12-2015

Exploring Teachers' Perspectives of Cooperative Learning to Create Music in Orff Schulwerk Classrooms

Nicole A. Chapman
University of Nebraska-Lincoln, nicole.chapman1@gmail.com

EXPLORING TEACHERS' PERSPECTIVES OF COOPERATIVE LEARNING TO CREATE MUSIC IN ORFF SCHULWERK CLASSROOMS

by

Nicole A. Chapman

A THESIS

Presented to the Faculty of

The Graduate College at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Master of Music

Major: Music

Under the Supervision of Professor Robert H. Woody

Lincoln, Nebraska

December, 2015

EXPLORING TEACHERS' PERSPECTIVES OF COOPERATIVE LEARNING TO CREATE MUSIC IN ORFF SCHULWERK CLASSROOMS

Nicole A. Chapman, M.M.

University of Nebraska, 2015

Advisor: Robert H. Woody

The Framework for 21st Century Learning identifies four learning and innovation skills to prepare students for a changing world. The 4Cs identified are critical thinking, communication, collaboration, and creativity (Framework for 21st Century Learning, 2015). With the adoption of this new teaching framework, it is important that music educators evaluate their own teaching methods to meet the needs of their students in a changing society. The purpose of this study was to examine how cooperative group learning is currently integrated in the Orff-Schulwerk certified teachers' elementary music classroom as part of the creative music process. In this qualitative study, I interviewed seven elementary music teachers in Omaha, Nebraska, to examine their roles as planners and organizers of creative and collaborative opportunities for students. The teachers were selected using a criterion-based sample (Creswell, 2013). Participants teach elementary general music and are certified in the Orff Schulwerk process. Grounded theory technique was used to extract themes or codes from the interviews (Creswell, 2013). Data was open, axial, and selective coded. Categories emerged and were broken into themes and dimensionalized examples. Three major roles of the teachers emerged as themes from the data: modelers, facilitators, and developers. All three themes show the

importance of the teachers in the collaborative music creation process and their desire to develop the "whole child" through collaborative music creation. The themes are broken down further to show how Orff-Schulwerk teachers use group learning to enhance the creative development of their students. Themes discovered may guide future development opportunities for music educators to meet the needs of their students in a changing society.

Table of Contents

List of Tables

List of Figures

Chapter I: Introduction

Statement of the Problem

In 2014, both the National Association for Music Education (NAfME) and the Nebraska Department of Education published new standards for music education. Both sets of standards have increased emphasis on the creative process. Creativity is also a major component of the 21st Century Learning and Innovation Skills 4Cs that focus on developing abilities students need in a constantly changing world (Framework for 21st Century Learning, 2015). In addition to creativity, 21st Century Learning also focuses on innovation skills, critical thinking, problem solving, communication, and collaboration (Trilling & Fadel 2009).

Cooperative learning has long been identified through research as a way to foster the creative process when integrated into the classroom. "Cooperative learning and creative thinking are natural companions. Cooperative learning, as a method and structure, is a vehicle for the development of a skill, creative thinking" (Lyman, Foyle, & Azwell, 1993, p. 89). The new national and state music education standards provide a basic guide on what to incorporate into the classroom, but the standards do not describe the "vehicle" for how to achieve these goals.

Purpose

The purpose of this grounded theory study was to understand what role Orff Schulwerk teachers have in the creative cooperative learning process of their students.

Children create songs in their everyday play, whether they are on the playground, in the lunchroom, or on the school bus (Campbell, 2010). Many of these authentic music experiences happen collaboratively with other children. This research aspired to study how collaborative creative experiences are designed and implemented by the classroom music teacher and what role the teacher plays in those experiences. Through the evaluation of current methods used in the classroom, the emerged themes will create new perspectives of how to meet the needs of students in a changing society.

Research Questions

The central research question for this study was: What roles do Orff Schulwerk certified teachers have in the creative cooperative learning process? This study also addressed the following research sub-questions:

1. What components of cooperative learning are being implemented in the music classroom?
2. How are cooperative groups used to teach creative outcomes?
3. What do certified Orff Schulwerk educators believe about using cooperative learning?

Definitions

In order to examine the research questions presented, the following terms have been defined.

Cooperative Learning: The instructional use of small groups so that students work together to maximize their own and each other's learning (Johnson, Johnson, & Holubec, 2008).

Creative Thinking: A dynamic mental process that alternates between divergent (imaginative) and convergent (factual) thinking, moving in stages over time. It is enabled by internal musical skills and outside conditions, and it results in a final musical product that is new for the creator (Webster, 1991, p. 31).

Grounded theory: A qualitative research design that allows a researcher to generate a theory "grounded" in the data (Strauss & Corbin, 1998).

Orff-Schulwerk: An approach to music teaching and learning, combined with and supported by movement, based on things children like to do: sing, chant rhymes, clap, dance, and keep a beat or play a rhythm on objects in their environment (AOSA, 2006).

Partnership for 21st Century Learning (P21): founded in 2002 as a coalition bringing together the business community, education leaders, and policymakers to position 21st century readiness at the center of US K–12 education and to kick-start a national conversation on the importance of 21st century skills for all students (P21 Our History, n.d.).

Learning and Innovation Skills (4Cs): Abilities that separate students who are prepared for the complex life and work environments of the 21st century from those who are not. Focusing on creativity, critical thinking, communication, and collaboration is essential to prepare students for the future (P21 Framework, n.d.).

Peer-based learning: The acquisition of knowledge and skill through active helping and supporting among status equals or matched companions (Topping, 2005, p. 631).

Peer-directed learning: Involves the explicit teaching of one or more persons by a peer (Green, 2001).

Peer-tutoring: Children teaching other children (Sheldon, 2001).

Background

When I began my journey as an elementary music educator, a majority of my teaching was whole-group instruction. I was comfortable in that setting, and I felt my students were very successful. Then I took my first training course in the Orff Schulwerk process. Through that training, the power of students collaborating became very clear to me, and I quickly realized that my students were not reaching their full potential in my classroom. I was not providing opportunities for them to explore and create. As I began taking graduate classes and received more Orff training and staff development, a recurring theme of collaborative learning began to emerge. One of my first development courses was in differentiated instruction. This taught many different strategies for grouping students and adapting my plans to meet the students' needs. I started working with the idea of stations in my classroom, beginning with basic pitch-exploration stations. I grouped students heterogeneously and put a strong singer in each group to be a leader and peer model. I quickly saw a dramatic increase in students' abilities to use their head voices for exploration. I then expanded stations to specific pitch-matching stations, using solfège hand signs, instruments, and other items they could manipulate. Again, through the peer groups, I saw my students developing their abilities to match pitch. By this point I had successfully implemented students working in groups for the purpose of exploration and practice.

Lucy Green (2008) defines *group learning* as, "learning that occurs more-or-less unconsciously or even accidentally, simply through taking part in the collective actions of the group" (p.182). Green goes on further to describe peer-directed learning as, "a more conscious approach, in which knowledge and skills are explicitly and intentionally communicated by one or more group members to one or more others" (p. 183). Peer-directed learning is more intentional in the form of peers teaching each other, rather than students learning in an unconscious manner. I discovered some form of peer-directed learning was occurring in my classroom pitch stations. Leaders were intentionally demonstrating and teaching the other students.

Though I felt the stations were successful, my classroom instruction was still missing the crucial component of creation. At this time I completed my Orff Schulwerk training and became more aware of the process I observed in certified Orff teachers classrooms. Their implementation of group learning created scenarios in which creative tasks were achieved and students were encouraged into higher levels of critical thinking skills through the role of their teachers. "Orff-Schulwerk is a teaching approach which promises that we and our students will interact as partners in making music" (Steen, 1992, p. 6). Orff Schulwerk teachers actively create and encourage group work in their classrooms. Much of the Orff Schulwerk approach involves students and teachers working together collaboratively to solve musical problems.

I realized my own classroom was not encouraging higher order thinking (Bloom et al., 1956). My students were at basic levels of gaining knowledge through the labeling of music notation and defining musical terms. They were showing comprehension through their recognition of musical elements and their ability to describe and discuss

those elements in music. Also, they were applying skills by demonstrating and applying their comprehension through a new musical example. I started to wonder about the emerging connection between these collaborative groups, critical thinking skills, and creative products in Orff Schulwerk classrooms.

There is a very broad, well-documented history of peer learning, including many different approaches by different theorists on peers working together. Numerous terms exist to describe this phenomenon, such as *peer learning, group learning, collaborative learning,* and *cooperative learning*. The related literature examines the roots of peer learning, and more specifically, cooperative learning, which was the chosen phenomenon of this paper. Many definitions of cooperative learning exist in the literature. At the core, researchers all agree that cooperative learning includes students collaborating in small groups to achieve a task where everyone is expected to participate and work together (Johnson, Johnson, & Houlbec, 1994; Slavin, 1995; Kagan & Kagan, 2009). Cooperative learning was chosen because of the teachers' role to monitor and intervene in cooperative groups. Teachers must constantly observe groups, praise positive behaviors, and provide assistance when needed (Johnson et al., 1984). This research is focused on the perceptions of the instructors and what role they play in the collaborative process of their students.

Role as Researcher

I am a certified Orff Schulwerk teacher in the Omaha, Nebraska metropolitan area. I am the past president of the Great Plains Orff Chapter (GPOC), which aids in bringing quality Orff Schulwerk development opportunities to Nebraska. I am acquainted

with every Orff Schulwerk teacher involved in this study through my role in GPOC. Being an "insider" in this group helped me gain access to the participants and provided mutual understanding on the topics discussed. In addition to my role in GPOC, I am involved in curriculum writing and providing staff development to my district. My interest in cooperative learning came though studying the Orff Schulwerk process, implementation of 21st Century Learning, and differentiated instruction. The overall focus is to group students for collaborative experiences. I desire to learn how Orff Schulwerk fits into these new and returning educational philosophies.

Philosophical Worldview

I believe that collaboration is a crucial part of creating music. I also believe that children need to learn how to work cooperatively in order to succeed in our changing 21st-century society. Students may not become life-long music-makers, but they will forever carry the skills learned in the classroom.

I identify with the social constructivist perspective (Charmaz, 2006). I seek to understand how children learn in groups. I seek to understand the social, musical, and creative experiences provided to children and the outcomes of those experiences. Through interviews with educators, I hope to construct my own theory of cooperative learning in the elementary music classroom. In my role as a researcher and an insider in Orff Schulwerk, my results will reflect my own views, interpretations, and relationships (Charmaz, 2006).

"By rough estimate, an individual takes approximately one decade to learn a discipline well enough to be considered an expert or master" (Gardner, 2010, p. 11). Gardner explains that mastery is acquired through formal schooling or less formally through self-instruction or apprenticeship. In the last twelve years, I have had many opportunities for formal classes and training through the university and my school district. In addition, I have benefited from more informal types of learning experiences, including numerous workshops and conferences. All of these experiences have helped shape me and given me my unique perspective on music education.

Finally, in my twelve years of teaching elementary music, I have witnessed children's social and musical development flourish through small-group learning. I have seen children "come out of their shells" and work as productive members of groups and communities. I have seen musical ideas transform from the simplest concept to an amazing and complex creation that children have pride in.

Methodology

In this study, qualitative research was conducted to gather information on how cooperative learning is used in the elementary classroom to create concepts for students. Grounded theory was used as the method of collecting and analyzing data. "The researcher focuses on a *process* or an *action* that has distinct steps or phases that occur over time" (Creswell, 2013, p. 85). The goal through focusing on a process was to discover emerging themes in how educators are incorporating cooperative learning into the elementary music classroom.

The participants for this study were Orff Schulwerk certified elementary general music teachers from school districts in the Omaha metropolitan area. This was a purposeful criterion-based sample of teachers (Creswell, 2013). "Purposeful sampling allows the researcher to intentionally select information-rich, illuminative cases for in-depth study" (Abeles & Conway, 2010, p. 294).

I assumed these participants were quality music teachers. All had chosen to continue their education through specialized training and were current members of local music-educator organizations. They were also actively attending workshops to continue their education.

This was an interview study. Research was gathered using a standardized semi-structured interview process (Roulston, 2014). All interviews were conducted face-to-face and recorded. Interviews were analyzed using a constant comparative method, a component of grounded theory (Glaser & Strauss, 1967). Themes and/or codes were identified to find commonalities and differences.

Basic Assumptions

It was assumed that the responses of the Orff Schulwerk certified general music teachers during the interview process were reflections of their true classroom experiences, beliefs, and teaching situations.

Delimitations

This study was delimited to teachers who teach elementary general music and hold Orff Schulwerk certification. The age range taught varied from as early as preschool

to sixth grade. Teachers were chosen from the Omaha metropolitan area due to accessibility to the researcher.

Significance of the Study

With the adoption of new teaching theories, such as 21st Century Learning, it is important for music educators to continue evaluating their teaching methods and processes to meet the needs of students in a changing society. National and state music-education standards have recently been rewritten with more emphasis on the creative process. The results of this study may have an impact on the future development of music teachers in Nebraska at the district, local, and statewide level.

Chapter II: Literature Review

Introduction

The purpose of this literature review was to provide understanding for conducting research in the area of cooperative learning. Creswell (2012) stated, "The literature review is not to identify specific questions that need to be answered; instead, the literature review establishes the meaning and importance of the central phenomenon" (p. 17).

This literature review began by examining the method of cooperative learning from leading theorists. It then focused on background and research on collaboration, creation, and critical thinking, relating them to cooperative learning, 21st Century Learning, and the Orff Schulwerk process This review of literature discovered connections that aided the formation of research questions for this study, such as the importance of the central phenomenon, cooperative learning, and its connection to the music classroom through past research studies.

Theoretical Framework

Partnership for 21st Century Learning (P21) described four learning and innovation skills: collaboration, creativity, critical thinking, and communication. Many studies have been done on peer, group, collaborative, and cooperative learning in education, but the amount of research in music education is limited. P21 identified the importance of the arts as a part of the 21st century model (P21 Framework, n.d.). The hope of this research design was to discover connections between the learning and innovation components of 21st Century Learning and cooperative learning.

The focus of this literature review was to gather research from leading theorists and find connections between the core phenomenon, cooperative learning, and collaboration, creativity, and critical thinking in music education. Though extensive research was done prior to data collection, new questions lead the researcher to go back and review more studies to make sense of data. Reading new research helped to develop the final theory.

Structure of Literature Review

The following literature review includes five major sections. The first section reviews the components and theories behind cooperative learning. The second section examines collaboration as it relates to research in music. The third section analyzes creativity, prior knowledge, exploration, improvisation, and composition. In the fourth section, I discuss literature relating to critical thinking, including higher-order thinking, and group processing. Supportive literature on 21st century skills and Orff Schulwerk are also connected to collaboration, creativity, and critical thinking. Finally, section five summarizes the review of literature, and discusses implications for this study.

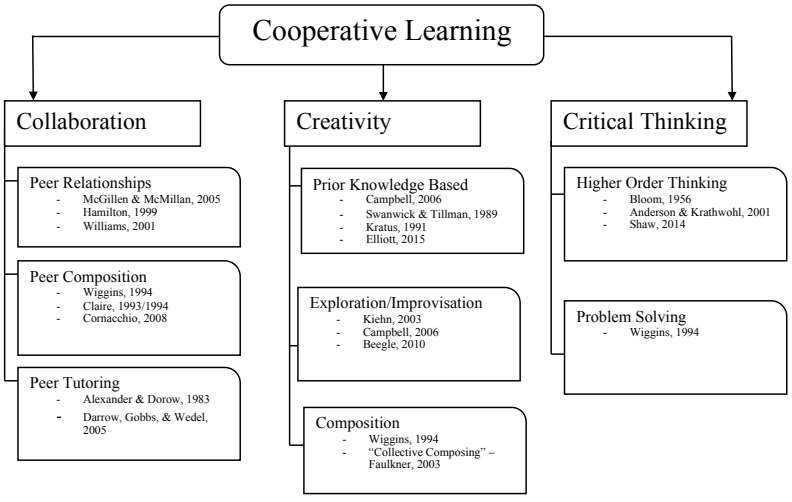

Figure 1: Literature Map

Cooperative Learning

> *"Cooperative learning is the term for instructional strategies in which students work together, sharing ideas, information, and resources, as they progress toward identified goals." (Kaplan & Stauffer, 1994, p. 1)*

Cooperative learning is not a new instructional approach in education. Its history is very broad and has no definite beginning. There are reported studies in the public schools as early as the 1920s. Cooperative learning became popular in education in the 1970s, when large amounts of research were published. Below is related literature from leading theorists in the area.

