Pedagogical documentation and collaborative dialogue as tools of inquiry for pre-service teachers in early childhood education: An exploratory narrative

Mary Bowne¹, Kay Cutler², Debra DeBates³, Deanna Gilkerson⁴ and Andrew Stremmel⁵

Abstract: The purpose of this paper was to examine how pedagogical documentation and collaborative dialogue served as tools of inquiry for a group of undergraduate Early Childhood Education pre-service teachers at a Midwestern university. The research was a collaborative effort of several faculty members who formed a Scholarship of Teaching and Learning group. A reflective, inquiry approach to this research uncovered several potential themes. This article, specifically, examined the relationships that occurred with collaborative dialogue and pedagogical documentation and how it enabled the pre-service teachers to understand the learning processes more fully, the benefits to utilizing collaborative dialogue and pedagogical documentation, and the misconceptions that emerged.

Keywords: collaboration, reflection, pedagogy, inquiry-based learning, documentation.

This study was a reflective, inquiry investigation on the importance of pedagogical documentation and dialogue that occurred in an Early Childhood Education (ECE) program over a period of three years. More specifically, the study focused on how weekly teaching team meetings with undergraduate pre-service ECE teachers contributed to documentation as a tool of inquiry, what the role of dialogue and sharing of perspectives were, and how they, in turn, facilitated the pre-service teachers' learning and/or teaching. This study was conducted by a SOTL research group, who agreed to embark on a collaborative research project designed to investigate some aspect of their own teaching and classroom practice. A weekly meeting known as the ATTM (All Teaching-Team Meeting) allowed us to focus on this investigation as it gathered everyone teaching in the preschool labs for sharing and discussing current documentation pieces. The reasons for utilizing these meetings were several: a) we, as faculty, were involved in the ATTMs at some level; thus, it was a shared venture; b) all of us held a common belief that teaching was advanced through reflective inquiry; thus, this was an excellent opportunity to study reflective practices among pre-service teachers; c) we all shared the belief that the results of this inquiry should be made public, available for critical review and accessible for exchange and use by other teacher educators; and d) we wanted to find out more about why the pre-service teachers did not recognize the value of documentation and dialogue.

Therefore, the purpose of this study was to investigate the impact of collaborative dialogue and pedagogical documentation as tools of inquiry with pre-service early childhood

Department of Human Development, South Dakota State University, Box 2218 PC 133; Brookings, SD 57007

² Department of Human Development, South Dakota State University, Box 2218 PC 131; Brookings, SD 57007

³ Department of Human Development, South Dakota State University, Box 2275A NFA 305; Brookings, SD 57007

⁴ Department of Human Development, South Dakota State University, Box 2218 PC 139; Brookings, SD 57007

⁵ Department of Human Development, South Dakota State University, Box 2275A NFA 369; Brookings, SD 57007

teachers enrolled in their student teaching experience. This study was guided by the following questions: 1) How do the weekly teaching team meetings contribute to documentation as a tool of inquiry? 2) What is the role of dialogue and the sharing of perspectives? 3) Specifically, how does the process of dialoguing and sharing perspectives facilitate student's learning and/or teaching? In what ways?

I. Theoretical Framework.

This study was guided by a social constructivist, inquiry-based learning, Reggio Emilia-inspired thinking. Social constructivism views learning as a social process and posits that all knowledge is constructed in a social and cultural context (Vygotsky, 1978). Inquiry-based learning means to seek answers by questioning oneself and/or others. Learning occurs through the use of socially constructed inquiries made by individuals and by proposing these questions and seeking answers to further one's ideas and thoughts. Being Reggio-inspired, to us, meant utilizing the ideals and principles of the Reggio Emilia approach but within our own set culture and way of teaching and learning. This meant that we emphasize and utilize critical and reflective thought and attitude toward what we do and why we do it. We interpret what we do and why we do it by involving ourselves and others in conversation, debate, and reflection on individual and collective understandings. We value the importance and relationships of all parties involved: children, parents, and teachers.

Part of our curriculum focused on utilizing pedagogical documentation and collaborative dialogue as tools of inquiry. Pedagogical documentation, used widely within Reggio-inspired settings, provides evidence of children and teachers' learning and thinking. According to Rinaldi (2006), pedagogical documentation, in the education field, is the process of gathering evidence of children's learning through observations, work samples and conversation transcripts; children's and teachers' reflections are then analyzed, interpreted and shared through such means as dialogue.

