as they improve their personal and professional skills.

In addition, elementary school teachers mentioned that they have used social media as a tool for collaboration with peers parallel to advancements in usefulness of social media in professional development (Hung and Yuen, 2010; Luehman and Tinelli, 2008). Social networking has been increasingly used as a means to stay connected and exchange knowledge; especially by college students (Hung and Yuen, 2010). Although social networking has been widely used among college students, teachers may benefit from social networking tools such as using blogging in their professional development.

Elementary school teachers constantly talked about the value of online peer collaboration as a tool for their classroom management as well teaching processes in the classroom. In particular, teachers in the current study found that receiving feedback from peers and observing their peers' classroom processes tremendously helpful in their own teaching and improvement of

classroom management and teaching. The perception of teachers in the current study is similar to findings from the previous study (Gregory, Allen, Mikami, Hafen, & Pianta, 2014; Lee et al., 2012). Previous research has showed that receiving support from coaches or peers has helped them improve teachers' professional skills in their classrooms. For example, "My Teaching Partner" (i.e., personalized coaching and systematic feedback on teachers' classroom process) professional development has been found to improve teachers' behavior skills in the classroom as well their positive interactions with students, and in turn, this improvement is reflected on students' positive outcomes such as behavior engagement and academic achievement (Gregory et al., 2014). From this perspective, the findings from the current study shed light on understanding the importance of peer collaboration for teachers in relation to better teacher and student outcomes during the elementary school years.

In conclusion, this study suggests that teacher training programs should create peer-collaboration platforms where pre-service teachers can effectively share their own learning and teaching processes as well as receive constructive feedback from peers about their process. Trainings should not be limited to pre-service teachers; collaboration opportunities should be extended to in-service teachers so that they can improve their professional teaching skills to effectively scaffold their students' learning. Professional development programs focusing on teachers' classroom management and teaching methods such as My Teaching Partner (Pianta et al., 2008) can be implemented with Turkish elementary school teachers, which in turn aids student readiness for concurrent learning as well as their future academic life.

The findings from the current study also highlights that there is a need for online platforms for teachers to improve their professional and personal skills regarding their occupation. For this reason, educational institutions targeting teacher development can integrate online collaborations among teachers to help them develop their professional skills. Teachers can use these skills in the teaching and classroom organization to have better students' social and academic outcomes. The current study also informs future research that should examine importance and characteristics of online collaborations among teachers via using mixed methods design to obtain in-depth understating on this phenomenon.

References

Demirel, Ö. (2000). *Alandan Uygulamaya Öğretme Sanatı.* Ankara, Pegem A Yayıncılık.

Dobb-Oates, J., Kaderavek, J. N., & Justice, L. M. (2011). Effective behavior management in preschool classrooms and children's task orientation: Enhancing emergent literacy and language development. *Early Childhood Research Quarterly, 26*, 420– 429. doi:10.1016/j.ecresq.2011.02.003.

Creswell, J.W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd Ed.). Thousand Oaks, CA: Sage.

Farmer, T. W., McAuliffe Lines, M., & Hamm, J. V. (2011). Revealing the invisible hand: The role of teachers in children's peer experiences. *Journal of Applied Developmental Psychology*, 1-10.

Hännikäinen, M., & Rasku-Puttonen, H. (2010). Promoting children's participation: the role of teachers in preschool and primary school learning sessions. *Early Years, 30*(2), 147-160. doi: 10.1080/09575146.2010.485555.

Hildebrandt, S. A., & Eom, M. (2011). Teacher professionalization: Motivational factors and the influence of age. *Teaching & Teacher Education, 27*(2), 416-423. doi:10.1016/j.tate.2010.09.011.

Hung, H., & Yuen, S. (2010). Educational use of social networking technology in higher education. *Teaching in Higher Education, 15*(6), 703-714.