Johnson, Johnson, & Houlbec (2010) identified three types of cooperative learning: formal, informal, and base groups.

> *Formal cooperative learning* consists of students collaborating or working together, for one class period to several weeks, to achieve shared learning goals and complete jointly specific tasks and assignments.
>
> *Informal cooperative learning* consists of students working together to achieve a joint learning goal in temporary, ad hoc groups that last from a few minutes to one class period.
>
> *Cooperative base groups* are long-term, heterogeneous cooperative learning groups with stable membership in which students provide one another with support, encouragement, and assistance to make academic process (p. 202).

There are many identified components of cooperative learning. Johnson, Johnson, & Houlbec (1994); Kassner (2002); Lyman et al. (1993); Slavin (1995); & Kagan & Kagan (2009) all identified the important components in a cooperative learning

environment as: positive interdependence, individual accountability, grouping of students, and the role of the teacher.

Positive Interdependence

According to Kaplan & Stauffer (1994), all group members have two responsibilities in a cooperative learning group: learn all of the information, and make sure everyone else knows it as well. This is the "sink or swim together" belief. "Positive interdependence is the most important principle in cooperative learning" (Jacobs et al., 2002, p. 31). This component of cooperative learning is the principle that creates encouragement and support for learning from peers; it is the "team work" component of encouraging each other to complete a goal. The group members must understand that they are in this together (Johnson et al., 1984; Lyman et al., 1993).

Individual Accountability. In group work, there can always be the feeling that some members are doing as little as possible and taking advantage of those who work hard. This is where the principle of individual accountability comes into play. Individuals who don't contribute to the team not only hurt their own learning, but they limit the success of their team as well (Jacobs et al, 2002; Kaplan & Stauffer, 1994; Lyman et al., 1993).

Grouping Students

In cooperative learning, grouping students typically requires advanced planning, rather than spontaneous action. "The idea is that students should cooperative with a wide range of people, not just those with whom they want to cooperate" (Jacobs et al., 2002, p. 16). Most heterogeneous groups are created by teachers. Criteria for grouping students

may include: achievement level, aptitude level, work attitude, ethnicity, personality, social class, gender, and/or special needs.

Johnson et al. (1984) suggested questions for teachers to ask themselves as they group students. Teachers should first ask themselves whether students should be in homogeneous or heterogeneous groups based on ability. The authors recommended heterogeneous groupings, but they recognized that certain educational objectives may require homogeneous groupings. Heterogeneous groupings also provide students the opportunity for deeper-level thinking when providing explanations to other students in the group (p. 28).

Role of the Teacher

The teacher has a responsibility to monitor groups and intervene when necessary in cooperative groups. Teachers should be constantly observing groups, praising positive behaviors, and providing assistance when needed (Johnson et al., 1984).

Classroom management can be one of the main struggles for teachers in the implementation of cooperative learning. Brody (2004) presented that novice teachers would not have enough theory and experience in classroom management and would most likely fail when trying to implement cooperative learning lessons. He stated, "The connection between aspects of cooperative learning and classroom management are critically important to novices' learning and the level of use they will achieve" (p. 191).

According to Jacob, Powers, & Inn (2002), establishing and practicing clear routines is an effective way to manage cooperative groups. Establishing these routines will save time for learning. Another way to encourage effective groups is by drawing

positive attention to groups that are collaborating successfully and making them models for the classroom.

Lyman et al. (1993) described that students are more highly involved and motivated in a well-managed classroom. They identified, "In the cooperative learning classroom, when the teacher allows students to control a part of their education, the teacher will have fewer discipline problems and actually have a more harmonious classroom setting" (p. 35).

Collaboration

Introduction

Collaboration is a key component to the cooperative learning experience. According to Edward Gordon (2005), the roots of peer tutors goes all the way back to ancient Rome. Quintilian, a philosopher, recommended student tutors as role models. In the 1800s, European schools started using student tutors. The United States used cross-age peer tutoring pre-1920 in one-room schoolhouses. Children at many different educational levels and ages were combined. Peer tutoring in the classroom was revised in the 1960s. Teachers began using older students as tutors to help younger children or their own peer groups. Many studies on peer tutoring and collaborative experiences in education have been well documented. This section focuses on collaboration in music education. It begins with literature published about collaborative learning in music education, and follows with qualitative and quantitative research studies. Lastly, this section looks at collaboration as a component of Orff Schulwerk and 21st Century Learning.

Collaboration and Music Education

There are few books written on the topic of group learning in music. In 1994, MENC published a book titled *Cooperative Learning in Music*. This book focused on social and musical skills combined. "It is this factor, social learning, that distinguishes cooperative learning from other small-group instruction strategies. In fact, the most successful cooperative learning strategies are those in which academic and social goals are interactive" (Kaplan & Stauffer, 1994, p. 2).

In the article "Mutual Learning and Democratic Action in Instrumental Music Education," Allsup (2003) identified that the type of music used for collaborative music-making changed the attitudes of the learners. He stated, "The group members and researcher saw classical music as unproductive for group composing or community-making. Composing in a jazz or popular style was conceived of as fun, nonobligatory, self-directed, and personally meaningful. In such settings, there was an emphasis on interpersonal relationships, peer learning and peer critique, as well as an expectation that members will take care of each other" (p. 24).

Qualitative Music Education Research

Many qualitative studies have been performed on peer teaching, observing the learning process occurring between students. The studies observed the relationships between peers, and how they work together to solve problems. Wiggins (1994) spent five months in a fifth-grade general music class to study peer composition projects. She found that successful peers used strategies that followed a pattern, starting with initial planning, then developing motivic ideas, and finally reassembling and practicing. The students' strategies followed a deductive-inductive process. Claire (1993/94) also did a

comparative observational study. She spent nine months studying fifth-grade classes, but expanded to three different classes in different schools. Based on her studies, she reported the following:

> By examining the fluctuations and subtleties of peer interactions, it became apparent that mutual, rather than hierarchical, work processes tend to have greater congruence with the process of being creative, and foster peer interactions which facilitate creative work. Increasing insight into the sensitivity of the creative process to the social context will enable educators to establish learning environments conducive to and supportive of creative activity (p. 21).

When interviewing children who were seven to nine years old about their conceptions of peer interaction, Williams (2001) discovered that, "Educational practice in age integrated child groups rests on the assumption that children learn from their peers. The benefits of age integrated teaching is to enhance the value of heterogeneity in child groups. The fact that children are different from each other with different experiences is seen as an asset, which both children and teachers can benefit from" (p. 17). Williams based this study on what children believe peer collaboration to be, and what it means to teach. This phenomenographic research approach led the researcher to learn that children know that they can teach their peers.

Hamilton (1999) discovered during an ethnographic study that two functions of peer interaction are furthering/sharing knowledge and distracting from learning. The study comprised of group composition and improvisation in three sixth-grade classrooms.

McGillen & McMillan (2005) conducted a qualitative research project to explore the connection between music making, cooperative learning, and sociomusical relationships. "There exists a clear relationship between cooperative learning theory and practice, and creative music making" (p. 3). The study grouped students with mixed ability levels and backgrounds. Researchers observed groups creating music, and also invited students to participate in interviews about their experiences. The main finding of this study was positive engagement. McGillen & McMillan identify four key concepts from the analysis of the data: sociomusical engagement, power sharing, positive interdependence, and identity.

Andrews (2013) conducted an observation action research project comparing teacher-directed and group learning in her classroom. She found both methods to be effective; however, teachers could guide students to direct their own learning.

Quantitative Music Education Research

Quantitative research on the peer teaching/learning process in music classrooms is limited, but there are data-based research studies available (Prickett & Jones, 1993; Alexander & Dorow, 1983; Beegle, 2010; Cornacchio, 2008; Darrow, Gibbs, & Wedel, 2005). Prickett & Jones, 1993 and Cornacchio, 2008 both did comparison studies on peer learning. Prickett and Jones (1993) examined the relationship between teacher-taught and peer-taught kindergarten and first-grade students. They found that young children could be as effective teaching their peers as an experienced music teacher. Cornacchio's (2008) comparison was between cooperative learning groups and individualistic instruction on students' compositions. She studied fourth-grade classrooms over a five-week period. Results did not find significant increases in students' abilities to compose music in

cooperative learning groups. It was as effective as the individualistic instruction. There was a significant difference in students' on-task interactions in cooperative groups compared to students working individually.

Alexander & Dorow (1983) and Darrow, Gobbs, & Wedel (2005) both conducted studies on peer tutoring in music and found significant improvement in the tutees. In Alexander & Dorow's (1983) beginning band study, the size of instrumental classes was examined in relation to peer tutoring. Peer tutoring was used as a tool to help improve the lack of individual instructional time available for the students. Pre-test and post-test performance scores were examined with no significant difference between peer tutors and students receiving regular band instruction. The tutees however, scored significantly higher on the post-test than the regular band instruction students. Darrow, Gobbs, & Wedel (2005) conducted a peer tutoring study in the general music classroom with 104 fifth-grade students. Peer tutors were trained in teaching key signatures through 40-minute tutorial sessions. Data showed that peer-tutoring was effective in teaching the musical concept and that children can learn from one another and from themselves as they teach.

Collaboration and 21st Century Skills

> Cooperative learning has shown up well in education research studies designed to test its effectiveness. Research conducted in many different subject areas and at various age groups of students has shown positive effects favoring cooperative learning in academic achievement; development of higher-order thinking skills (both critical and creative); self-esteem and self-confidence as learners; intergroup relations, including friendship across racial and ethical boundaries; social

> acceptance of mainstreamed students labeled as handicapped or disabled; development of interpersonal skills; and the ability to take the perspective of another person (Davidson & Major, 2014, pp. 16/18).

According to Triling & Fadel (2009), the expectations with communication and collaboration skills in 21st Century Learning are that students share information clearly and work well with others.

In a one-year investigation, sixty-four fourth-grade students were trained in cooperative skills (Gillies, 1999). The training included small-group and interpersonal behaviors. The following school year, the trained students were evaluated to see if they were able to use the previously taught skills without any re-teaching. Students were placed in mixed-ability and gender-balanced groups with students who had not received previous training. The students participated in a social studies problem-solving activity based on Bloom's taxonomy. Students were observed in groups, and two measurement tests were administered. The results showed students in the trained group were consistently more cooperative then the untrained children. "They were more willing to listen to each other, work together, and share resources" (p. 362).

Leading cooperative learning theorists, Johnson & Johnson (2010), identified the importance of collaboration in the 21st century. "When preparing to live in the tumultuous 21st century, it is essential that students learn how to function effectively in cooperative efforts and resolve conflicts constructively" (p. 201).

Collaboration and Orff Schulwerk

"Orff-Schulwerk is a teaching approach which promises that we and our students will interact as partners in making music" (Steen, 1992, p. 6). Working together to achieve musical goals is not a new concept to an Orff Schulwerk teacher. Much of the approach involves the teacher and students working together collaboratively. Steen (1992) discussed the cooperative component of music making in the Orff approach. She identified that both student and teacher are integral parts of the musical learning process. All ideas have merit. When discussing the development of lessons, Steen (1992) said:

> Hence, the development of the lesson can involve every member of the class; all ideas may be examined through individual and group effort that may lead to improvisation and perhaps ultimately, to composition. The fact that the student is an integral part of this process is, of course, powerful and exciting. (p. 6)

Carol Huffman (2012) wrote *Making Music Cooperatively*. Huffman is an Orff certified teacher with significant amounts of training in cooperative learning methods. In her book, she discussed applications for cooperative learning in the music classroom. She explained how to create a learning environment, how to organize the classroom, and how to use strategies to promote group interaction and creativity.

Beegle (2010) completed an action research study in her Orff Schulwerk classroom. Sixteen fifth-grade students were working in four-person groups at improvisations. The students were provided three prompts: a poem, a painting, and a musical composition. Beegle used audio and video recorded observations, field notes, and interviews to examine the improvisations and interactions between students. She found that the social roles of students often correlated with their musical roles. All of the

children used a similar process for planning, and their products varied depending on the prompt utilized.

Creativity

"When students are involved in the processes of creation, they will want to acquire the tools needed to make them, ultimately, musically independent" (Steen, 1992, pp. 6-7).

Introduction

An extensive amount of research on creativity has been done. This section focuses on leading theorists' perspectives on specific components of music creativity related to the elementary music classroom. Next, this section explores research on how creativity is developed by teachers in elementary music. This section will also examine creativity as it relates to 21st Century Learning and Orff Schulwerk.

Prior Knowledge

Campbell (2006); Swanwick & Tillman (1986); Kratus (1991); & Elliott (2015) argued that students' creations are connected to their past experiences. Campbell referred to this as a "bank" from which they can pull ideas from. Elliott (2015) stated, "If we consider, too, that children come to school with songs in their heads, then whatever they begin to explore, improvise, or compose is very likely connected to what they've heard amateur and professional musicians perform during their formative years (p. 340).

Swanwick & Tillman (1986) conducted research on the compositions of children between the ages three and nine. They observed the children as they explored and improvised. Swanwick & Tillman created a spiral theory of the processes of musical development. According to their model, students begin in the sensory stage, and as they move through the stages, their past experiences both in and out of formal music settings

help to shape their compositions. By the vernacular stage, they observed that, "What they do is often predictable, and they have clearly absorbed into their musical vocabulary much from their musical experiences both inside and outside of school, while singing, playing and listening to others" (pp. 332-333).

Baldi & Tafuri (2000/2001) conducted a quantitative research study examining compositions of students looking particularly at form. They were examining whether students' compositions had a clear beginning, middle, and end. Students in this study had no formal music training and medium to low socioeconomic backgrounds. The results supported the hypothesis that students were able to produce music with a beginning and/or an end. They concluded that since the students had no formal training, the structures they utilized were assimilated from their environment.

In a study on students ages five to eleven, Coulson & Burke (2013) focused on finding students' perceptions of creativity. Students participated in listening lessons and in-class performance assessments. The researcher made observations from the lessons as well as in discussions with the whole group following the lessons. Through class discussions, Coulson & Burke found that students believed that making music unique (including many notes, rhythms, endings) would help make it more creative. The students also said that when the teacher played recordings and did demonstrations, it helped them be creative. Students associated creativity with including variables that would make their music stand out from the rest. The data also found a correlation between students' confidence in their musical abilities relating to producing more creative, original music. In exploring students' perceptions of creativity, Coulson & Burke found, "In order to

provide the best opportunities for student creativity, students need to be able to explore vocal sounds, a variety of instruments, and a variety of rhythms" (p. 438).

Exploration/Improvisation

"Composition is not the only end product of the creative thinking process. Performances of precomposed music, improvisation, and careful listening and analysis all involve the creative thinking process" (Webster, 1991, p. 31).

Campbell (2006); Swanwick & Tillman (1986); & Kratus (1991) all cited the importance of exploration in order to create the prior knowledge needed to compose. Students use the exploration stage to discover sounds of instruments and the voice, including range, timbre, techniques, dynamics, pitch, duration, and texture (Campbell, 2006). Swanwick & Tillman (1986) referred to this time of exploration as the sensory stage.

Kratus (1991) discussed the importance of students exploring and experiencing sounds in order to be able to organize them later through composition. "As students continue to explore, they begin to audiate the sounds they are playing, and the musical choices they make while exploring become less random and more intentional" (p. 45).

Kiehn (2003) studied improvisational creativity of elementary school students in grades two, four, and six. Kiehn cites a limitation of studies crossing grade levels in creativity measures. Students were given two measures of creativity: The Vaughan Test of Musical Creativity and the Torrance Tests of Creative Thinking. On the Vaughan test, the second-grade students scored significantly lower than the older grades, showing that musical creativity develops between those years. This study also found significant gender differences, with the males scoring higher then females. Kiehn posed an important point

about the development of improvisational creativity among students in elementary school. Many studies focus specifically on composition.