Pedagogical documentation is not only a way of making children's learning visible, it also helps to make our thoughts, ideas, and interpretations of learning visible. Documentation serves as a historical record of past events and provides us with ideas for future experiences as well as a means for sharing evidence with family members or others. Examples of our documentation included, but were not limited to, daily journals, anecdotal notes, field notes, observations, conversation logs, journals, panels, and portfolios. Individuals need to make choices about documentation such as selecting items that show promise for future interpretation (Scheinfeld, Haigh, and Scheinfeld, 2008).

According to Fleet, Patterson, and Robertson (2006), pedagogical documentation is also a strategy that allows us to better understand children, to develop meaningful curriculum, to lead an inquiry, and to develop insights into their own learning. Using pedagogical documentation of individual and group learning provides opportunities for reflection and reinvention, components essential to professional growth and development. When we document children's learning, we consider and reflect on what the children may be thinking, doing, and/or learning and then apply these insights to their unique manner of teaching them. Documentation provides qualitative evidence of the children's current thinking and learning and leads to the development of new possible strategies to assist children in reaching the next learning steps. It can assist decision-making about whether children need additional support systems (Dahlberg, Moss, and Pence,

1999). Further, documentation provides us with evidence to promote active learning experiences, demonstrate effectiveness of teaching strategies, support diverse learners, assess children's progress, meet accountability requirements, involve families in their children's education, and encourage teachers to self-reflect and grow as a professional (Helm, Beneke, and Steinheimer, 1997).

As an essential component of pedagogical documentation, dialogue requires us to confront, question, and understand one another's ideas through the exploration of a variety of documentation pieces. According to Bohm (1996), dialogue elicits questions, values, emotions, ideas, and beliefs in a joint quest for meaning. Language, relationships, thinking, and contexts are interactive and interconnected. Guidici, Rinaldi, and Krechevsky (2001) and Rinaldi (2006), state that documentation should be structured to foster exchange and dialogue. Giacopini (2007) reiterated this point indicating that when we engage in dialogue, we must be willing to take risks, knowing that questions and differing ideas may emerge. Additionally, we must engage in dialogue with each other, with the children, and with the parents and families to further our curriculum as we all play an active role in the development of the curriculum. This process is referred to as a "negotiated" curriculum (Rinaldi, 2006; Kantor and Whaley, 1998). During the process, learning and development by each participant is socially mediated by the other group members. We are able to make sense of experiences and order their thoughts by contributing to the dialogue and using their increased understanding to transform curriculum.

Our program values and utilizes dialogue so that we may interact productively, exchange ideas, work on problems, revise thinking, share understanding, and accommodate when differences arise. According to Rinaldi (2006), "Dialogue engages discussion and the comparison of ideas, it permits us to analyze and to formulate hypotheses and predictions, and thus to consolidate our thinking " (p. 58).

II. Historical Background.

Since fall 2004, our student teachers (pre-service teachers) teaching within the program attended a weekly meeting, known as the All-Teaching-Team Meeting (ATTM). A discussion format began by utilizing the Project Zero format, which focuses on sharing some form of documentation with others (Project Zero and Reggio Children, 2003). After some time, the preschool administrative team felt the format was too confining and didn't allow for open-ended comments and ideas. After a visit to the St. Louis Reggio Collaborative Conference in January 2007, the preschool administrative team decided to utilize a dialogue process that would provide pre-service teachers with a unique opportunity to discuss their documentation pieces during the weekly meetings. The process, known as the *World Cafe Approach*, enabled us to have creative conversations while sitting café-style around small tables (Brown, Isaacs, and World Café Community, 2005). After a limited time, we moved to a new table and the conversation continued. One member of the initial group remained at the table to host the new conversation and helped to build linkages between the different strands of information.