Gregory, A., Allen, J. P., Mikami, A. Y., Hafen, C. A., & Pianta, R. C. (2014). Effects of a professional development program on behavioral engagement of students in middle and high school. *Psychology in the Schools*, *51*(2), 143-163. doi:10.1002/pits.21741

Kinzie, M. B., Robert, C., Pianta, R. C., Kilday, C., McGuire, P., & Pinkham, A. M. (2009, March). Development of curricula, teacher supports and assessments for prekindergarten mathematics and science. In: *Paper presented at the meeting of the Society for Research on Educational Effectiveness (SREE), Washington, DC*

Lee, Y., Kinzie, M. B., & Whittaker, J. V. (2012). Impact of online support for teachers' open-ended questioning in pre-k science activities. *Teaching & Teacher Education, 28*(4), 568-577. doi:10.1016/j.tate.2012.01.002.

Lu, H. (2010). Research on peer coaching in preservice teacher education – A review of literature. *Teaching & Teacher Education, 26*(4), 748-753. doi:10.1016/j.tate.2009.10.015.

Luehmann, A.L. & Tinelli, L. (2008). Teacher professional identity development with social networking technologies: Learning reform through blogging. *Educational Media International* 45(4), 323-333.

MacFarlane, K., & Woolfson, L. (2013). Teacher attitudes and behavior toward the inclusion of children with social, emotional and behavioral difficulties in mainstream schools: An application of the theory of planned behavior. *Teaching & Teacher Education, 29,* 46-52. doi:10.1016/j.tate.2012.08.006.

Manouchehri, A. (2002). Developing teaching knowledge through peer discourse. *Teaching & Teacher Education, 18*(6), 715.

Mashburn, A. J., Pianta, R. C., Hamre, B. K., Downer, J. T., Barbarin, O. A., Bryant, D., . . . Early, D. M. (2008). Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development, 79*(3), 732-749. doi: 10.1111/j.1467-8624.2008.01154.x.

McAleese, W.R (1973). Microteaching: A new tool in the training of teachers. *Educational Review. 25*, 131-142.

McNergney, R. F., & Carrier, C. A. (1981). *Teacher Development.* New York, NY: Macmillan Publishing

Meirink, J.A., Meijer, P.C., & Verloop, N. (2007). A closer look at teachers' individual learning in collaborative settings. *Teachers and Teaching: Theory and Practice, 13*, 145–164.

Merrell, K. W., Ervin, R. A., & Gimpel, G. A. (2006). *School Psychology for the 21st century: Foundations and Practices.* New York, NY: The Guilford Press.

Merriam, S.B. (2009). *Qualitative research: A guide to design and implementation,* San Francisco: John Wiley and Sons.

Pianta, R. C., La Paro, K. M., & Hamre, B. K. (2008). *Classroom Assessment Scoring System (CLASS).* Baltimore, MD: Paul H. Brookes Publishing Co.

Pianta, R. C., Masburn, A. J., Downer, J. T., Hamre, B. K., & Justice, L. (2008). Effects of web-mediated professional development resources on teacher-child interactions in pre-kindergarten classrooms. *Early Childhood Research Quarterly, 23,* 431-451.

Rigelman, N., & Ruben, B. (2012). Creating foundations for collaboration in schools: Utilizing professional learning communities to support teacher candidate learning and visions of teaching. *Teaching & Teacher Education, 28*(7), 979-989. doi: 10.1016/j.tate.2012.05.004.

Rosemberg, C. R., & Silva, M. L. (2009). Teacher-child interaction and concept development in kindergarten. *Discourse Process, 46*, 572-591. doi:10.1080/01638530902959588.

Stake, R.E. (2010). *Qualitative research: Studying how things work.* New York: The Guilford Press.

Stes, A., Coertjens, L., & van Petegem, P. (2010). Instructional development for teachers in higher education: impact on teaching approach. *Higher Education, 60*(2), 187-204. doi:10.1007/s10734-009-9294-x

Yin, R.K. (2003). *Case Study Research: Design and Methods* (3rd Ed.). Thousand Oaks, CA: Sage.