Composition

"Composition requires creativity—a part of all human beings, although a skill that must be developed. Composition is for everyone from the young student to the adult, but ideal for students who have the basic foundation of musical instruction" (Birnie, 2014, p. 74).

Elliott (2015) discussed creativity as being something original and significant within its domain. The classroom is a specific domain. "To count as creative, a product or achievement must not only exemplify originality; it must make a significant contribution within a specific domain of effort" (pp. 340-341).

Three studies previously cited, Wiggins (1994); Claire (1993/94); & Hamilton (1999), all used collaboration specifically to accomplish compositional goals. All three studies supported peer interactions to help further knowledge and facilitate creative work.

Campbell (2006) indicates that composition is the final component, when students have the chance to reflect and revise their pieces. "Some children may feel more comfortable with this process than others and express more musically sophisticated ideas. All children, however, can benefit, both musically and cognitively, from active involvement in the creation, not just the re-creation, of music" (Campbell, 2006, p. 249).

Creativity and Cooperative Learning

"Cooperative learning and creative thinking are natural companions. Cooperative learning and creative thinking are new ways of thinking about old patterns of education. Groups of people working together can use a cooperative learning strategy to enhance

their creative thinking abilities. People trying to arrive at new solutions to problems can use creative thinking. These two methods enhance one another" (Lyman et al., 1993, p. 89).

"Studying the conversations and musical interactions that take place while students compose with peers can provide insight into how they understand music." (Wiggins, 2003, p. 141).

Faulkner (2003) conducted a qualitative phenomenological research study of group composing in the music classroom. The participants were students aged six to sixteen in a small rural school in Iceland. Students participated in a survey, self-assessment of videos, and semi-structured interviews. "Pupils clearly think that a group-composing situation helps generate more, and a greater variety of musical ideas" (p. 115). Faulkner described a theoretical framework for what he called "collective composing." In this model, greater understanding is achieved through interaction with peers, problem solving, sharing, and the validation of peers. Peers found composing in groups to be more meaningful, enjoyable, and effective.

Creativity and 21st Century Learning

Howard Gardner (2010), when asked about cultivating creativity, discussed the need for those to take chances and even fail in order to achieve (p. 18). According to P21, students should be able to think creativity, work creatively with others, and implement innovations (Trilling & Fadel, 2009).

Creativity and Orff Schulwerk

"Let the children be their own composers" (Carl Orff). The Orff Schulwerk process relies on students creating in the classroom. "The essence of Orff-Schulwerk is to

awaken and develop musical creativity, which, to a greater or lesser extent, is inherent in everyone" (Warner, 1991, p. ix). In talking about the practice of Orff Schulwerk in his classroom, Goodkin (2002) stated, "Through passing on the special vocabulary, specific techniques, assessable skills, key concepts, and traditional repertoires of music will be a necessary part of the program, the core idea is to bring the child's deep need to create out into the world through the vehicle of music" (p. 3).

Critical Thinking

Introduction

Critical thinking described by Sternberg (1985) is "The mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts" (p. 46). Critical thinking research has changed significantly over the years. For the purpose of this study, I examine basic critical thinking theorists and then look at critical thinking as it relates to cooperative learning and Orff Schulwerk.

Higher Order Thinking

The original taxonomy of the cognitive domain developed by Bloom, Englehart, Furst, Hill, & Krathwohl contained six domains: knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom et al., 1956). The taxonomy was revised in 2001 by Anderson & Krathwohl, and now it contains the following domains: remember, understand, apply, analyze, evaluate, and create. Hanna (2007) elaborated on the relevance of music in the new taxonomy, and stated that it "elevates creativity as the most

complex of the cognitive processes, which has positive implications for the field of music education" (p. 7).

Shaw (2014) examined music education as it relates to critical thinking. He cited Bloom's levels of questioning and how they are used in music classrooms. He showed ways they could be reworded and used to achieve higher-order level questions on the spectrum. He stated, "Acknowledging the difference between higher-order questions, divergent questions with more than one right answer, and critical questions helps music teachers examine their practice and avoid 'definition confusion'" (p. 68). Shaw added that music educators may never reach consensus on what is and what is not critical thinking, but through these discussions teachers can make more informed decisions. "Teaching could look noticeably different if music educators embraced critical pedagogy" (p. 68). Shaw proposed an entirely different approach to critical thinking in music classrooms. Instead of focusing on having polished pieces for performance, focus would shift to collaboration, interactions, and conversations between students. Students would be challenged to have crucial conversations with each other and work to relate musical issues to their own lives.

Group Learning Process

Wiggins (1994) stated, "Analysis of peer interactions during musical learning can provide insight into the musical learning process" (p. 232). In Wiggins's action research project, two fifth-grade students were studied for five months while doing small group compositional projects. Wiggins analyzed videotapes and audiotapes to study interactions and strategies used to solve three small-group compositional problems. "Within a group problem-solving situation, individual group members are given opportunities to express

and clarify musical ideas, making this type of learning situation a fruitful source of information about the nature of children's musical thought processes" (pp. 233-234). Wiggins found that the students used a holistic view of the project. They worked from whole, to part, and back to whole to solve compositional problems. She identified three phases in the development. Phase one was the initial planning (selecting instruments), phase two was the development of motivic ideas—done mostly individually, and phase three was reassembly and practice. "It would seem there is much to be learned from children's comments to peers and musical exchanges with peers as they interact with music. Music educators would benefit from further investigation into peer interaction during performing, creating, and listening experiences in the naturalistic setting of a music classroom" (p. 250).

Critical Thinking and Cooperative Learning

"Cooperative learning promotes the use of higher reasoning strategies and greater critical thinking competencies more than do competitive and individualistic learning strategies" (Johnson et al, 1984, p. 16).

Davidson & Major (2014) compared cooperative learning, collaborative learning, and problem-based learning. They emphasized the confusion that exists in many research studies on the sometimes subtle differences. "Cooperative learning activities can be designed at all levels of the taxonomy." They added, "In particular, there is a strong connection between cooperative learning and the development of higher-order thinking skills" (p. 15). They discussed in particular the various techniques that groups of students develop in order to solve problems.

Critical Thinking and 21st Century Learning

"Critical thinking and problem solving are considered by many to be the new basics of 21st century learning" (Trilling & Fadel, 2009, p. 50). Critical thinking and problem solving skills allow students to reason effectively, use systems thinking, make judgments and decisions, and solve problems (Trilling & Fadel, 2009).

"The Partnership for 21st Century Learning Skills denotes the arts as a part of a core curriculum, and the 4Cs as a necessary set of skills needed for success in all aspects of life. Critical thinking and problem solving, creativity and innovation, communication, and collaboration are all inherent in the Orff approach to teaching music and movement in schools" (Vance, 2014, p. 12).

Summary of the Literature Review

Cooperative learning

The vast literature on cooperative learning showed detailed processes for grouping, managing, and carrying out the method. Supportive research articulated the positive impact cooperative learning has on student accountability and positive interdependence. The research added that the greatest struggle in the cooperative learning classroom is management. Cooperative learning is more successful with teachers who already have discipline experience within their classrooms versus novice teachers. Music education research in cooperative learning is limited, but there has been some recent publications and research in the area (Huffman, 2012; Cornacchio, 2008; McGillen & McMillan, 2005). The newer research supported the use of cooperative learning in music classrooms.

Collaboration

Peer, group, cooperative, and collaborative learning have a rich and deep history. Though collaboration is not new, current trends in education have now brought to light the true value of students learning from each other and working together to solve problems.

There have been multiple qualitative studies on the interactions and learning that occurs between peers in the music classroom (Wiggins, 1994; Claire, 1993/94; McGillen & McMillan, 2005). These studies all examined the relationship between peers as they worked at compositional tasks. A clear relationship between collaboration and creative music making was found in all three studies.

Creativity

To be effective at creating music, students need a "tool kit" in place of past experiences with music and skills to apply to new innovations (Campbell, 2006; Swanwick & Tillman, 1989; Kratus, 1991; Elliott, 2015). Creativity is like building with blocks. There must be a foundation to build upon or the blocks will fall. The combinations of possibilities are endless depending on what skills or materials are chosen. Every design is unique and crafted by the builder. Designs can be changed, manipulated, reviewed, and revised to create something new and unique.

Orff Schulwerk classrooms encourage students to explore, improvise, and create. They also focus on teaching the volumes of elemental music developed by Carl Orff and Gunild Keetman. As Campbell (2006) stated, "If they are in environments that encourage them to improvise, arrange, and compose music, they will perceive these activities as natural and a part of what one does to express musical ideas" (Campbell, 2006, p. 249).

Chapter III: Methodology

Overview

The methodology chapter consists of six sections. The first identifies the purpose for qualitative research, and the second offers information regarding the design of the study. The third section explains the selection process for participants. The fourth section discusses the data-collection method in place. The fifth section describes the method of data analysis. The sixth section is the summary.

Conducting Qualitative Research

"The past twenty years have been a coming of age for qualitative research in music education. From a marginal, pariah methodology, qualitative research has become a legitimate, central methodology, with its own conferences, research journals, and venues" (Matsunobu & Bresler, 2014, p. 21). Qualitative research was chosen for this study as a way to discover what current themes are emerging in the classroom as it relates to cooperative learning. I was provided the opportunity to discus in-depth with music educators the process, procedures, and results occurring in their classrooms.

Design

This research was conducted using a grounded-theory design (Strauss & Corbin, 1998; Charmaz, 2006). "On the practical side, a theory may be needed to explain how people are experiencing a phenomenon, and the grounded theory developed by the researcher will provide such a general framework" (Creswell, 2013, p. 88).

Participants

> "Orff-Schulwerk is a teaching approach which promises that we and our students will interact as partners in making music" (Steen, 1992, p. 6).

Orff Schulwerk trained teachers were the chosen participants for this study due to the nature of their process. Orff Schulwerk teachers actively create in their classrooms and encourage group work. Much of the Orff Schulwerk approach involves students and teachers working together collaboratively to solve musical problems.

The participants for this study included seven elementary general music teachers from school districts in the Omaha metropolitan area. All of the teachers interviewed hold Orff Schulwerk certification, which is achieved after taking three levels of courses approved through the American Orff-Schulwerk Association (AOSA). The participants in this study received their Orff Schulwerk teacher training from various institutions around the country, including University of Nebraska–Lincoln, University of St. Thomas in Minnesota, Southern Methodist University in Texas, University of Nevada–Las Vegas, Rock Valley College in Illinois, Hamlin University in Minnesota, University of Missouri–Kansas City, and Colorado State University. The interviewees' years of experience teaching children ranged from 6 to 29 years. This was a purposeful criterion-based sample of teachers (Creswell, 2013). "Purposeful sampling allows the researcher to intentionally select information-rich, illuminative cases for in-depth study" (Abeles & Conway, 2010, p. 294). It was assumed that these were quality music teachers, as they had chosen to continue their education through specialized training and all were currently members of the Great Plains Orff Chapter (GPOC) and the American Orff-Schulwerk

Association (AOSA). All the participants actively continued their membership and attended regular workshops and conferences to continue their Orff Schulwerk training.

Participation in this study was voluntary. Participants were initially contacted via e-mail (Appendix A) using the Great Plains Orff Chapter Membership Roster. They were invited to participate if they met the following criteria:

1) Nebraska-certified elementary general music teacher
2) Certification in the Orff Schulwerk process (three levels)
3) Utilized small groups in the classroom

Once participants responded to the initial e-mail, they were sent a follow up e-mail (Appendix B) to arrange a date and time for an interview. Participants were also sent the Informed Consent Form (Appendix C) prior to our meeting. "The validity of qualitative research with regards to sampling depends more on the richness of the case(s) studied and the researcher's approach, observation, and analysis than on the size of the sample" (Abeles & Conway, 2010, p. 294).

Table 1

Participant Information

Participant	Interview Date	Gender	Years Teaching Children	Years Orff Certified (completed all 3 levels)
Sarah	July 13, 2015	F	18	14
Jessica	July 21, 2015	F	6	2
Lisa	July 27, 2015	F	6	2
Sue	July 30, 2015	F	12	5
Mary	August 4, 2015	F	29	25
Sally	August 19, 2015	F	25	17
John	August 26, 2015	M	23	10

Sarah has taught elementary music for 18 years. She is certified in K–12 vocal and instrumental music. She is also certified to be a K–8 administrator. She holds her Orff Schulwerk certification and has taken Master Classes, which occur after Level III certification is complete. "Master Classes are intended to be a series of specialized, intense, and focused high level experiences" (Hoch et al., 2013, p. 3). Sarah has also taught Orff Schulwerk adult courses. She decided to pursue Orff Schulwerk training because she felt she was "drowning" in her first year teaching and was looking for a solution. She worked in a district where Orff was a part of the culture and was just "what you did." Her music classroom is an Orff Schulwerk classroom. "The process of Orff-Schulwerk is something I use even if I'm teaching a math lesson now or trying to help kids learning to read. The step-by-step process is innate in what I do."

Jessica has been teaching elementary music for six years. She is also certified in K–12 vocal and instrumental music and holds her Orff Schulwerk certification. Jessica initially decided to pursue Orff training because someone in her district highly recommended it. Jessica wanted to ensure she was "doing the right thing," so she did, and found it to be the best way of teaching. "I continued my certification to be a more well-rounded teacher and continue learning."

Lisa has been teaching preK–fifth-grade elementary music for six years. She is also certified in K–12 vocal and instrumental music and holds her Orff Schulwerk certification. Lisa decided to pursue Orff-Schulwerk training due to her experience as a student teacher. Lisa felt Orff was, "the best way I could facilitate learning for the students in my classroom."

Sue has been teaching elementary music for 12 years. She is certified in K–12 vocal and instrumental music. She holds a master's degree in music education. In addition to being certified in all three Orff Schulwerk levels, Sue plans to continue her training through Master Classes and becoming an Orff instructor. Like other participants, Sue was introduced to Orff-Schulwerk early on in her undergraduate work and student-teaching experience. She believes the Orff process "is absolutely amazing in what it does for children." She actively attends local workshops and conferences. A majority of Sue's teaching is focused on Orff Schulwerk process.

Mary is certified in K-12 vocal and instrumental music and has been teaching elementary music for 29 years. She holds certification in all three levels of Orff Schulwerk as well as Master Class. Mary also teaches AOSA approved training courses for teachers. She first discovered Orff Schulwerk activities in her elementary music methods course in college. The instructor introduced her to some enjoyable and engaging activities. She was then provided the opportunity to teach children to create during an elementary observation experience. That experience revealed how enjoyable teaching elementary music could be and impacted her decision to student teach in an elementary music classroom.

John has been teaching elementary music for 23 years. He is certified in K–12 vocal and instrumental music. John decided to pursue Orff training due to his student-teaching experience. His cooperating teacher taught using the Orff Schulwerk process and encouraged John to take levels training. His first job was at a private school where he felt very isolated from the other music teachers. When he moved to a new district, he was able to collaborate with other teachers and finished his Orff Schulwerk training.

Sally has been teaching elementary music for 25 years. She is certified in all three levels, Master Class, and is also an AOSA teacher educator. Sally is also K–12 vocal and instrumental music certified. Sally was initially hired as a band director after graduating from college. At the last minute, she was reassigned to elementary music. She claims it may have been "divine intervention." Sally indicated she "muddled" her way through her first year and then immediately signed up for Orff Level I to "be a better teacher."

Data Collection

This was an interview study. "Many qualitative studies in music education follow an interview design, employing interviews as the primary source of information" (Abeles & Conway, 2010, p. 293). Research was gathered using a standardized semi-structured interview process (Appendix E). "Semi-structured interviews provide freedom for interviewers to pursue further detail concerning topics that arise in discussions with individual participants" (Roulston, 2014, p. 251). All interviews were conducted face-to-face and recorded using an iPad. Participants were notified of recoding procedures in advance and were provided an Informed Consent Form (Appendix C). Interviews were between 30 and 45 minutes long. Interviews were conducted to gather new data to constantly compare with ideas about the emerging theory. Once data became "saturated" with this specific population, data collection was concluded (Creswell, 2013). Locations for interviews included private residences, schools, and a local coffee shop. Written transcriptions of the interviews served as the data for this study.