According to Brown, Isaac, and World Café Community (2005), the principles of the World Café Approach are to clarify the purpose, create a hospitable space, explore questions that matter, encourage everyone's contributions, connect diverse perspectives, and listen for insights and share discoveries. The preschool administrative team saw an additional need for a questioning component as an addition to this overall process. In these meetings the pre-service

teachers presented and discussed children's learning experiences and investigations occurring within individual classrooms. Further, the team observed that pre-service teachers were not contributing to the meetings to the extent anticipated during this time period. The pre-service teachers also seemed to not recognize the value of documentation and dialogue and were not prepared when they were to present their documentation pieces. It was during this time that we agreed to embark on a collaborative research project designed to investigate some aspect of our own teaching and classroom practice as it relates to documentation, dialogue, and reflection. The questions needed to focus on analyzing and reviewing each presenting group's documentation pieces.

III. Methods.

A. Context.

This study utilized a qualitative, reflective inquiry approach, one that systematically collects and interprets data on a periodic basis. We needed to be reflective inquirers in order to gain a deeper understanding of the content, to gain a better understanding of the scientific process, and to improve their skills by reflecting back on what we do and say (Loh, Reiser, Radinsky, Edelson, Gomez, and Marshall, 2001). This type of approach was firmly grounded in the socioconstructivist approach as it enabled us to be engaged in the application of the principles being studied. As reflective inquirers, we carefully recorded the activities of the investigation, monitored the process being made in the investigation, and communicated the process and results to others. This approach was specifically used to better understand pre-service early education teachers' perceptions and thoughts on collaborative dialogue and pedagogical documentation.

The study was conducted over a two-year period, between 2007 and 2009, at a university laboratory center serving 112 children, toddlers through kindergarten. The center's philosophy is Reggio-inspired and inquiry-based, placing value on teachers as researchers who use reflective inquiry as a means to examine and make sense of their experiences and encounters with children. Inherent in this philosophy is the assumption that pedagogical documentation and dialogue can help us engage in collaborative efforts to further learning and gain insights into practice, thus strengthening the theory to practice link.

B. Participants.

Approximately 100 pre-service teachers, who were student teaching within the five- semester time period, were asked to participate in the study by first completing an informed consent document, approved by the university's Institutional Research Board. Participation in the study did not have any bearing on grades or evaluations. During the five semesters the research took place, approximately 20 pre-service teachers student taught within the laboratory settings. There were approximately 3-4 pre-service teachers within each lab, and each lab was identified as a "teaching team". Over 95% of the participants were female and the remaining 5% were men.

C. Procedures.

In order to gain purposeful data for the research questions posed, six data collection methods and procedures were utilized: videotaping and audio-taping, weekly student reflections, teaching team reflections, interviews, and student final reflections (Bogdan and Biklen, 1998; Clandinin and Connelly, 1994; and Creswell, 1994).

Pre-service teachers were asked to write down their small group's thoughts and ideas on a piece of paper each week, write their answers to two reflective questions each week, write their teaching team answers to another reflective summary consisting of four questions two weeks after their teaching team presented, and write a final reflective paper responding to six questions focusing on the overall learning that took place during the semester. Randomly selected preservice teachers also completed a semi-structured interview that consisted of a minimum of eight questions. All meetings were audio- and videotaped. These strategies are described in detail below.

Videotaping and Audio-taping. During each ATTM, the conversations at each table were audio-taped and videotaped. Approximately 28 ATTM's (meetings) each lasting one hour were analyzed. The audio-recordings were compared to notes taken to ensure complete transcription (face validity reasons).

Weekly Student Reflections. The pre-service teachers were also asked to answer a few questions regarding the overall process and to indicate whether any curricular changes were made due to the weekly meeting's content. Specific questions included: (1) How did last week's discussion impact or assist your learning and/or teaching this week? and,, (2) What 3 key concepts/discoveries will you take back from today's discussion that you intend to apply in your role as a professional?

Each week the information was gathered and typed by one of our research group members for the presenting team to peruse. The teaching team then reflected upon what was discussed the following week and determined what changes would be made within the environment and/or the curriculum.

Teaching Team Reflections. Teaching team reflection papers were completed two weeks after the teaching team presented. That information was also typed up by one of our research group members. Specific questions included: (1) How did your lab change the classroom environment or curriculum after presenting at the ATTM? (2) What are you currently doing that reflects back to the ATTM discussion? (3)Did you discuss your insights with your teaching team? If so, what new information emerged? and, (4) How did the ATTM impact your personal philosophy on teaching and/or learning?