Data Analysis

A qualitative analysis was performed on the interview data collected. Interviews were analyzed using a constant comparative method. This method uses the data collected and compares it to emerging categories (Creswell, 2013; Roulston, 2014). Themes and/or codes were identified to report commonalities and differences. Interpretative analysis occurred in three stages (Miles & Huberman, 1994). Results were deconstructed into categories to describe content. Content was then interpreted to understand similarities and differences. Finally, data was reconstructed with central concepts or themes emerging. This occurred through the open, axial, and selective coding processes.

Open Coding

As soon as the first interview was transcribed, I began the process of open coding to develop themes and provide an interpretation of the data. (Creswell, 2013). In this inductive process, data was coded into categories of information and assigned a label (Appendix G). Codes included repeated ideas, surprising elements, and elements that related to the literature review. Some codes were pre-set, but most emerged from the data. Creswell describes this as "lean coding," which is a short list of codes. Codes were either *in vivo codes,* the direct words of the participants, or code names developed to describe the information (Creswell, 2013).

Seven interviews were conducted, and each interview was transcribed and coded. The interview transcripts ranged from 8 to 15 pages of single-spaced text. Interviews were read and notes were made on first impressions and emerging themes. Transcriptions were evaluated multiple ways, including line-by-line, by paragraph, and overall to

examine the whole perspective. As new interviews were transcribed, previous interviews were reviewed with newly developed codes applied to transcriptions. Each interview text was assigned a color to help organize data.

As more interviews were read, many codes began to emerge as themes or categories. For example, the category of student ownership developed from codes of "validation," "peer praise," "self-confidence," "pride," and "community."

Axial Coding

Once the process of open coding was completed, the process of axial coding began to connect categories together (Strauss & Corbin, 1998). I began the process of assembling the codes and trying to link categories and subcategories. This shift, from inductive to deductive thinking, created subcategories that related to categories grouped together. Multiple drafts of organized themes were created. When I was able to read through all of the interview data without new themes emerging, I finalized the groupings. Then I began the process of putting themes together. Sixty dimensionalized examples from the raw data were narrowed to 14 properties: communication, collaboration, teamwork, problem solving, compromise, planning, management, expectations, performance, creativity, critical thinking, assessing, problem solving, and ownership.

Selective Coding

Once axial coding was completed, I moved on to the process of selective coding. This consisted of rereading the data and examining the words of the participants as well as the properties and codes to find the intersection of categories (Strauss & Corbin,

1998). I began to see three main themes emerge from the data: modeling, facilitating, and developing. The intersection of these themes is what creates the theory detailed in Chapter V: Discussion.

Summary

This methodology chapter outlined the specific process used by the researcher. Qualitative research was chosen as the method to discover through interviews what processes teachers are using to design creative cooperative learning in their classrooms. The researcher chose grounded-theory qualitative design as a systematic way to collect data (Strauss & Corbin, 1998). A purposeful criterion-based sample of Orff Schulwerk certified teachers was chosen for this study (Ables & Conway, 2010; Creswell, 2013). Research was gathered using a standardized semi-structured interview process (Roulston, 2014). Interviews were analyzed using a constant comparative method of grounded theory (Glaser & Strauss, 1967). Data was open, axial, and selectively coded to find commonalities and differences and generate a theory (Strauss & Corbin, 1998).

Chapter IV: Results

Introduction

Chapter III discussed the method used to collect and analyze data. After transcribing all the interviews, I began open-coding the information gained from the participants' answers. I looked for distinct categories to emerge as I repeatedly read the data. I began to find links in the categories and broke data down into master headings and subheadings. I used different colors to highlight text and identify the various codes. As new codes were created, I applied them to the existing data set. Upon completing open coding, I began the process of axial coding. Using constant comparative data analysis, I was able to compare the codes and categories with new categories as new data was collected. I sought to understand each category by further outlining properties using dimensionalized examples from participants. Grounded theory is a qualitative research design that allows a researcher to generate a theory "grounded" in the data (Strauss & Corbin, 1998). The results were broken into three major themes: modeling, facilitating, and developing. Figure 2 shows the relationship of teachers' roles in creative cooperative learning.

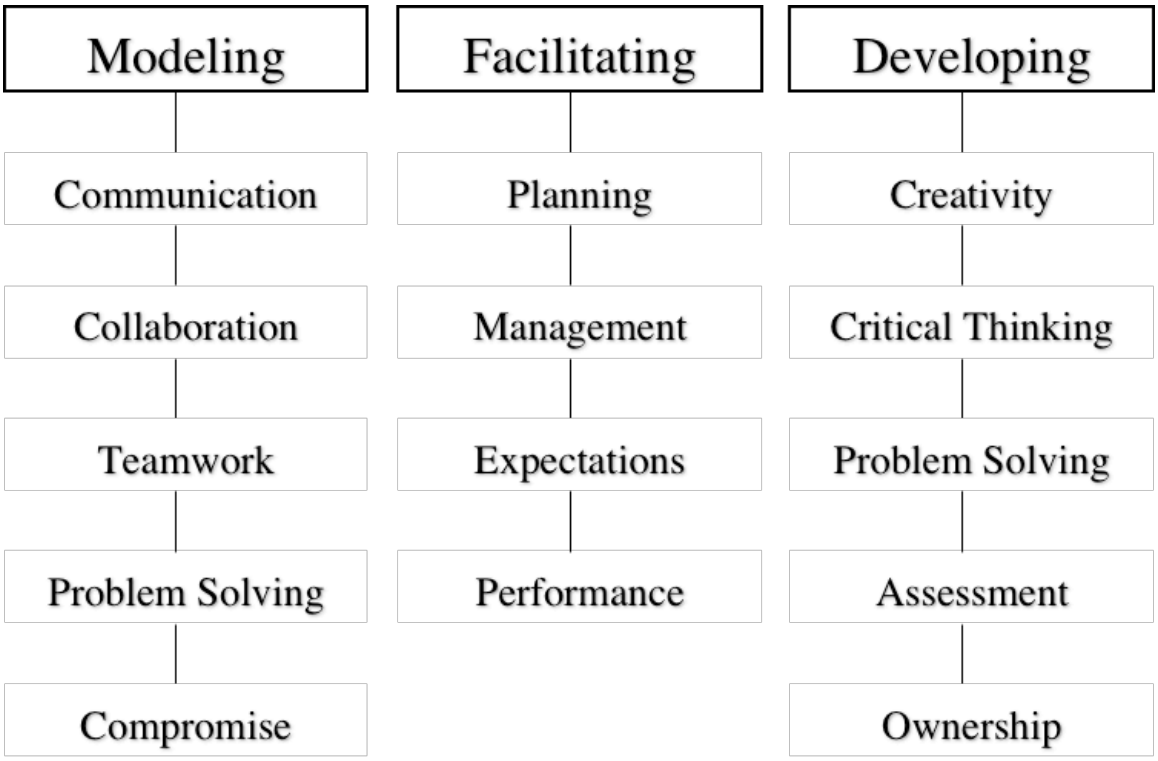

Figure 2: Teachers' Roles in Creative Cooperative Learning

Modeling

The first major theme that emerged from the data was the frequent modeling of specific skills to students prior to working in cooperative groups. All of the teachers discussed modeling in some capacity. Most participants specifically mentioned the process of starting with whole-group instruction. Sally described how she models for the whole class to show the students how to collaborate successfully. "We would start with a group project, taking suggestions from everybody, and everything that people suggest goes on the board. Then we narrow it down to four. We're teaching them how to do this." Sally is demonstrating that everyone's ideas are heard prior to choosing which ideas to use.

Several teachers use role-play scenarios of groups working together to instruct their classes. Three teachers also discussed demonstrating “the wrong way” as an effective teaching tool. Teachers use these different types of modeling in order to teach students how to work together cooperatively.

Sarah also described that in her school, language arts teachers are already modeling small-group work. In fact, she has modeled ideas from these other educators. She discussed shifting the information from a literacy conversation into musical thinking. “I was modeling after what my primary literacy teachers were doing in that they had all of these specific skills, and the stations that they had set up were to teach those specific skills. And generally I taught whatever the station was as a whole-group lesson, reviewed it so they knew what to do, and that it was them that had to go practice the skill.”

Table 2 shows the properties and dimensionalized examples that were specifically modeling to students throughout the cooperative learning process. The properties include communication, collaboration, teamwork, problem solving, and compromise.

Categories	Properties	Dimensionalized Examples	
Modeling			
	Communication	how to offer a suggestion	encourage dissussion
		"taking turns"	"listening to each other"
	Collaboration	"learning from each other"	"you have to teach the process"
		"ability to work well with others"	"working with lots of different people"
	Tearmwork	"we did something together"	"feel a part of the bigger picture"
		"contributing to the group"	"they are never alone in their thinking"
	Problem Solving	"how to take turns"	think for themselves
		"working it out"	finding a solution
	Compromise	"how to reach consesus"	rock papper scissors
		"practicing patience"	combinng varying ideas

Table 2. Properties and dimensionalized examples for modeling

Communication

All the interview participants mentioned the importance of communication skills. Several also mentioned that their students do not come to school with the skills needed to communicate successfully in small groups. Mary specifically mentioned that her students need to learn: "taking turns, listening to others' ideas, taking somebody's idea but expanding on it." Many participants used the term "discussion." Lisa sees the benefit to students working on their communication skills transferring beyond the walls of the classroom. When describing what benefits students see from cooperative learning in music, she said, "Obviously I see a lot of musical growth. But so often, being a teacher, it's not just about the core subject you teach; it's about building social skills. So sometimes seeing kids who I wouldn't see playing with each other on the recess grounds enjoying each other and communicating and building social skills—that's where I think small groups work well."

Sally spends time modeling what a conversation looks like between students. She said in her school, students don't come prepared with the ability to engage in basic communication, so she must take the time to teach them. "So I'll have two students stand up and do modeling of what our conversation will look like, because some don't come in with those skills. And it's frustrating when you try to have them working in a small group and they're arguing over something as simple as how to take turns, how to offer a suggestion, or what to do when you have a problem you need to work out." In addition to words, several teachers discussed the importance of modeling appropriate body language, including eye contact and body facing.

Collaboration

Once the tools of how to have a conversation are in place, many teachers then begin working on collaboration among the groups. The teachers educate the students about beginning to share their ideas with each other and figuring out what will work. Sue described the process of collaboration in her room as very positive and encouraging. She wants her students to support each other through the process.

> I'll even show if I'm in a group, if so-and-so comes up with one idea, especially early on, 1st and 2nd grade, I'll even show me saying, "That's a great idea," or throwing out lots of different ideas and the importance of taking everybody's ideas and putting them together. Even when I'm doing a very early-on 1st-grade activity, I know I want a pattern that has four ideas in it, so I show how everybody gets to pick one. Now we need a movement that goes with it. If it's your idea, you get to come up with a movement for that, and everybody will be okay with that. If you need help, you can offer ideas, but if it's Johnny's word, Johnny gets to pick what movement he likes. Lots of that very basic practicing of what that looks like.

Teamwork

Teamwork takes the step of collaboration further by encouraging students to not only collaborate, but also to work together as a part of something toward an end product. Several teachers described when students start to enjoy the process of working together. Jessica appreciates the relationships that develop between the students. "I think my favorite thing is giggling. I love it when they say something they think is silly or

whatever and they giggle. Then the other kids say, 'No, let's totally do that.' Taking each others' ideas and putting yourself out there is really fun for me in collaborative learning." Mary uses the very direct approach of playing the "party pooper" in the group to model appropriate social interactions. "We often show how not to do it, and I'll be the party pooper. And I'll say, 'Well, was it okay that I got mad and stomped off?' We'll do some role-play, and we'll go over those rules that everyone participates. It helps to teach teamwork." John described how working in a team means that everyone is able to participate in whatever is created. "Everybody needs to contribute. Everyone is included. If you come up with a really cool hand pattern, everybody needs to do it, if somebody can't do it, then you need to simplify. You have to be able to teach it to me, and I'm not very good at doing the stuff. You have to make it very simple. You might think it's very simple, but gosh, I can't do that, so you need to keep it like this. I try to play the student that has trouble getting it, and they know I can do it, but I tried to show them to make it simple, simple. Simple is the best because you can always add on. You spend a lot of time modeling for kids."

Problem Solving

Problem solving comes as a result of teaching the conversation, collaboration, and teamwork skills. Several teachers described that students had to have basic skills in place before they could approach and solve a problem with each other. Sally earlier described the importance of teaching the basics of a successful conversation, including how to listen and take turns. Sally elaborated that she practices with kids, "What do you do when you have a problem you need to work out? That's something that I've intentionally started including in my instruction."

Multiple teachers described teaching the students different methods of problem solving prior to beginning collaborative work. Modeling rock-paper-scissors was mentioned by several teachers as the quick "go to" problem-solving solution. Lisa has spent time working with her kids on solving simple problems. She said, "Kids know that there are four in a group, and if two want an idea, they do rock-paper-scissors."

Compromise

Students can solve basic problems by using skills like rock-paper-scissors, but sometimes solving a problem doesn't always lead to the best solution. Discovering ways to compromise was a theme throughout the data. Sally talked about working through compromise with her students: "I would be encouraging the children to have some discussion in which they may not necessarily agree, but maybe I can suggest some strategies for how they can work through times when they don't agree or they can't come up with a solution for each one to use their own ideas."

Jessica described a situation where students had to choose movements, a song, and a form for a project. They had many decisions to make and had to quickly learn how to adapt and compromise to complete their project. She pointed out the importance of these skills for the future: "Students are going to have to work with people no matter what when they go into the workplace, so learning how to do it now will help prepare them for the future."

Lisa discussed the power of pointing out groups that are working well together, especially if other groups are struggling. It motivates other students to get back on task. She draws attention to the positive example group in the class. "I point out models, especially if a group is struggling. You see how they are using each other's ideas, and

they are okay with the fact that their ideas are not being used. ‘That’s what I’d love to see from you guys.’ This helps the other groups try harder to stay on task.”

Summary

The category of modeling was supported by five properties, including communication, collaboration, teamwork, problem solving, and compromise. Teachers described the relationship between these five components and how they build upon each other. Many teachers described how they specifically model student conversations, including appropriate responses. Students learn how to work effectively together and begin to build the trust involved in working as a team. Teachers also described specific problem-solving strategies they model with students, including rock-paper-scissors. All teachers discussed the importance of modeling and practicing compromise in the collaborative group process to avoid conflict.

Facilitating

The second emerging theme was the role of the teacher as facilitator, derived from the properties of planning, management, expectations, and performance. The term “facilitator” was often used during the interviews. Mary described her role of facilitator as, “Kind of the roaming eye who has ears and eyes open. Maybe gives or offers a suggestion here and there, but not necessarily direction, unless they’re really in need of that.” All teachers mentioned that they actively roam around the room during class. Sally explained, “I am usually circulating through the group to make sure that everybody is on task, and everyone is working together, and they are coming up with an answer. I try to catch them before they get stuck and frustrated. And when it looks like they are close to

being finished and they get that little chit-chat thing going on, then it's time to add something new. So if your first thing is to come up with the word-chain, great. Now I want you add body percussion. Create! Great, now I want you to add a level change." John said, "I am going constantly around the room. I am *not* sitting at my desk, grading papers. I am moving, moving, moving. I'm over there, show me what you got, now work a little more. I'm keeping my eye on all the groups at once." Sue feels very confident in her role as facilitator. "I really wanted to be right there, walking around from group to group and trying to help and facilitate. I found if you really stand back and watch what happens, there is so much. My kids are prepped so well with this. I really can stand back and watch what's going on." Finally, Sarah articulated, "Cooperative learning to me is when the teacher has set the expectations and the parameters and then backs away, and it becomes the students."