Interviews. Semi-structured interviews with randomly selected pre-service teachers were conducted by our group for three of the five semesters; each lasted a minimum of 1 hour in length. The interview questions asked pre-service teachers about their current ideas and thoughts on the value of documentation and dialogue and whether their learning and/or teaching had changed due to the ATTM content and process. Additional probing questions were asked in order to elicit pre-service teachers' responses or for clarification purposes. The interview questions and answers were transcribed and provided to the SoTL members. Specific questions included: (1) What is documentation? (2)In what context do you plan to use documentation and how? (3) How has the process of talking with others in the Friday morning meetings helped you and/or your classmates? (4) How did the process of dialoguing with your peers and sharing perspectives facilitate your teaching? In what way? (5) What do you perceive and understand

about the concept of reflective practice? (6) In what context do you plan to engage in reflective practice? and, (7) How would you do that? What strategies would you use?

Student Final Reflections. At the end of each semester, the pre-service teachers completed a final reflection. These responses were typed and distributed to the SOTL members for further analysis. Specific questions included: (1) How (or in what ways) have our Friday morning meetings helped you in using documentation? (2) How has talking with others about documentation during our Friday morning meetings helped you? (3) In what ways has it helped you to see things differently? (4) How has the sharing process we have engaged in on Friday mornings been beneficial? (5) How did the process of dialoguing and sharing perspectives facilitate your learning? In what ways? and, (6) How did the process of dialoguing and sharing perspectives facilitate your teaching? In what way(s)?

IV. Findings.

The study results were triangulated using multiple sources of data to confirm the findings within this study (Berg, 2008; MacLean and Mohr, 1999; and Campbell and Fiske, 1959). After the data was read thoroughly by our research group, inter-rater reliability analysis was conducted by finding commonalities among everyone's ideas. From there, two of us reviewed and analyzed the weekly notes while the other two members reviewed and analyzed the teaching team reflections and final student reflections a minimum of three times each. Commonalities were again found and interwoven with one another. There was 90% inter-reliability between researchers' ideas and themes. The interviews were used as a validity and reliability tool, noting that students' responses were similar overall and contained responses that replicated the reflections and notes. Several themes emerged.

A. Themes.

Upon reviewing the data, we collectively found several core themes. Four main themes emerged: (1) Understanding Documentation as a Process, (2) Awareness of Others' Ideas, (3) Articulating Ideas, and (4) Developing Curriculum Ideas. These themes were supported by ideas the preservice teachers wrote about in their reflective summaries and discussed during the interviews along with other supporting notes. Although the questions were different between the interviews and reflective summaries, there was a consistent trend of the themes that emerged.

Understanding Documentation as a Process. The majority of pre-service teachers' responses that emerged about documentation were favorable stating such things as: "It has encouraged me to use very critical thinking and evaluation when looking at photographs and dialogue." "Being able to explain and defend what you were doing and why. If you want to teach something, you have to be willing to defend it." "Documentation is the process of recording observations and dialogue." "It helped me to look at my teaching and all the ways you can document. Being able to open to let the children teach you and learn themselves." "Documentation is about recording experiences. It describes what happened, how it happened and what was learned through the experience. There are many forms of documentation." And, "I realized that everything can be broken down and given ways to enhance."

One insight that we found occurred when we asked our pre-service teachers the question, "How (in what ways) have our Friday morning meetings helped you in doing documentation?"

and the pre-service teachers responded that the meetings hadn't helped in learning about documentation. One student said, "I don't feel that we discussed documentation during our Friday morning meetings." "The Friday morning meetings have been about where we can take our projects, not really about documenting anything." Yet another said, "I don't specifically remember discussing documentation."

This caused us to wonder, "Do our pre-service teachers really know what documentation and the process of documentation is?" "Is their understanding of documentation too narrow? Do they understand that the process of documentation also includes discussing and questioning the documented work?"

First, do the pre-service teachers really know what documentation means? Based on the comments throughout the reflections, some pre-service teachers stated they did not understand what documentation was by stating such things as, "This has not helped me with documentation." "I don't specifically remember working on documentation." "These meetings have not specifically helped with documentation." However, these same pre-service teachers articulated their knowledge of documentation by stating, "It (the meetings) helped me take a step back and look at things in a different way" or, "It (the meetings) taught me to look at what the child was doing and to look at the child's perspective." Another student stated, "It (the meetings) helped us to better understand the children in the classroom." Some of the things that pre-service teachers stated which showed the benefit of documentation were, "It allowed me to see different ways of documenting." "These meetings have encouraged me to look what the children are doing and to really listen to what they are saying." "It showed me that documenting a child's work is important and everybody can learn from it."

We also wondered if the pre-service teachers understood the words, "doing documentation" as the work of observations, conversations, and taking pictures in addition to discussing the possible meanings in their pre-service teachers' work and the children's work. Students mentioned they didn't understand or complete documentation, yet were able to describe what documentation was. For example, one student stated, "I never talked about documentation. I talked about the children and what I saw." Yet another student, "We didn't talk about documentation but I know I learned a lot about what we could do for activities in the classroom from what we presented."

Different responses also caused us to ask the question, "Could we have asked the question in a different way? Perhaps by asking, "How have the meetings increased your understanding of the documentation process or how have the meetings helped you to use documentation in lesson planning?" pre-service teachers would have answered differently, showing their understanding of the process of documentation.

Based on our reflections on this outcome, we felt that pre-service teachers were beginning to understand how the meetings contributed to documentation as a tool of inquiry as they provided initial comments and ideas that focused specifically on that issue.

We also arrived at two possible conclusions as to why the pre-service teachers were not answering the questions as we had hoped. We were uncomfortable with the notion that preservice teachers did not fully understand the process of documentation and realized that the preservice teachers were showing their understanding of specific components related to documentation instead. Yet, if we believe that knowledge is co-constructed and is a process, then we needed to acknowledge that the knowledge can be partial and incomplete at times. Second, it caused us to consider our own teaching. Perhaps we needed to be more explicit in our own

explanations and more intentional by drawing attention to specific processes and naming them again for the pre-service teachers. Further, we needed to be more aware of individuals' experiences by discussing what was done in the documentation process and deconstructing with the pre-service teachers what it was that we just did. The findings also demonstrated, however how sharing documentation improved such things as being more aware of others' ideas, articulating one's ideas to others' and making curricular changes.

Awareness of Others' Ideas. Some of the core benefits that were continually expressed by the students were the ability to be aware of each other's perspectives and to be aware of their own perspective. One student expressed: "Other people can see things that we could never think of or they interpret things differently than intended." Other students stated, "I think sharing everybody's view helped understand different perspectives. I learned what others were thinking compared to what I thought. It also helped me to be open and look at all the angles." "The other students helped me think through what I was doing and made me more aware of why and what I was doing in the classroom." "I think that talking to other students and seeing what was/wasn't going well in their classroom helped us to reflect on ours and hearing other people's insights allowed us to further our investigation."

Additionally, a student mentioned how it impacted her learning by stating, "It helped to look at things in a different light. I value everyone's opinions because most likely it isn't one I thought of yet. This all benefits me because I get to share my opinions and ideas as well." Other students felt the children's perspectives were equally important by stating, "We need to think carefully about the intentions of the children." "When children are engaged in fantasy play, it is important to step back and listen to the conversations. By doing this the teachers will gain a better understanding of their thought processes. This type of imaginary play can lead the teacher into what the interests that child possesses." "Knowing what the children want to do is important because then they become interested and engaged in what we are teaching them." "I want to ask the children what their ideas are so that I can expand and challenge them to higher levels of learning." And, "The children opened up more and were able to express their thoughts and concerns to me, more so than in the very beginning of the semester."

Based on our reflections and analysis, these responses provided evidence that students saw the value in what others may offer them to improve their teaching and/or learning. These multiple perspectives showed the importance of dialoguing with others and getting unique perspectives to be aware of and further one's curriculum and overall teaching. Specifically, the pre-service teachers not only saw one another as a potential resource but the children as an added resource when questions needed to be answered.

Articulating Ideas. One of the initial goals for the weekly discussions was to have preservice teachers actively engage with one another in a dialogue that impacted not only them but other pre-service teachers. We wanted them to see the value of talking with one another about their work and the impacts it could potentially make to their future decision making. One of the benefits that emerged from these discussions was the professional growth that the pre-service teachers reported. This professional growth included increasing their confidence levels in public speaking and sharing their ideas with others. For example, one student stated, "The meetings have enabled me to be more comfortable speaking in front of others and to offer my work for criticism." Other students stated, "This helps me to establish my independence and responsibilities as a teacher." "I think that it may help me be able to share my ideas with

colleagues in the future." "Talking with others has helped me see how important it is to talk with professionals in the field."