Categories	Properties	Dimensionalized Examples	
Facilitating			
	Planning	Imagery	collaborate with others
		multiple materials	multiple media - move, sing, inst., etc.
	Management	"noisy and messy"	Assigning roles
		Grouping students	"keeping them on task"
	Expectations	"Everyone is pulling their own weight"	"everyone has jobs"
		"foster a positive enviornment"	"everyone contributes"
	Performance	Group practice	performing for others
		Social media	"True end result"
		perform for younger students	"good motivator"

Table 3. Properties and dimensionalized examples for facilitating

Planning

When describing the process of teaching creative activities, Mary said that she believes in "starting with the seed of what we're going after and then expanding their choices again, trying to give them a structure or framework to hang on to. And little by little, giving them more options to build on or enhance what they're doing."

Most of the teachers described using some type of visual imagery or text to help start the creative process. Poetry, artwork, and stories were mentioned the most. Sarah shared, "If it's children's literature or books, the pictures are a spring line for kids to start creating. There are kids that still need a concrete place to do anything. Otherwise they have paralysis by analysis."

Many of the teachers described their own collaborative efforts with other teachers in their buildings, as well as other music teachers. The interviewees described projects with art teachers, literacy teachers, grade-level teachers, and even principals. Some collaborative group projects incorporated technology, such as an iPad. Jessica collaborates with the art teacher and the 4th-grade teachers in her school on a Nebraska project. Many teachers discussed the use of poetry, particularly Haiku, in their group-learning environments.

Orff teachers plan using a variety of media, including speech, movement, song, and instruments (Frazee, 1987). The most common media discussed during the interviews was movement. Teachers described having groups of students create motions and actions to go with a piece of art, music, poetry, or an abstract theme, such as a color.

The teachers incorporate many kinds of exploration items into their classrooms, such as puppets or different types of instruments. Many items aid in composition, such as sticks, pictures, marker charts, boards, chips, and other items organized into notation. Pictures and cards depicting suggested movements were also mentioned as a resource in groups.

Management

All the participants discussed their methods for grouping students in order to manage and arrange for cooperative learning. As an example, Jessica's management

strategy is to encourage all her students to be respectful, nice to each other, and open to each other's ideas. "I always want them to share with each other, because usually, almost always, they say, 'That's really cool,' and they learn something, which is part of the collaborative learning. It's not me standing up there; they are learning from each other, and I think that's huge."

The way teachers place students in small groups can vary depending on the activity. Most of the teachers find success in groups of three to five students. Teachers described organizing students in a variety of different ways, creating heterogeneous groups, ability groups, personality groups, behavior-related groups, opposing-skill-level groups, and more. The type of school and activity influences how the teachers arrange students during class. Sarah, Sally, and Mary work in schools that specifically prioritize classroom management. Sarah said, "In a perfect world, I would love to say that I took all my evaluation data for, say, Sol, Mi, La, and made groups of high, medium, and not-so-close groups, but that isn't the reality of it. The school that I taught at has a lot of behavior issues. And at the end of the day, classroom management wins out. So a lot of my groups were spreading out the kids that couldn't work together. And I tried to put a leader with a kid that was going to struggle, because in 30-minutes' time, we have to move forward. And yes, my kids probably didn't get pushed high enough; it's just that reality of the school I taught at."

Jessica uses multiple strategies to form groups of students including occasionally letting them choose who they want to work with. She describes other grouping strategies used, "Sometimes I will group by skill level; maybe I group all my great singers or all my good initiative takers in one group. A lot of times I will group them based on opposing

skill levels. The kid who doesn't have a lot of motivation with the kid that does have a lot of motivation, or the kid who has an excellent singing voice and the kid that needs help with singing on pitch. So it totally depends on what we're doing."

Mary prefers to form students into groups of three to five based on their ability levels. "I find it to be a lot more successful when I pair some of my really skillful musicians together, and then some of the middle-of-the-road musicians together, and some of the kids that are newer to making music together or have other challenges. They seem to work better together when they're working at their level with their peers, and they're not feeling intimidated by somebody who is Xavier Xylophone."

Many teachers begin the process of forming groups by simply asking students to find a partner. Here is an example from Sue's classroom:

> I always start with a partner. "Find a partner." I know they have one person they can really work with. "Now you two find another group of two you can work with," depending on the class. A lot of times, when I know I'm doing something that is for a program or a long-term project, I will do "find a partner," and then I will place a group of two with another group of two. It's two girls and two boys most of the time. Sometimes it's two lower students with two higher students: two students who I know will be great leaders to two students I know aren't as comfortable.

Lisa likes to pair students by abilities. "High with low abilities. Personality-wise, like a student who is kind of shy. I won't put them with the totally out there, because I don't want them to be uncomfortable. But I put them in a group to help push out their personality."

John puts a lot of planning into his groupings. “I look at who I’m putting together. I usually don’t number them off. I might randomly do it some days, depending on the project, but if it’s something I really want to turn out well, I’ll say, “You two need to work together.” Try to keep that equal number of boys and girls, ability levels, because typically what you’re going to have, when you just do randomly, you’re going to end up with one boy and one girl and the boy won’t do anything, or go through six boys that just think the worm is the coolest thing to do. So it takes a lot of planning.”

Some teachers deliberately assign roles to students throughout the process. Jessica mentioned that she sometimes uses leader, timekeeper, and peacekeeper roles. While she may assign roles, she sometimes has the students figure out who would serve best in each role. Other teachers sometimes assign a leader or spokesperson for the group. Several teachers said they do not assign roles, but they encourage various roles through their facilitation.

Sally explained, “If it’s a class in which I am thinking everybody will play nicely, I might just number them off, and it’s just kind of luck of the draw. In other classes, I have intentionally gone through and picked two children that I know will serve in kind of a leadership role and two for whom that might not come naturally. I’m not trying to steamroll anybody, but I’m trying to avoid potential personality conflicts. So again, it depends on the individual class and how we do that. And the activity for sure.”

Expectations

All the teachers discussed the importance of having expectations, rules, or jobs for the students in their groups. Lisa described the purpose of having expectations: “to help

keep them on task, and to help make sure there is learning going on. They are working together and meeting my expectations."

Each subject described the expectations they have developed for their specific classrooms. Sarah explained her rules: "Everyone has to be involved; that's always the first rule. You can't interrupt someone else's learning." Mary said, "Here are my rules for cooperative learning or small group work: everybody participates, every idea has merit, and you don't have to use every idea." Sue described her classroom expectations: "Everybody has a chance to give an idea. Everybody has to listen, and everybody participates." Lisa said, "Here are my expectations: we work together, and every idea is said. It doesn't have to be used, but everybody can say their idea." John said, "Everybody has to be able to do it, and everybody has to be involved." Sue explained that the students in her classroom have "jobs." "In my classroom, they have five jobs: they sing, speak, play, create, and move."

Performance

All the teachers described students performing in some capacity. When describing her students performing, Sally said, "I think it helps. It could be a good motivator. It's good for other kids to see what the other classes are doing. And sometimes I think, when do we have an audience, we get better performance etiquette. For one, it throws them into a little bit of a tailspin, because now there's somebody really honestly watching, and that can be part of what makes our subject area unique."

Sarah has her kids performing for their reading buddies at a younger grade level. She finds great benefit in having the older students perform for the younger students. Jessica encourages all kids to share with each other. Sue described her use of

performance in class: “Every time, we have a performance component. I have a school Facebook page, and I record them all the time and post things. They know what they are doing will be posted, and it makes them work and perform harder. It also gives me a chance to say, ‘Let’s do it one more time.’ There is a true end result.”

Mary has kids perform for each other after group practice. “They learn how to be a good audience and an observant audience. They’re not just sitting and zoning out. They’re learning how to be critical listeners and thinkers. It’s about what they’re observing and hearing.”

Another technique described by a few teachers is group practicing. Group practice provides an opportunity for every student to be engaged in rehearsal simultaneously. Mary describes group practice as a good technique. “When you need to see where everyone is in the process, we do group practice. Everybody does the same thing all at the same time. I can hear and see what they’re doing, but they’re so busy doing their own thing that they’re not paying attention to each other. So group practice is a very worthy thing to do with a group, or when you want to do a check-in.”

Summary

The category of facilitating includes four supportive properties: planning, management, expectations, and performance. All teachers described components of all four properties throughout the interviews. All teachers discussed having a plan organized in advance, but they needed to be able to adapt and change the plan on the spot to meet changing students’ needs throughout the class time. Teachers use a variety of materials and resources including collaborating with music teachers and other teachers in their buildings. The management property includes strategies teachers use to group students

and assign roles. Expectations are set in advanced and often reinforced prior to group work beginning. All teachers expect everyone to participate in group work and have the expectation that all ideas are heard. Finally, the teacher in the facilitator role arranges the performance aspect of group work. Performances could be for classmates, other classes, younger students, teachers, other schools, or parent performance.

Developing

The third major theme that emerged was the role of the teacher as the developer throughout the collaborative process. Teachers richly described ways they travel from group to group and ask questions to develop students' creativity. The role of developer contains the following properties: creativity, critical thinking, problem solving, assessment, and ownership. The participants described these properties as ways they develop their students throughout the creative cooperative process.

Categories	Properties	Dimensionalized Examples	
Developing			
	Creativity	"coming up with their own ideas"	exploration/improvisation/composition
		"willing to take risks"	"comfortable making mistakes"
	Critical Thinking	"verbalize the plan"	expanding ideas
		"synthesis of ideas"	purpose in choices
	Problem Solving	"That's a good idea"	making mistakes and it's okay
		Encouragement	Putting yourself out there
	Assessment	"carefully crafted questions"	Feedback
		technology	Self
		Informal	Peer
	Ownership	Validation	"building self confidence"
		Peer praise	"great deal of pride in their products"
		Community	child is proud of what they created

Table 4. Properties and dimensionalized examples for developing students

Creativity

While discussing cooperative learning in the classroom, the researcher asked, "How often do you have students create music?" The responses from all seven participants are below:

Sarah – “It would be my goal that we are creating something every day.”

Jessica - “Every day.”

Mary – “Pretty much every day.”

Sue – “Every one of my lessons is based off of them using some type of improvisation or creativity. So every day.”

Lisa – “Daily”

John – “I would say every day or every class. All the time.”

Sally – “I’m not sure when they’re not creating!”

These teachers feel called to develop creativity in young children. They specifically facilitate lessons to foster children’s artistry and innovation. The fascinating process of developing creativity in their students can be as simple as walking up to a group and asking the children why they made a particular choice or asking them to try another option. Teachers help to develop the students’ imagination by providing some type of structure, such as visuals, artwork, poetry, and so on. These educators are not just going through the motions; the activities and learning in their classrooms are intentional, planned, and practiced. Jessica describes the creative mind of a child. “I love to give them at least a little bit of framework, so I will use poetry or a story or a piece of art to give them something. This is how we are going to hone all those crazy ideas that you have in your head. Because creativity can be so open-ended, I like to at least give them a little bit of structure, so they know where to start.”

Sarah talks about the explicitness of the artistry. “I saw the power of kids working together in small groups without the teacher in more then just, ‘Hey, we’re gonna come up with a movement,’ or ‘we’re gonna come up with a melody.’ They were working

together. They have to create, they have to have critical thinking, and they have to have problem solving without someone being really explicit about their pride."

Jessica notices so much more freedom in students' compositions when they are given the opportunity to work in collaborative groups. "Giving them creative freedom is exactly what you're teaching when you're doing collaborative learning. Creatively, their compositions have gotten much more free and not so rigid, meaning they add more than three notes to the composition. They feel comfortable making mistakes. It's okay; they'll fix it for next time. They don't see the mistakes a lot anymore. It's just a note that passed by. Confidence."

Every participant mentioned that learning music collaboratively is an incredibly noisy exploration process. Their classrooms are very different from other subjects. But the noise contributes to the children's success when they are focused on the task at hand. Not one teacher said the noise inhibited group work in their classrooms. They did mention that some particular activities, namely recorders, presented more of a challenge then others. Teachers incorporate many strategies to spread kids out and utilize the classroom space in productive ways. Jessica, Sally, and Sarah in particular focused on the noise component. Sarah described it as, "*Lots* of noise. If the principal walks in, it looks like chaos. We have to establish boundaries of conversations versus screaming and out of control." Sally described the cooperative creative processes as very loud and very messy. She explained that this could be challenging for other teachers and administrators to understand. Music teachers are unique at providing an atmosphere of productive controlled chaos. There must be structures in place to regain focus during collaborative efforts. When describing what creative cooperative learning looks like in her classroom,

Sally said, “In the beginning it’s usually noisy, and is very messy. I think that that’s the part that’s the hardest for those of us that want to have pretty products from the get-go. So much of what we see in our training and our workshops and in what we do looks lovely, because were able to do that as adult musicians. That process just happened so much faster. And little ones, they’re still learning how to do that process. So this thing that I try to instill in them and in other teachers I work with is just to say, ‘Be comfortable with letting this be messy for a while.’”

Critical Thinking

All the teachers in this study described critical thinking skills in some capacity. Through the activities they provide, the teachers are constantly questioning students, encouraging students to add more, and increasing the level of difficulty by adding levels, instrument parts, movement, formations, etc. Mary said it is important for students to be able to verbalize their plans. Students must show that they have a purpose in adding a specific instrument or part. It must add to the creative product in some way. Having students describe that purpose forces them to use deeper-level thinking skills to evaluate the need for that new part. “That innovation process. Take an idea and putting into practice is a big part of the innovation initiative, and so I see that happening. But it’s not just one person; it’s that synthesis of ideas that is coming out of the group.”

Sue describes students listening to each other, evaluating ideas, and using them in their own creations. “You see one group come up with an idea that’s really amazing. The next time, you see that same idea incorporated and the ideas expanded even more. They are really learning from each other as they are listening to each other and watching each other.”

Many teachers describe their role as the one who makes suggestions of what to add as students are working. When a group has reached a point where the children appear to have solved a musical problem, the teacher might walk up and say, "Have you thought about adding some wood blocks?" or "How about you make the melody go higher?" Jessica explained, "You're the line in the sand that can't be crossed, and you're also there if they get stuck to give them prompts or ask them questions so they know where to go." Sue also uses this strategy. "I say, 'Now you need to have one level change in there. Do you have a place where you can change high and low? Or, 'Now you need to have a formation change.' Kind of building some of those levels in there."

Problem Solving

Problem-solving strategies were frequently mentioned throughout the interviews. Earlier discussion on problem solving related to the teacher's role in modeling it with the students including intentionally teaching skills to aid with compromise. This section expands the definition of problem solving to include developing the children's skills throughout the creative, cooperative process. Problem solving includes solving musical or compositional problems as well as social problems. In the role of problem solving under developing, the direction shifts to the way teachers encourage students throughout the process and the challenges and sometimes failures that students encounter along the way.

Many of the teachers specifically mentioned arguing between the children as a cue to intervene. When students disagree in the classroom, it provides an opportunity to see how modeling skills for problem solving and compromise works. Mary intervenes, but she doesn't fix the problem. Rather, she encourages the students to solve it. "It's not me telling them what to do. It's them figuring it out together. And they can't exclude

anybody, and they have to be selective, because kids have a zillion ideas, and they can't use everyone's ideas. So they have to learn how to be selective and have some discretion." The teachers described many instances of stepping into an argument without solving the problem for the students. The students must come to a solution to take ownership of the situation. They may need guidance to remember some problem-solving and compromising strategies, such as rock-paper-scissors.

In addition to solving social problems, students must also work to solve musical problems presented by the teacher. Sally explained, "I would give them a particular task to do, whether that was deciding on a combination of words that they're going to use for rhythm or making decisions on the way they're going to accompany a piece. They have to problem-solve through it." Mary added, "We all know this song, but now your group has to figure out a way to move to it or dance to it."

Failure is another important component mentioned by several teachers. In order to solve problems in music, students often have something fall apart or fail. Sarah articulated the importance of problem-solving in the development of the child.

> With all the 21st-century learning skills and college and career readiness and the other acronyms flying around out there, at the end of the day, we need students who can think for themselves. They can think critically, but they are never going to have a job where they are alone in their thinking. They have to learn how to work together and find ways to take two varying ideas and fit them together. Or they try one idea out and see that it fails and know that it's not a failure as a terrible thing, but that there is a better way. They say their ideas or they speak whatever they are thinking,

> and there isn't any room in their minds to hear an opposing view. And then we are in this huge disagreement. Being able to solve problems on a small scale when they are little will only lead to positive things as they get older.

As students work through their problems musically and socially, providing encouragement is another important identified role in students' development. This encouragement often comes from the teacher, but it also comes from other students within the group. Teachers talked about their roles as encouragers to groups throughout the process of creating music. Mary described how students encourage each other.

> Sometimes you see kids being compassionate with somebody in their group that maybe needs a little extra help or encouraging each other; that's really cool. Occasionally you find oil and water, and they don't always mix. And to see how they work through that: Are they going to be able to come to an agreement, or are they just not going to be able to make anything happen that day? You see a lot of those things, but mostly they're positive things.

Sue has a strong focus on encouraging students in her classroom. She finds that praise and inspirational language truly motivate her students to work harder and bring out their best in all projects. She said, "I think as the teacher, as I am complimenting each piece and having the children say, "This is something I really liked about what they did," it's such a confidence booster."

Assessment

Sue explained, "It's easier to assess in groups." The role of a teacher as an assessor is a wide-ranging category. Every person interviewed talked about the ease of assessing in small groups, utilizing the ability to check in with kids in an informal or formal way. Small groups provide the ability to have students provide constructive feedback to each other and utilize technology to aid in authentic assessments. This section is broken into the following sub-sections: informal assessments, peer assessments, self-assessments, and the role of technology in assessments.

Informal Assessments. Mary laughed as she explained that she assesses in small groups frequently.

> All the time. Because then I could do it when they don't realize I'm doing it. I can easily check and see rhythmic accuracy. Are they reading them correctly? Are they performing them correctly? I can tell if they understand form. I can tell if they are matching pitch and singing. They have no idea, because I'm just roaming the room, and I don't have my clipboard or anything like that. I'm just taking notes. Out of all the kids in here, I heard three kids that are going to need to do some intervention on whatever skill it is. I think it's a pretty authentic way to do it. They're comfortable, and I am hearing what they hear, not what they think I want to hear."

Jessica and Lisa also use groups to constantly check where students are in an informal way. Sue said she does "lots of scanning. Is everyone keeping that steady beat? I have a group with movement and a group with drums; now I can assess."

Peer Assessments. All teachers articulated the importance of children watching and evaluating other performances in their classrooms. All discussed including peer assessment in some capacity. They are all very careful how questions are crafted and used in their classrooms for productive and helpful feedback. John's method is, "I always say it has to be something positive. Give me one positive thing you liked about it. Give me another thing you liked about it. Then, what could be changed to make it better?" Mary has the groups perform for each other. She then assigns everyone a task while they're watching and instructs them, "I'm going to ask you to tell me three things you noticed about what you just saw or heard from your classmates. What did you notice? What did you wonder about?" Sally explained that the way questions are asked is important. "I carefully craft questions so that they hopefully aren't given the opportunity to make hurtful comments. 'What did you see that was particularly interesting?'"

Self-Assessments. Music teachers use a broad range of different methods for self-monitoring or self-assessments. Sarah uses a thumbs-up or thumbs-down approach. "'How did you work today? Give yourself a thumbs-up or down? Put it on your chest. If you know you worked hard, give yourself a five. If you have something to improve upon, give yourself a three.' I do a lot of that self monitoring on the chest so the class doesn't have to see it, but then it can be conversations later." Mary uses deeper-level questioning as a form of self-assessment and reflection for her students. "Then I ask the group that performed, 'What would you do to make it even better?' Because it's never done, there is always an opportunity to take another step or further or enhance it somehow. Always that quest for learning."

The role of technology in assessments. Sarah often uses technology in the classroom to gather authentic assessments for later review. She describes, "When I'm doing some sort of composing or creating element, I record it and play it back for them so they can have a real evaluation of it. That's the benefit of technology today. Where as when I started teaching, it was, you know, listen to the first group, and together two groups would critique or that sort of thing. It's interesting to watch a little kid's face when their creation has been played." Sue said that technology "is actually where I do my assessing the most. Because I videotape it, and I get the opportunity to assess." Sally talked about the ease of just going down the line and gathering a quick assessment to be reviewed later. John also mentioned the ease of being able to travel around the room with his iPad.

Ownership

Providing students with the space, time, and tools to create something and take ownership of it was a recurring theme in the interviews. Sarah said, "My own goal is that they have some type of personal ownership for every lesson, every day." That personal ownership provides students with "buy-in" to what they are achieving. Students feel like an important contributing part of the group. Sarah added that when they feel ownership of their creations, students are motivated to share them with others. Mary also said that providing kids ownership of helps keep them on track. Sue explained that she incorporates students' creative products from the classroom in all of their public performances. She said, "When the child gets the chance to be a part of not just the music making, but a part of the final project or outcome, the ownership of it—they buy into it

much more. They love my music programs because they are performing their own ideas for their parents."

Self-Confidence/Pride. When students create and share something with their peers, they feel self-confidence and pride, which contributes to students' sense of ownership. Once students receive validation and positive praise, they are more confident in their skills as musicians. Jessica stated, "When you're creating, you're building your self-confidence, being able to think for yourself, not always looking for the answer that someone wants, but being able to find the answer on your own and knowing that it makes sense to you." Sue's classroom includes a lot of positive praise and building students up. She said, "There is something about coming up with your own stuff. There is something about being able to work in a group and being proud of what you have done. I think as the teacher, as I am complimenting each piece and having the children say, 'This is something I really liked about what they did,' it's such a confidence booster. And I feel like working in a small group helps them get to their end point quicker, and it helps them get better. There are so many ideas being thrown out that they are able to take something further and have that group feeling of, 'We did something together.'"

In his discussion on small groups, John described a typical student who struggles to perform in front of the whole group. "I think you get more chances for more individuals to show their ideas. You get that kid that would be too embarrassed to share in front of the whole class and would share in a small group of two or three kids. I really see groups helping build up self-confidence."

Validation/Positive Peer Praise. Another important component to ownership is the validation and praise that students get from their peers. Many of the teachers have

their students perform specifically for younger students. Sarah discussed how performing for their reading buddies at a younger grade level gives them pride in what they have created. Sarah also talked about the power of using technology like Skype to perform for other teachers or music classrooms. She said that hearing positive feedback helps validate what students are doing and gives them ownership over their products.

Jessica encourages all of her students to share often. "I always want them to share with each other, because usually, almost always, they say, 'That's really cool,' and they learn something, which is part of collaborative learning. It's not me standing up there; they are learning from each other. And I think that's huge."

Sue described peer praise as a result of viewing video recordings. "This is one of my favorite things. I actually take videos of this a lot, just children working together. I just love hearing, 'That's a good idea,' or that initial practicing of something, or they are working on something and you hear, 'Oh, oh, oh! What if we did it this way?'"

Summary

The category of developing is supported by five properties, including creativity, critical thinking, problem solving, assessment, and ownership. Participants discussed all five properties throughout the interviews. All participants claimed they create music daily in their classrooms, describing rich lessons to focus and develop skills. The connection between creating and collaborative groups was often described throughout the interviews. Many teachers described using various questioning techniques to encourage creative outcomes and help develop critical thinking skills. Intervening to help students utilize problem-solving skills is another way teachers develop their students throughout the process. Many different types of assessments, including informal, peer, and self were

frequently used. Technology is a beneficial resource many teachers described for assessing in small groups. Students are recorded and can be watched later for teacher assessment or for self-assessment and peer-assessment. Teachers often discussed self-confidence, pride, validation, and positive peer praise as also helping to develop students' sense of ownership over their product.

Chapter V: Discussion

Introduction

Chapter II focused on the review of literature relating to cooperative learning. Research and studies examined cooperative learning, collaboration, creative learning, and critical thinking. Chapter III focused on the design of the research including the collection of data and analysis. Chapter IV discussed in depth the results of the interviews, showing connections. The goal of Chapter V is to bring all chapters together, evaluating interpretations from the data and finding connections and relationships to the current state of music education. This chapter is divided into five sections. First is an interpretation of the data in narrative form. The second section is an elaboration and discussion of the data. The third section compares the data to the literature review. The fourth section is the conclusion and implications for music education. The final section includes practical applications and recommendations for future research.

Creative Cooperative Learning in Action: An Example from the Classroom

This narrative below is a compilation created from the responses of the teachers interviewed for this study. The following asterisks will be used to indicate which role the teacher is demonstrating.

* modeling
** facilitating
*** developing

Fourth grade students walk into Mrs. Johnson's room and immediately notice four new pieces of art hanging on one wall. Mrs. Johnson tells the kids they will be starting a

new project today. They will be creating music and movement to represent a piece of artwork.** Mrs. Johnson explains the project in detail. She refers to another wall where different elemental forms are posted (ab, aba, abba, etc.) to remind students they will have to match the form with the music and movement. She then brings their attention to the other wall, where she has various locomotor and non-locomotor movements posted for students' reference.** Mrs. Johnson has three students come up and demonstrate specific movements to the class.*

Mrs. Johnson has carefully selected groups prior to the students entering her classroom.** She has chosen to group students by ability level based on previous assessments.** For her warm-up, Mrs. Johnson has the students review a game of rock-paper-scissors.* She demonstrates how the game can help students solve problems simply.* She then has two students act out an argument during the game. The class works together to help the students compromise.*

It's time for the project to begin. Mrs. Johnson has carefully planned where groups will work in her classroom.** They have chosen which artwork they will use, and she asks the students to go to their locations to begin the project. Mrs. Johnson circles around the room, checking in with groups.** She notices Sally is not involved in the discussion with her group. Mrs. Johnson reminds Sally's group of the most important component of group work: everyone participates.** She walks up to another group. She sees that they are stuck and are not sure what direction to take with their piece of artwork. Mrs. Johnson points out the trees in the picture and asks the students what they think the purpose of the trees are in that piece.*** This sparks a conversation about why the artist included the trees and how it could be incorporated into their movement. Mrs. Johnson

continues to move around the room and notices group three is arguing about whose movement idea will be used first. She quickly steps in and begins conflict resolution with them.** She encourages them to use one of their problem-solving skills to reach a compromise. She points out another group that is working successfully.* Mrs. Johnson moves to the final group, which is working far ahead of the others. The students have created something and are practicing. Mrs. Johnson notices that this group could push even farther. She asks, "Have you thought about incorporating a change in level to your movement?"*** The students began a conversation about the purpose of changing levels and how to apply it to their work.

After ten minutes Mrs. Johnson strikes a triangle as a cue for the groups to stop discussing.** She notices they have ideas prepared and are ready for group practice. All of the groups practice their music and movement simultaneously.** She then asks them to stop and take time to reflect and revise their creative works.*** This is followed by a second group practice.

After the students have polished their creations, Mrs. Johnson asks the students to sit and watch each group perform.** She carefully crafts questions for the students to consider.*** Students are to provide feedback to the other groups following the performance.*** The first group performs and receives glowing feedback from their peers, led by Mrs. Johnson.*** The students are very proud of their accomplishment.

* modeling
** facilitating
*** developing

Elaboration and discussion

The example above is a synthesis of the Chapter IV results. The ideas and words were taken directly from the teachers interviewed for this study. The purpose was to demonstrate how modeling, facilitating, and developing work together in the cooperative music classroom to guide students through the process of creation. Mrs. Johnson is implementing a theory in action. The teachers interviewed in this study perform multiple roles throughout one music class, and in order to provide successful student experiences, the teachers have to seamlessly and frequently switch between different roles throughout each lesson. These teachers' training help them know when to step in and help develop an idea or when to step back and let students take the lead. They are prepared to interject ideas and model skills as needed so students can successfully work together to create music.

In order to help students learn to work successfully in a group, these teachers use the modeling role to demonstrate communication, collaboration, teamwork, problem solving, and compromise. Once those skills are practiced, and students are prepared, the teachers plan and facilitate activities to create an outcome. The facilitating and development roles work in conjunction to support students through the creative process at the level they need. The facilitation role is the structure and organization for the activity, while the development role pushes students to deeper levels of understanding and creativity. The teachers perform all three roles during class to facilitate successful cooperative learning.

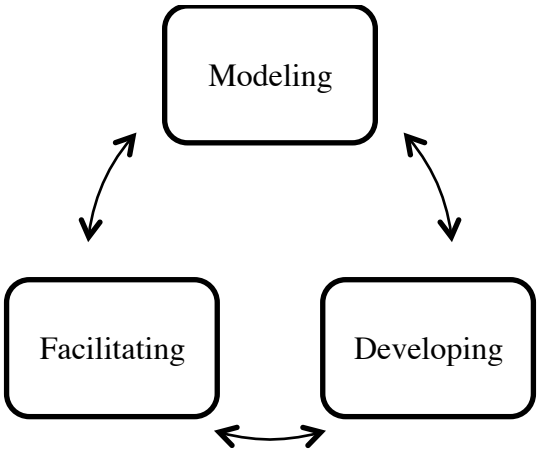

Figure 3: Connecting Teachers Roles in Creative Cooperative Learning

Figure 3 demonstrates the relationship between the three emerged themes in this study. The themes are connected, and when teachers use all three together, the roles they perform can support students and help them yield successful creative results. "Modeling" teaches students to communicate and collaborate in an appropriate way. "Facilitating" ensures the structure is in place for the learning objective. "Developing" helps students reach their full potential.

Relating to the Literature Review

As discussed in Chapter I, there are many terms used to describe peer, group, collaborative, and cooperative learning. Davidson & Major (2014) provided a detailed description of the difference between cooperative, collaborative, and problem-based learning. Lucy Green (2008) described the difference between peer and peer-directed learning. I chose cooperative learning for this project based on my research and experiences in the classroom as an Orff Schulwerk teacher. None of the teachers interviewed in this study ever received formal training in cooperative learning. All the

teachers in this study described specific components of cooperative learning in their classrooms. Many of them identify the Orff Schulwerk process and training as instrumental in preparing them to teach music cooperatively. Jessica described Orff Schulwerk and cooperative learning as synonymous. "It's like one and the same for me. Orff Schulwerk is cooperative learning. Cooperative learning is Orff Schulwerk. It's kind of like an equation."

Cooperative Learning. The first research sub-question I asked was: What components of cooperative learning are being implemented in the music classroom? As indicated before, none of the teachers had any specific training in cooperative learning, yet all teachers incorporate very specific components of cooperative learning into their classroom instruction of small-group learning. In Chapter II, we discussed Johnson, Johnson, and Houlbec (1994, 2010) identifying three types of cooperative learning: formal, informal, and cooperative base groups. Teachers cited many examples of informal activities. They also described formal and cooperative base group projects that stretched over many weeks and often led to a final recorded product or a musical piece created for a performance in front of parents and guardians. The following categories below are specifically identified components of cooperative learning.

Positive interdependence (Johnson, Johnson, & Houlbec, 1994; Jacobs et al., 2002; Lyman et al., 1993; Kaplan & Stauffer, 1994). Throughout the interviews, teachers identified specific components of positive interdependence as one of the main focuses of cooperative learning. Sarah said, "We are all in this together." Jessica added, "Everyone is pulling their own weight. Everyone has to do jobs. No one can just sit and be lazy."

Almost all the teachers list "everyone participates" as one of their rules for group learning.

Individual accountability (Jacob et al., 2002; Lyman et al, 1993; Johnson et al., 1994). Teachers identified students' personal responsibility for participation as one of their expectations. Almost all of the teachers had some type of parameters for everyone participating. Sarah and John specifically stated, "Everyone has to be involved." Mary and Sue said, "everybody participates" is one of their parameters.

Interpersonal and small-group skills is another cooperative learning component in the research. Jessica described these skills as very important for students to make and keep friends, as well as for their future careers and jobs. She said, "Learning to work with others is huge; that is important. Learning to feel comfortable speaking your mind. If you don't feel comfortable doing it in front of adults, but maybe in front of your peers. Learning to be able to let people help you, which is a huge skill." John and Sue also described specific skills coming out through groups, such as leadership.