Based on our reflections and analysis, the impact of sharing ideas and instilling the desire for collaborative dialogue with one another confirms that learning and development occurred. The reflections indicated that the pre-service teachers engaging in dialogue interacted productively, exchanged ideas, worked on problems, revised thinking, and shared one another's understanding, components of collaborative dialogue. Essentially, the pre-service teachers demonstrated the value of collaborative dialogue with others, particularly other professionals, and how it changed their overall ideas and thoughts.

Developing Curriculum Ideas. Another theme that emerged was that pre-service teachers identified the importance of collaborative dialogue for curriculum development, changes and ideas. For example, within the initial reflections on a given day, 18 of the 20 pre-service teachers mentioned how the discussion had impacted their curriculum methods and/or ideas. One student specifically stated, "When you're working on your long-term investigation sometimes I got stuck. Talking with others is a great way to brainstorm with other teachers. I can take those ideas and build off of them." Other students said, "When we got stumped on what new direction to go, the weekly discussion really helped to give us new ideas." "Last week we got a lot of different ideas as to how to enhance the children's interest in buildings and structures. We did implement a lot of these ideas into the classroom." "We have to be careful about what we do in the classroom. Talking about it really helped with our decision-making." "Our project went in a completely different way than what we were thinking. Talking with others really helped us to see where we could go with these." And, "I had a few ideas on what we could do in the classroom but after talking with others, it really opened my eyes to what could be done."

Students also demonstrated how their classroom environment and teaching strategies changed. "I can see why we need to take a step back and look at what we are doing in the classroom. We need to think about how we set-up the activities to make them engaging and inviting." And, "The dialogue was helpful in pushing our investigation and sometimes managing behaviors in the class. They gave us ideas of what to do next...baby pictures, baby books, etc. and showed us how to get everyone involved the environment."

Evidence from these examples confirmed that when teachers engaged in dialogue with others, they furthered their curriculum as they all took an active role in the development of the curriculum. If educators wanted to acknowledge the ever changing needs of their classroom, collaborative dialogue needed to occur so that future adaptations could be made.

B. Self-Reflections of SOTL Research Group Members.

We reflected on the overall experience and research, noting specifically how our teaching methods changed as well as what we learned from the research overall. One member stated, "I need to slow down to be sure students have the time to process the documentation they have. I also find real value in multiple perspectives as well as dialogue and reflection." Another member stated, "....it was clear that we needed to be more explicit about what pedagogical documentation is when we talk about it with students. It seemed that many students had indicated early on in their reflections that they weren't using documentation, when they really were. They were reflecting, conversing, sharing perspectives, and developing new insights into children, how to plan for children's needs and interests, and what it means to be a teacher. But, it made me

wonder how well and to what extent we were making clear what it means to engage in the documentation process." Yet another member stated that "The process has opened my eyes to what teaching and learning is all about. We often times think that students understand and grasp onto terms and ideas easily, when in reality, they need modeling and time to fully comprehend and move forth. I have taken these ideas into my other classes, knowing that I will need to provide the students with concrete examples and provide modeling for multiple, yet specific terms and ideas, if I want them to fully comprehend what I am saying and doing."

C. Limitations of an exploratory, reflective inquiry.

The findings of this study suggest that further systematic analysis is needed for this exploratory, reflective inquiry investigation. Such analysis should include more in-depth interviews and being more aware of our teaching strategies when instilling new terms and ideas.

Implementing more in-depth interviews could be implemented in order to understand individualistic views, beliefs, and ideas and to further question when certain ideas emerge. Additionally, we decided we would be more explicit in explaining the purpose of pedagogical documentation, showing pre-service teachers different forms of documentation pieces and the manners in which dialogue can instill critical thinking and reflection, leading to new possible ideas.

V. Conclusion.

In concluding, we found that although the pre-service teachers valued pedagogical documentation and collaborative dialogue as tools of inquiry, they may not have understood fully what documentation means as a process, thus leading to misconceptions and misunderstandings.

We believe that the pre-service teachers' learning is in a transformative process of learning and teaching. In order to facilitate this learning, we must emphasize and utilize the importance of talking with one another to exchange ideas, work on problems, revise thinking, share understanding, accommodate when differences arise and create documentation pieces to make learning visible.