In the interviews, all teachers identified their use of group processing, which Kaplan & Stauffer (1994) described as the reflection and assessment component. Mary talked about group practice as a time for students to reflect on what they have accomplished and make changes. Sally talked about very carefully crafted questions to guide students through reflection and feedback.

There are many specific strategies utilized for grouping students in cooperative learning. Jacobs et al. (2002) said that successfully arranging students in groups requires advanced planning. Groups of students are typically heterogeneous. All teachers

interviewed discussed a variety of methods they use for grouping students. Depending on the project, grouping may be planned in advance, but very often is done on the spot.

Collaboration and Creativity. Williams (2001), Claire (1993), & Hamilton (1999) all found peer group interactions further knowledge. Their findings align with the teachers' rich descriptions of students taking each others' ideas and expanding upon them. Sue discussed her students building on each other's ideas. She said, "You see one group come up with an idea that's really amazing. The next time, you see that same idea incorporated and the ideas expanded even more. They are really learning from each other as they are listening to each other and watching each other."

A qualitative study by McGillen & McMillan (2005) explored the connections between music making, cooperative learning, and sociomusical relationships. They found a clear relationship exists between cooperative learning and creative music making. They also found very positive engagement among students. The teachers interviewed described students as engaged throughout the process while exploring creativity. Lisa describes the relationship between small groups and creativity through the Orff process: "The process of Orff Schulwerk is so heavy on the creative side that being in small groups just lends itself more naturally to that creative process. I'll teach a whole group song or instrument piece. Then, we create contrasting sections, that's where the creative and small group aspect comes into play. I think they compliment each other well."

Campbell (2006); Swanwick & Tilman (1989); Kratus (1991); Elliott (2015) proposed that past knowledge and experiences students have provide them with a "toolbox" or "bank" of information with which to create. Teachers also described this musical experience as building over time. Sue described the process of students

collecting musical knowledge to make them successful by the time they reach 4 or 5th grade.

> The kids have the chance to brainstorm different ideas, and most of the time we string those together. All of my composition is improvisation first. Or we start with discussions of what we want things to look like. If we start those conversations in kindergarten and first grade, then we know by fourth and fifth what the expectation is and can put it together easily.

In Campbell's research on creativity (2006), she said inspired artistry starts with exploration, and then moves to improvisation, and finally to composition. Campbell's assertions align directly with the Orff Schulwerk process as described by the teachers interviewed. Every teacher interviewed specifically mentioned a period of exploration, that "noisy and messy" stage that eventually leads to improvising different options and finally to the creation of a product that is practiced and modified and performed as a group composition. Jessica explained:

> The creative process of Orff Schulwerk is exactly what helps with cooperative learning. Because you're letting them be the creative process so you *have* to give them control, which is hard for teachers. But that is exactly what helps them with the creative process: giving them control.

Campbell (2006) described that students who are involved in exploration, improvisation, and composition environments will find it natural. That was also expressed in the interviews by the teachers. They all describe classrooms that incorporate exploration,

improvisation, and composition elements daily. When describing this type of classroom, Sarah said, "It's just what we do!"

Howard Gardner (2010) stated that sometimes, failure is necessary in order to achieve creativity. Sarah said that the first time her students do group work, it's usually a disaster, but it gives them a place to build from. Jessica also talked about students being comfortable making mistakes in her classroom. Her students learn that errors are okay, and their creations will improve each time. Mary said, "They learn from their mistakes, and that it's okay to make mistakes. They learn how to be a little bit of risk-takers. Some are better at that than others."

Critical Thinking. The four Cs of 21st Century Learning, as cited in the literature review, are communication, collaboration, critical thinking, and creativity. Participants frequently referred to all four areas during conversations. Sarah explained:

> With all the 21st-century learning skills and college and career readiness and the other acronyms flying around out there, at the end of the day, we need students who can think for themselves. They can think critically, but they are never going to have a job where they are alone in their thinking. They have to learn how to work together and find ways to take two varying ideas and fit them together. Or they try one idea out and see that it fails and know that it's not a failure as a terrible thing, but that there is a better way. They say their ideas or they speak whatever they are thinking and there isn't any room in their minds to hear an opposing view. And then we are in this huge disagreement. Being able to solve problems

> on a small scale when they are little will only lead to positive things as they get older.

Conclusions and Implications for Music Education

This section concludes this paper with a final interpretation of the meaning behind this research as it relates to the review of the literature, and what the implications for music teachers may be in light of these results.

Cooperative learning can be an extremely useful tool for educators in the music classroom to teach creative concepts if properly structured. Orff Schulwerk teachers naturally incorporate cooperative learning methods into their classrooms. Working in collaborative groups is often part of an effective Orff Schulwerk teacher's classroom. This research can easily be adapted to any elementary music classroom as a possible way to approach improvisation and composition activities to support the new state and national standards. It also may help with the development of students in the 21st century, creating critical, divergent thinkers and students who can solve problems and collaborate.

Developing the "Whole Child." This study suggests that Orff Schulwerk teachers are dedicated to teaching the "whole child." They do not just focus on musical skills; instead, they make sure children leave their classroom as contributing members of society. The final question of the interview was what teachers wanted students to take with them when they leave the classroom. Jessica stated:

> I want them to be a whole person. That's what I want. I don't just teach music; I teach people. I want to teach little citizens. I want to teach them to be awesome parts of the world. I want to teach them to be respectful to each other, and I don't

> think that's something I would stand up and teach them. So I think collaborative learning has been awesome for that, because that's something they learn while doing and while experiencing it. I'm teaching them music, but music is teaching them all of these skills.

Jessica uses music as her method to teach students many other skills. She cares about her students becoming functional, caring citizens. John also articulates the theme of music being the "vehicle" for teaching children skills.

> I teach students by using the tool of music. So, in my room I'm teaching manners. I'm teaching social skills. I'm teaching behavior, and I'm teaching friendship groups. I'm teaching by my example. It just happens that I use music to do that. So I really believe that if a student comes out of music knowing another skill besides an eighth note; that's the least thing I'm worried about. I'm worried about that child as a person. And when they leave here, how are they going to interact in the middle school. Yeah, they might not play very well in the band, but they're going to know how to be a contributing member to that band, or to that middle school or to society. So I use music as a tool to teach children. Some teachers use math to teach children or science. I use music.

These two teachers, as well as many others in the study, do not expect students to become famous music performers, but the teachers do want them to carry the skills they learn in the music classroom and apply it to their lives. Creative cooperative learning helps to provide opportunities for these teaching moments and life skill applications.

This study suggests that in order to meet the needs of a changing 21st-century society, elementary music teachers may benefit from more development in Orff Schulwerk processes and/or cooperative learning. Orff Schulwerk classrooms help to meet the P21 standards, and they support our new national and state standards. Sarah articulated a perfect perspective. When asked why she teaches students to create music, she said:

> Why wouldn't I? That's what we do. I could talk about teaching kids to create, teaching them to think, all of those important things. The thing that makes me giggle is, you talk about college and career readiness, and you talk about 21st-century skills, and I can't help but think, 'Orff Schulwerk has been doing this for 60 years.' Like, come on, people; that's what we do. I do it because it works, and it also gives the kids what they need. So why wouldn't I teach them to create?

Recommendations for Future Research

Due to the new 21st Century Skills initiative, there has been renewed interest in collaborative research. There is still a need for more research in the area of music. Carol Huffman's book, *Teaching Music Cooperatively,* is an excellent resource for those wanting to begin the process of integrating cooperative learning in the music classroom. Huffman is a certified Orff Schulwerk teacher with extensive training and background experiences implementing cooperative learning into elementary music. Kaplan & Stauffer's book, *Cooperative Learning in Music* (1994), also provides examples of lessons and ways to structure cooperative learning in a music classroom.

This qualitative study provided the opportunity to seek how teachers structure and organize small group learning within their classrooms. It also provided a more in-depth look at cooperative learning, creativity, and critical thinking. It examined the role of the teacher in the creative cooperative process from the perspective of the teacher. It would be beneficial to enter the classroom for observation of this process in action. In addition to observation, future quantitative studies comparing cooperative learning with whole-group instruction or other group-learning strategies would be beneficial to show if there is significant difference in the teaching processes. Future longitudinal studies may also benefit education by looking at the impact of collaborative group work on the development of musical and/or learning and innovation skills. Continued study in this area would benefit music education as we continue to meet the needs of students in a changing society.

References

Abeles. H. F., & Conway, C. (2010). The inquiring music teacher. In H. F. Abeles & L. A. Custodero (Eds.), *Critical issues in music education: Contemporary theory and practice* (pp. 276-302). New York, NY: Oxford University Press.

Alexander, L., & Dorow, L. G. (1983). Peer tutoring effects on the music performance of tutors and tutees in beginning band classes. *Journal of Research in Music Education, 31,* 33-47.

Allsup, R. E. (2003). Mutual learning and democratic action in instrumental music education. *Journal of Research in Music Education, 51,* 24-37.

American Orff Schulwerk Association. (2015). What is Orff Schulwerk? Retrieved from http://aosa.org/about/what-is-orff-schulwerk/

Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Abridged. New York, NY: Longman.

Andrews, K. (2013). Standing 'on our own two feet': A comparison of teacher-directed and group learning in an extra-curricular instrumental group. *British Journal of Music Education, 30*(1), 125-148.

Baldi, G., & Tafuri, J. (2000/2001). Children's musical improvisations: Many ways of beginning and ending. *Bulletin of the Council for Research in Music Education, no. 147,* 5-21.

Beegle, A. C. (2010). A classroom-based study of small-group planned improvisations with fifth-grade children. *Journal of Research in Music Education, 58*(3), 219-239.

Birnie, R. (2014). Composition and recorders: A motivating experience. *Music Educators Journal (March 2014),* 73-78.

Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H. , Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain*. New York, NY: David McKay Company.

Brody, C. M. (2004). The instructional design of cooperative learning in teacher education. In E. C. Cohen, C. M. Brody & M. Sapon-Shevin (Eds.), *Teaching cooperative learning: The challenge for teacher education* (pp. 185-194). Albany: State University of New York Press.

Campbell, P. S. (2010). *Songs in their heads: Music and its meaning in children's lives* (2nd ed.). New York, NY: Oxford University Press.

Campbell, P. S., & Scott-Kassner, C. (2006). *Music in childhood: From preschool through the elementary grades* (3rd ed.). Belmont, CA: Thomson Schirmer.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Thousand Oaks, CA: Sage Publications.

Claire, L. (1993/94). The social psychology of creativity: The importance of peer social processes for students' academic and artistic creative activity in classroom contexts. *Bulletin of the Council for Research in Music Education, 119,* 21-28.

Cooper, J. L. (1995). Cooperative learning and critical thinking. *Teaching of Psychology 22*(1), *7-9*.

Coulson, A., & Burke, B. (2013). Creativity in the elementary music classroom: A study of student's perceptions. *International Journal of Music Education, 31*(4), 428-441.

Cornacchio, R. A. (2008). *Effect of cooperative learning on music composition, interactions, and acceptance in elementary school music classrooms*. (Unpublished doctoral dissertation.) University of Oregon.

Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Upper Saddle River, NJ: Pearson Education, Inc.

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

Darrow, A., Gibbs, P., & Wedel, S. (2005). Use of classwide peer tutoring in the general music classroom. *UPDATE: Applications of Research in Music Education, 24*(1), 15-26.

Davidson, N., & Major, C. H. (2014). Boundary crossings: Cooperative learning, collaborative learning, and problem-based learning. *Journal of Excellence in College Teaching, 25*(3&4), 7-55.

Debrot, R. (2014). Integrating Orff Schulwerk and 21st century learning. *Orff Echo, 46*(2), *42-46*.

Elliott, D., & Silverman, M. (2015). *Music matters: A philosophy of music education* (2nd ed.). NewYork, NY: Oxford University Press.

Faulkner, R. (2003). Group composing: Pupil perceptions from a social psychological study. *Music Education Research, 5*(2), 101-124.

Frazee, J. (1987). *Discovering Orff*. New York, NY: Schott Music Corporation.

Gardner, H. (2010). Five minds for the future. In J. Bellanca & R. Brandt (Eds.), *21st century skills: Rethinking how students learn* (pp. 9-31). Bloomington, IN: Solution Tree Press.

Gillies, R. M. (1999). Maintenance of cooperative and helping behaviors in reconstituted groups. *The Journal of Educational Research, 92*(6), 357-363.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Hawthorne, NY: Aldine.

Green, L. (2001). *How popular musicians learn: A way ahead for music education*. Burlington, VT: Ashgate.

Green, L. (2008). Group cooperation, inclusion and disaffected pupils: Some responses to informal learning in the music classroom. *Music Education Research, 10*(2), p. 177-192.

Goodkin, D. (2002). Creative education. In T. Sullivan & L. Willingham (Eds.), *Creativity and music education* (pp. 2-15). Edmonton, AB Canada: Canadian Music Educator's Association.

Gordon, E. E. (2005). *Peer tutoring: A teacher's resource guide*. Lanham, MD: Scarecrow Education.

Hamilton, H. J. (1999). Music learning through composition, improvisation and peer interaction in the context of three sixth-grade music classes. *Dissertations Abstracts International, 60*(07A), 2420.

Hanna, W. (2007). The new Bloom's Taxonomy: Implications for music education. *Arts Education Policy Review, 108*(4), 7-16.

Hoch, J., Baker, J., Buschiazzo, J., Fairfield, S., Hewitt, L., Lezotte, S., & Calantropio, S. (2013). *Handbook for Orff Schulwerk teacher education courses*. American Orff-Schulwerk Association.

Huffman, C. (2012). *Making music cooperatively: Using cooperative learning in your active music-making classroom*. Chicago, IL: GIA Publications, Inc.

Jacobs, G., Power, M., & Inn, L. (2002). *The teacher's sourcebook for cooperative learning: Practical techniques, basic principles, and frequently asked questions*. Thousand Oaks, CA: Corwin Press.

Johnson, D., Johnson, R., Holubec, E., & Roy, P. (1984). *Circles of learning: Cooperation in the classroom*. Alexandria, VA: Association for Supervision and Curriculum Development.

Johnson, D., Johnson, R., & Holubec, E. (1994). *The new circles of learning: Cooperation in the classroom*. Alexandria, VA: Association for Supervision and Curriculum Development.

Johnson, D. W., Johnson, R. T., & Holubec, E. (2008). *Cooperation in the classroom* (7th ed.). Edina, MN: Interaction Book Company.

Johnson, D. W., & Johnson, R. T. (2010). Cooperative learning and conflict resolution: In J. Bellanca & R. Brandt (Eds.), *21st century skills: Rethinking how students learn* (pp. 201-219). Bloomington, IN: Solution Tree Press.

Kagan, S. (1989). The structural approach to cooperative learning. *Educational Leadership, 47*(4), 12-16.

Kagan, S., & Kagan, M. (2009). *Kagan cooperative learning*. San Clemente, CA: Kagan Publishing.

Kaplan, P. R., & Stauffer, S. L. (1994). *Cooperative learning in music*. Reston, VA: MENC: The National Association for Music Education.

Kassner, K. (2002). Cooperative learning revisited: A way to address the standards. *Music Educators Journal, 88*(4), 17-23.

Kiehn, M. T. (2003). Development of music creativity among elementary school students. *Journal of Research in Music Education, 51*(4), 278-288.

Kratus, J. (1991). Structuring the music curriculum for creative learning. In D. L. Hamann (Ed.), *Creativity in the music classroom* (pp. 43-48). Reston, VA: Music Educators National Conference.

Lyman, L., Foyle, H., & Azwell, T. (1993). *Cooperative learning in the elementary classroom*. Washington, DC: NEA Professional Library.

Matsunobu, K., & Bresler, L. (2014). Qualitative research in music education: Concepts, goals, and characteristics. In C. M. Conway (Ed.), *The Oxford handbook of qualitative research in American music education* (pp. 21-39). New York, NY: Oxford University Press.

McGillen C., & McMillan, R. (2005). Engaging with adolescent musicians: Lessons in song writing, cooperation and the power of original music. *Research Studies in Music Education, 25*(1), *1-20*.

Miles M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis* (2nd ed.). Thousand Oaks, CA: Sage Publications.

NAfME – National Association for Music Education – Standards – http://www.nafme.org/my-classroom/standards/

Nebraska Department of Education: Fine Arts Education – http://www.education.ne.gov/FineArts/

Partnership for 21st Century Learning (P21). (n.d.). Framework. Retrieved July 15, 2015 from http://www.p21.org/about-us/p21-framework.

Partnership for 21st Century Learning (P21). (n.d.). Our History. Retrieved July 13, 2015 from http://www.p21.org/about-us/our-history

Prickett, C. A., & Jones, M. (1993). A comparison of musical performance accuracy between teacher-taught and peer-taught kindergarten and first-grade students. *Missouri Journal of Research in Music Education, 30*, 1-7.

Roulston, K. (2014). Conducting and analyzing individual interviews. In C. M. Conway (Ed.), *The Oxford handbook of qualitative research in American music education* (pp. 250-270). New York, NY: Oxford University Press.

Shaw, R. D. (2014). How critical is critical thinking? *Music Educators Journal, 101*(2), 65-70.

Sheldon, D. A. (2001). Peer and cross-age tutoring in music. *Music Educators Journal, 87(6), 33-38*.

Slavin, R. E. (1995). *Cooperative learning: Theory, research and practice* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Steen, A. (1992) *Exploring Orff*. New York, NY: Schott Music Cooperation.

Sternberg, R. (1985). Critical thinking: Its nature, measurement, and improvement. In F. Link (Ed.). *Essays on the intellect*. Alexandria, VA: Association for Supervision and Curriculum Development.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and*

procedures for developing grounded theory (2nd ed.). Thousand Oaks, CA: Sage Publications.

Swanwick, K., & Tillman, J. (1986). The sequence of musical development: A study of children's compositions. *British Journal of Music Education, 3*(3), 305-339.

Topping, K. J. (2005). Trends in peer learning. *Educational Psychology, 25*(6), 631-645.

Trilling, B., & Fadel, C. (2009). *21st Century Skills: Learning for life in our times*. San Francisco, CA: Jossey-Bass.

Vance, J. (2014). Making the connection: Orff Schulwerk, 21st century learning skills, and the common core. *The Orff Echo (Spring 2014),* 10-14

Ventura, E. (2014). Critical thinking in the 21st century: Orff Schulwerk as an impetus for reform. *The Orff Echo (Spring 2014),* 6-20.

Warner, B. (1991). *Orff-Schulwerk applications for the classroom*. Englewood Cliffs, NJ: Prentice-Hall, Inc.

Webster, P. (1991). Creativity as creative thinking. In D. L. Hamann (Ed.), *Creativity in the music classroom* (pp. 25-34). Reston, VA: Music Educators National Conference.

Webster, P. (2002). Creative thinking in music: Advancing a model. In T. Sullivan & L. Willingham (Eds.), *Creativity and music education* (pp. 16-34). Edmonton, AB Canada: Canadian Music Educator's Association.

Wiggins, J. H. (1994). Children's strategies for solving compositional problems with peers. *Journal of Research in Music Education, 42*(3), 232-252.

Wiggins, J. H. (2002). Creative process as meaningful musical thinking. In T. Sullivan & L. Willingham (Eds.), *Creativity and music education* (pp. 78-88). Edmonton, AB Canada: Canadian Music Educator's Association.

Wiggins, J. H. (2003). A frame for understanding children's compositional processes. In M. Hickey (Ed.), *Why and how to teach composition: A new horizon for music education* (pp. 141-165). Reston, VA: MENC: The National Association for Music Education.

Williams, P. (2001). Children's ways of experiencing peer interaction. *Early Child Development and Care, 168,* 17-38.

Appendix A: Recruitment E-mail to Participants

To: [e-mail address]
From: Nicole Chapman
Subject: Music Education Research Participation Invitation

Dear Fellow Music Educator,

My name is Nicole Chapman and I am a graduate student from the Glenn Korff School of Music at the University of Nebraska – Lincoln. I am writing to invite you to participate in my research study examining the use of cooperative learning as a creative process in the Orff Schulwerk elementary music classroom. You may be eligible to participate in this study if you meet the following criteria:

* Nebraska certified elementary general music teacher
* Certification in the Orff Schulwerk process (three levels)
* Utilization of small groups in the classroom

If you meet the criteria above and would like to volunteer for this study, you will be asked to participate in a face-to-face interview that will take approximately 45 minutes. The data collected from this interview will help the researcher better understand how cooperative learning is currently used in music classrooms as a creative process. This research may help elementary educators examine their own teaching and identify new areas for development.

Please respond to this e-mail if you meet the criteria and are interested in participating in this study. Participation is completely voluntary and all identifying information collected will be kept strictly confidential. A follow-up e-mail will be sent to set up a specific date and time for the interview. You will also receive a *Participant Informed Consent Form* to review prior to our interview date.

If you have any questions, please do not hesitate to contact me. Thank you for your consideration.

Nicole A. Chapman
Masters Candidate
Glenn Korff School of Music
University of Nebraska – Lincoln
Phone: 402.730.8673
E-mail: Nicole.chapman1@gmail.com

Dr. Robert H. Woody
Professor of Music Education
Glenn Korff School of Music
University of Nebraska – Lincoln
Phone: 402.472.6231
E-mail: rwoody2@unl.edu

Appendix B: Follow-Up Emails to Participants

To: [e-mail address]
Fr: Nicole Chapman
Re: Music Education Research Participation Invitation

Dear Fellow Music Educator,

Thank you for agreeing to participate in my research project. By replying to this e-mail, you have confirmed that you meet the criteria. Attached is a copy of the *Participant Informed Consent Form*. Please review the form prior to our interview. I will provide a hard copy to be signed as well as a copy for you to keep.

Please respond and indicate a time and place that would be convenient and comfortable for our interview.

Thank you in advance for your time and assistance with this research project.

Nicole A. Chapman
Masters Candidate
Glenn Korff School of Music
University of Nebraska – Lincoln
Phone: 402.730.8673
E-mail: Nicole.chapman1@gmail.com

Dr. Robert H. Woody
Professor of Music Education
Glenn Korff School of Music
University of Nebraska – Lincoln
Phone: 402.472.6231
E-mail: rwoody2@unl.edu

To: [e-mail address]
Fr: Nicole Chapman
Re: Music Education Research Participation Invitation

Dear Fellow Music Educator,

Thank you for your response. I look forward to our interview that will take place on (date/time) _____ at (location) _____.

Please remember to review the *Participant Informed Consent Form* prior to our interview. I will provide a hard copy to be signed as well as a copy for you to keep.

Sincerely,

Nicole A. Chapman
Masters Candidate
Glenn Korff School of Music
University of Nebraska – Lincoln
Phone: 402.730.8673
E-mail: Nicole.chapman1@gmail.com

Dr. Robert H. Woody
Professor of Music Education
Glenn Korff School of Music
University of Nebraska – Lincoln
Phone: 402.472.6231
E-mail: rwoody2@unl.edu

Appendix C: Informed Consent Form

University of Nebraska Lincoln

GLENN KORFF SCHOOL OF MUSIC

Participant Informed Consent Form

IRB#

Title: Cooperative Learning as a Creative Process in Elementary Music Classrooms

Purpose: This research project will examine the use of cooperative learning methods used in the elementary music classroom as it relates to teaching the creative process. You are invited to participate in this study because you are an elementary music teacher in Nebraska who holds Orff-Schulwerk certification.

Procedures: You will be asked to participate in an interview. The interview will last 45 minutes and will be conducted in a home or at a different agreed upon location. Interviews will be audio recorded.

Benefits: You will not directly benefit from your participation in this study. The data collected will help the researcher better understand how cooperative learning is currently used in music classrooms as a creative process. This research may help elementary educators examine their own teaching and identify new areas for development.

Risks and/or Discomforts: There are no known risks or discomforts associated with this research.

Confidentiality: Any information obtained during this study that could identify you will be kept strictly confidential. Your responses will be audio recorded. The data will be stored in the investigator's office and will only be seen by the investigator during the study. All recordings will be destroyed within six months of collection. The information obtained in this study may be published in scientific journals or presented at scientific meetings but the data will be reported as aggregated data.

Opportunity to Ask Questions: You may ask any questions concerning this research and have those questions answered before agreeing to participate in or during the study. Or you may contact the investigator(s) at the phone numbers below. Please contact the University of Nebraska-Lincoln Institutional Review Board at (402) 472-6965 to voice concerns about the research or if you have any questions about your rights as a research participant.

Freedom to Withdraw: Participation in this study is voluntary. You can refuse to participate or withdraw at any time without harming your relationship with the researchers or the University of Nebraska-Lincoln, or in any other way receive a penalty or loss of benefits to which you are otherwise entitled.

113 Westbrook Music Building / P.O. Box 880100 / Lincoln, NE 68588-0100
(402) 472-2503 / FAX (402) 472-8962 / music.unl.edu

University of Nebraska Lincoln

IRB# 20152615405 EX
Date Approved: 06/30/2015
Valid Until: 06/29/2020

GLENN KORFF SCHOOL OF MUSIC

Consent, Right to Receive a Copy: You are voluntarily making a decision whether or not to participate in this research study. Your signature certifies that you have decided to participate having read and understood the information presented. You will be given a copy of this consent form to keep.

Signature of Participant:

_____ _____

Signature of Research Participant Date

Please check below:

☐ I agree to be audio recorded.

Name and Phone number of investigator(s)

Nicole A. Chapman
Masters Candidate, Principal Investigator
Glenn Korff School of Music
University of Nebraska
Phone: 402.730.8673
E-mail: nicole.chapman1@gmail.com

Dr. Robert H. Woody
Professor of Music Education, Advisor
Glenn Korff School of Music
University of Nebraska
Phone: 402.472.6231
E-mail: rwoody2@unl.edu

Appendix D: IRB Approval Letter

June 30, 2015

Nicole Chapman
School of Music
8615 S. 163rd Street Omaha, NE 68136

Robert Woody
School of Music
WMB 354, UNL, 68588-0100

IRB Number: 20152615405 EX
Project ID: 15405
Project Title: COOPERATIVE LEARNING AS A CREATIVE PROCESS IN ELEMENTARY MUSIC CLASSROOMS

Dear Nicole:

This letter is to officially notify you of the certification of exemption of your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46) and has been classified as Exempt Category 2.

You are authorized to implement this study as of the Date of Exemption Determination: 06/30/2015.

1. Your stamped and approved informed consent document has been uploaded to NUgrant (files with Approved.pdf in the file name). Please use this document to distribute to participants. If you need to make changes to the informed consent document, please submit the revised document to the IRB for review and approval prior to using it.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:
* Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;

* Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
* Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
* Any breach in confidentiality or compromise in data privacy related to the subject or others; or
* Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This project should be conducted in full accordance with all applicable sections of the IRB Guidelines and you should notify the IRB immediately of any proposed changes that may affect the exempt status of your research project. You should report any unanticipated problems involving risks to the participants or others to the Board.

If you have any questions, please contact the IRB office at 472-6965.

Sincerely,

Becky R. Freeman

Becky R. Freeman, CIP
for the IRB

Appendix E: Interview Protocol – Elementary Music Teachers

Interviewee: _____ Date: _____

Introduction

Thank you for taking the time to participate in this interview study. You have been selected for an interview today because you have been identified as an elementary general music teacher in Omaha with certification in the Orff Schulwerk process.

This research project focuses on the use of cooperative learning as a creative process in the elementary music classroom. This study aspires to learn more about what methods of teaching and learning students in Omaha are currently experiencing. This study will hopefully help identify new areas for future development opportunities. This interview should not take more then 45 minutes.

Your participation in this study is completely voluntary and you have the right to discontinue your involvement at any time. Your identity as well as your school's identity will be kept confidential at all times. You have consented to an audio recording of this interview. Do you have any questions at this time?

Examples of Interview Questions

Background and Demographics

1. What is your highest degree of completion?
2. What is your teaching certification? What do you currently teach?
3. What additional training certification do you hold?
4. Where did you receive your Orff-Schulwerk training?
5. Do you attend workshops and/or conferences on a regular basis?
6. How many years have you been teaching elementary music?

Cooperative Learning as a Creative Process

1. How often do you have students create music in your classroom?
2. How do you label creative music making with your students?
3. Tell me what processes you use to teach composition to students in your classroom?
4. How would you define cooperative learning?
5. What does cooperative learning look like in your classroom?
    a. How/when is it used?
    b. How are students grouped?
    c. How do you assign students roles?
    d. What structure and/or materials do you provide students?

    e. What management strategies do you have in place?
    f. How do you incorporate technology?
6. How do you model cooperative learning with your students?
7. Describe what you hear and see when students are working in cooperative groups.
8. How do you feel about cooperative learning?
9. What do you feel your role is as teacher during cooperative learning experiences?
10. What benefits and/or challenges do you think occur with cooperative learning?
11. What applications does cooperative learning have outside of the music classroom?
12. Have you ever received any training on incorporating cooperative learning in the classroom?
13. What would assist you in using cooperative learning as a teaching tool in your classroom?
14. Why do you teach students to create music? What do you want your students to take with them when they leave your classroom?

Wrap-up: Thank you for your time and sharing your classroom experiences with me.

Appendix F: Coding System

Past Experiences
Creating and exploring methods
    Structured activities
Collaboration
    With other students
    With other groups
    With other teachers
Procedures
    Rotating/switching groups
    Assigning roles
    Grouping students
    Number of students
    "Letting them choose"
    Strategies used
Rules
    Everyone participates/contributes
    "In this together"
    All ideas are important/heard
    Don't interrupt learning
    Respectful
Behavior
    Dealing with the noise/chaos
    Arguing
    Stress
Social benefits
    Working together
    Solving problems
    Peer support
    Feeling like part of the community
    Learning to compromise
Safety in a group
    Comfortable making mistakes
Performance
    Growing in confidence
    Pride in performance
    Ownership
Role as Teacher
    Facilitating learning
    Modeling for success
    Encouraging students
Assessments
    Self – assessments
    Using technology to assess

- Formal assessments
- Feedback
- Peer-assessments
- Informal

Applications outside of music

- Careers/jobs
- Productive members of society
- Developing the “whole” child
- Critical thinking

Appendix G: Categories with Properties and Dimensionalized Examples

Categories	Properties	Dimensionalized Examples	
Modeling			
	Communication	how to offer a suggestion	encourage dissussion
		"taking turns"	"listening to each other"
	Collaboration	"learning from each other"	"you have to teach the process"
		"ability to work well with others"	"working with lots of different people"
	Tearmwork	"we did something together"	"feel a part of the bigger picture"
		"contributing to the group"	"they are never alone in their thinking"
	Problem Solving	"how to take turns"	think for themselves
		"working it out"	finding a solution
	Compromise	"how to reach consesus"	rock papper scissors
		"practicing patience"	combinng varying ideas
Facilitating			
	Planning	Imagery	collaborate with others
		multiple materials	multiple media - move, sing, inst., etc.
	Management	"noisy and messy"	Assigning roles
		Grouping students	"keeping them on task"
	Expectations	"Everyone is pulling their own weight"	"everyone has jobs"
		"foster a positive enviornment"	"everyone contributes"
	Performance	Group practice	performing for others
		Social media	"True end result"
		perform for younger students	"good motivator"
Developing			
	Creativity	"coming up with their own ideas"	exploration/improvisation/composition
		"willing to take risks"	"comfortable making mistakes"
	Critical Thinking	"verbalize the plan"	expanding ideas
		"synthesis of ideas"	purpose in choices
	Problem Solving	"That's a good idea"	making mistakes and it's okay
		Encouragement	Putting yourself out there
	Assessment	"carefully crafted questions"	Feedback
		technology	Self
		Informal	Peer
	Ownership	Validation	"building self confidence"
		Peer praise	"great deal of pride in their products"
		Community	child is proud of what they created