These findings are particularly significant for teachers as it provides evidence on the importance of communicating with one another on such things as curricular issues and professional development. Just as medical doctors and business owners consult with one another when a question or situation arises, so should we as educators. This type of collaborative dialogue enables us to further and/or change our ideas to fit the differing needs of the classroom overall. We must engage in dialogue with each other, with the children, and with the parents and families to further our curriculum as we all play an active role in the development of the curriculum. This way, we are able to make sense of experiences and use the dialogue to increase our understanding to transform curriculum.

Additionally, documenting one's learning and the children's learning serves as an assessment tool that allows us to better understand children, to develop meaningful curriculum, to lead an inquiry, and to develop insights with their own learning that is occurring. Using pedagogical documentation of individual and group learning provides opportunities for reflection and reinvention, components to professional development. When we document children's

learning, we are able to think and reflect on what the children may be thinking, doing, and/or learning and then apply these insights to our unique manner of teaching young children.

References

Berg, B.L. (2008). *Qualitative research methods for the social sciences (6th Ed.)*. Boston, MA: Allyn and Bacon.

Bogdan, R.C. and Biklen, S.K. (1998). *Qualitative research for education: An introduction to theory and methods (3*rd Ed.), Needham Heights, MA: Allyn and Bacon. Bohm, D. (1996). *On dialogue*. London, England: Routledge.

Brown, J., Isaacs, D. and World Café Community (2005). The World café: Shaping our futures through conversations that matter. Berrett-Koehler Publishers, Inc.: San Francisco, CA.

Campbell, D.T., and Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, *56*, 81-105.

Clandinin, D.J., and Connelly, F.M. (1994). Personal experience methods. In N.K. Denzin and Y.S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 413-427). Thousand Oaks, CA: Sage.

Creswell, J.W. (1994). *Research design: Qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.

Dahlberg, G., Moss, P., and Pence, A. (1999). *Beyond quality in early childhood education and care: Postmodern perspectives.* London: Falmer Press.

Fleet, A., Patterson, C., and Robertson, J. (Eds.). (2006). *Insights behind early childhood pedagogical documentation*. Castle Hill, New South Wales: Pademelon Press.

Giacopini, E. (2007, Summer). Observation, documentation, and interpretation as strategies for knowledge. *Innovations*, 14(3), 1-8.

Guidici, C., Rinaldi, C. and Krechevsky, M. (Eds.). (2001). *Making learning visible: Children as individual and group learners*. Cambridge, MA: Project Zero and Reggio Emilia, Italy: Reggio Children.

Helm, J.H., Beneke, S., and Steinheimer, K. (1997, Summer). Documenting children's learning. *Childhood Education*, 73(4), 200-205.

Kantor, R., and Whaley, K.L. (1998). Existing frameworks and new ideas from our Reggio Emilia experience: Learning at a lab school with 2- to 4-year-old children. In C. Edwards, L. Gandini, and G. Forman (Eds.), *The hundred languages of children (pp. 313-334)*. Westport, CT: Ablex Publishing.

Loh, B., Reiser, B. J., Radinsky, J., Edelson, D. C., Gomez, L. M., and S. Marshall. (2001). Developing Reflective Inquiry Practices: A case study of software, the teacher, and students. In K. Crowley, C. Schunn, and T. Okada (Eds.), Designing for Science: Implications from Everyday, Classroom, and Professional Settings. Mahwah, NJ: Erlbaum.

MacLean, M.S., and Mohr, M.M. (1999). *Teacher-Researchers at work*. Berkeley, CA: National Writing Project.

Project Zero and Reggio Children. (2003). *Making learning visible: Documenting individual and group learning as professional development*. Reggio Emilia, Italy: Reggio Children.

Rinaldi, C. (2006). *In dialogue with Reggio Emilia: Listening, researching and learning.* New York, NY: Routledge.

Scheinfeld, D.R., Haigh, K.M., and Scheinfeld, S.J.P. (2008). We are all explorers: Learning and teaching with Reggio principles in urban settings. New York, NY: Teachers College Press.

Visual Understanding in Education. (2008). *Visual understanding in education*. Retrieved September 18, 2009, from http://www.vue.org

Vygotsky, L.S. (1978). Mind in society. Cambridge, MA: Harvard University Press.